

Management Control Systems

Subcomponents, optimal design and the role of time
as a contingency

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Abstract

Management Control System (MCS) research is undergoing turbulent times. For a long time related to cybernetic instruments of management accounting only, MCS are increasingly seen as complex systems comprising not only formal accounting-driven instruments, but also informal mechanisms of control based on organizational culture. But not only have the means of MCS changed; researchers increasingly apply MCS to organizational goals other than strategy implementation.

Taking the question of "How do I design a well-performing MCS?" as a starting point, this dissertation aims at providing a comprehensive and integrated overview of the "current-state" of MCS research. Opting for a definition of MCS, broad in terms of means (all formal as well as informal MCS instruments), but focused in terms of objectives (behavioral control only), the dissertation contributes to MCS theory by, a) developing an integrated (contingency) model of MCS, describing its contingencies, as well as its subcomponents, b) refining the equifinality model of Gresov/Drazin (1997), c) synthesizing research findings from contingency and configuration research concerning MCS, taking into account case studies on research topics such as ambidexterity, equifinality and time as a contingency.

Kurzzusammenfassung

Die internationale Forschung zum Thema "Management Control Systems" (MCS) hat innerhalb der letzten Jahrzehnte einen starken Wandel erfahren. Klassischerweise wurden MCS mit kybernetischen Instrumenten der internen Buchhaltung, wie der Budgetierung, in Verbindung gebracht. Heutzutage werden MCS mehr und mehr als komplexe Systeme betrachtet, die u.a. auch informelle Kontrollmechanismen der Organisationskultur umfassen. Nicht nur die für MCS relevanten Instrumente werden nun umfassender gesehen; Wissenschaftler untersuchen zunehmend, wie MCS für über Strategieimplementierung hinausgehende Ziele eingesetzt werden kann.

Basierend auf der Grundfrage, wie ein effektives MCS zu gestalten ist, erarbeitet die Dissertation eine umfassende und integrierende Darstellung des aktuellen Stands der MCS-Forschung. Es wird eine MCS Definition gewählt, die bezüglich der MCS-Instrumente umfassend, bezüglich der MCS-Ziele allerdings fokussiert ist. Die Dissertation trägt zur aktuellen MCS-Theorie folgendermaßen bei. Erstens, es wird ein integriertes situatives MCS-Modell entwickelt, das nicht nur die Kontingenzfaktoren, sondern auch die einzelnen MCS-Subkomponenten beschreibt. Zweitens wird das für organisationstheoretische Grundfragen wichtige Equifinalitätsmodell von Gresov/Drazin (1997) erweitert. Drittens, werden aktuelle Erkenntnisse der Kontingenz- und Konfigurationstheorie bezüglich MCS dargestellt und kontrastiert. Dabei wird insbesondere auf neuere Forschungsgebiete, wie Ambidexterity, Equifinalität und die Rolle von Zeit und Unternehmensalter eingegangen.

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List of abbreviations

BSC	Balanced Scorecard
MA	Management Accounting
MAS	Management Accounting Systems
MCS	Management Control Systems
OLC	Organizational life cycle

1. Introduction

1.1. Point of departure

This thesis is about Management Control Systems, its components, and contingencies. Management Control Systems is a term coined by Anthony (1965) to describe the totality of (mostly) formal processes and institutions that enable management to control resource use in such a way that organizational goals and strategies are met and implemented.

A brief look at the world clarifies why control systems that ensure implementation are so critical to the success of any organization. Most M&A transactions do promise significant synergies and many acquirers are seeking advice from experienced and highly professional investment banks. Still, in terms of value creation to the acquirer, a large part of transactions fail (Datta 1991). Likewise, a large amount of startups fail to survive the first years of their existence; this being the case, notwithstanding the fact that many startups are nowadays putting together elaborate business plans prior to launching operations (Castrogiovanni 1996). Implementation and flexibility in implementation are apparently key to organizational success. Designing MCS in a proper way helps to achieve these goals.

Given the importance of Management Control Systems, a manager will pose an immediate question: How can I design a well-performing MCS? Helping people to find an answer to this seemingly simple question is the overarching goal of this dissertation. As the author has discovered, existing research exhibits a number of weaknesses that need to be addressed in order to give a comprehensive yet concise answer.

First, the **definition and scope of the term MCS is not clear.** Different authors have different understandings about which organizational processes and structures, i.e. MCS instruments, are part of Management Control Systems (Chenhall 2007, p. 165). What is more, there is a disagreement about whether Management Control Systems can be seen in isolation or whether they have to be related to other organizational dimensions, such as organizational culture, strategy or structure. Next, even though there is a general agreement that MCS are mostly about implementing pre-defined plans, some authors posit that specific MCS instruments also fulfill other organizational functions, such as driving innovation and strategy formulation (Simons 1990, p.128). In this respect just looking at the attainment of pre-defined budgets may not be sufficient. Finally, for any newcomer trying to understand the body of literature on MCS, there is confusion in how far control research, and related research streams such as organization theory and management theory either conflict or are compatible with one another. In other words, are these research streams trying to answer the same questions? And is it feasible to integrate the research results from diverse academic fields using potentially incompatible assumptions or terminology?

Second, there is very **little research on classifying and explaining the different design parameters available** to managerial manipulation in a comprehensive way (e.g. Ferreira/Otley 2009). This is significant, because designing a superior MCS necessitates existing knowledge about the available "solution space". To put it differently: What are the key decisions management can make? Obviously there are different categories of MCS instruments, which can either be employed or not. Moreover, each instrument can be implemented in different ways (tight v. loose, simple v. sophisticated), and can be coupled to other MCS instruments in different ways also. Finally, MCS instruments and related organizational dimensions can take on varying values with respect to certain properties or types. To sum up, there are a myriad of possibilities in how to define, prioritize and combine the individual sub-components of a MCS.

Third, conflicting theories hold **divergent assumptions on how organizational contingencies, MCS properties and organizational performance relate to each other**. What does this mean? Obviously, anyone trying to design a superior MCS will look out for rules that give guidance on the multitude of decisions mentioned above. Decisions such as: Should I have tight or loose cost controls? Should I focus on enforcing organizational values or should I give monetary incentives related to positive performance evaluations? Unsurprisingly, there are distinctly different ways on how to approach these questions; i.e. **different organizational theories** (Kieser 2001). It is important to keep in mind that organizational theories do not make any normative statements on the content of MCS design. Organizational theories are rather meta-theories, which define the basic research paradigm that underlies empirical research.

There is, in fact, a large amount of different organizational theories. Some management gurus and consultants suggest that there are **universal rules**, a golden formula, all companies should follow. Other scholars argue that one or multiple key contingencies determine the design of MCS (**contingency theory**). A third party contents, that neither the environment nor management is actually making much of a difference (**garbage-can-theory**) (Cohen/March/Olsen 1972), while yet others researchers ('critical' scholars) claim that trying to implement a superior MCS to increase performance is a dubious and reactionary goal in the first place (Wolf 2000, p.100).

Unfortunately, most business scholars adopt specific organizational theories without providing proper explanations concerning their oftentimes implicit choice and without reflecting on alternative theories.

One of the first steps in advising on MCS design involves comparing existing organizational theories. **Only after having examined existing organizational theories and only on a case-by-case basis evaluating the properties of the organization will it be**

possible to make an informed decision on which organizational theory to use as a starting point for analyzing or modifying MCSs.

Having decided on a specific organizational theory, MCS scholars may then conduct new empirical research or re-evaluate existing empirical evidence. Interestingly not all concepts emanating from organizational theory have been applied to MCS research so far. For example, equifinality and ambidexterity are two emerging themes of organizational theory that MCS researchers are just starting to become aware of.

For a person new to organizational theory, the above explanations must appear rather dry and abstract. I would, therefore, like to present **the concept of "Beyond budgeting"** as an example that will help to explain the ideas I have laid out. An example, which might be interesting to the reader as it represents the point of departure that motivated me to analyze Management Control Systems in a more thorough and systematic way.

The concept of "Beyond Budgeting" (Hope/Fraser 2003) was popularized almost a decade ago. However, having, for a few years, become something of a management fad, it quickly lost momentum and attention (Becker/Messner/Schäfer 2010, p. 3). What is Beyond Budgeting about? Beyond Budgeting is a radical critique leveled against traditional management accounting, dominated by the instrument of budgeting. Budgeting is said to be time consuming, insensitive to changes in the external environment, disconnected from strategy and prone to manipulation (Hansen/Otley/Van der Stede 2007). In order to better align with the alleged truism of an ever more uncertain and dynamic environment, companies are advised **to substitute their budgeting system** by a handful of new instruments such as rolling forecasts and relative benchmarking. Yet, even though often understood this way, Beyond Budgeting is not only about numbers, budgeting and management accounting. It asks managers to empower their employees, to decentralize radically, and to focus on the customer.

In short, **Beyond Budgeting is a pervasive management philosophy** (Becker/Messner/Schäfer 2010, p.48) and since employee control is one of its most important goals, it seems fair to call it a MCS. Now, what is particularly interesting about Beyond Budgeting is the fact that the **philosophy of Beyond Budgeting exemplifies all the weaknesses seen in the field of MCS research as described above.**

First, even though the focus of Beyond Budgeting lies nominally on budgeting, it relates and involves many more elements of an organization than just budgeting and management accounting. It concerns control, an organization's ability to innovate, and organizational culture at large. However, a large number of people, no matter if new or familiar to the concept, focus on the application of Beyond Budgeting to accounting-driven tools. An analysis on the development of the Beyond Budgeting concept reveals that this unclarity stems back to its two 'founding fathers'. Jeremy Hope, who had a finance background wanted to focus on financial tools, while Fraser followed a more comprehensive concept, stressing organizational ramifications (Becker/Messner/Schäfer 2010, p.20). In short, there is **confusion on the scope of the concept**, just like we have seen in the discussion about MCS in general.

Second, in terms of organizational theory Beyond Budgeting is overly simple. It does not 'know' about contingencies. To the contrary, as a **universalistic theory** based on best-in-class case studies it subscribes a 'one-size-fits-all' strategy to all organizations (Libby/Lindsay 2010, p.57). Even though companies and their respective competitive environments are in reality vastly different to each other, these differences do not count for much, since Hope/Fraser (2003) give exclusive focus to the overarching theme of increasing complexity and uncertainty. For the sake of simplicity, a meta-discussion on organizational theory, fundamental assumptions and alternative theories is simply omitted.

Finally, the advocates of Beyond Budgeting claim that budgeting necessarily implies the occurrence of dysfunctions such as gaming and lack of motivation. However, coining the term of "Better Budgeting" or "Advanced Budgeting", a couple of researchers have shown subsequently, that **budgeting can be modified and combined** with other control instruments in certain ways so as to prevent the downsides from manifesting themselves (Frow/Marginson/Odgen 2010, ICV 2009). In sum, although seemingly simple, the term Beyond Budgeting is a concept lacking in clarity and scientific substance.

1.2. Research goals

It is my aim to provide a dissertation that gives a **comprehensive perspective on the most important theoretical aspects relevant to the design of an organization's Management Control System**. In particular, it is my goal to deliver a structured presentation on the different design choices, organizational theories relevant to MCS design, and ways to identify the organizational theory most relevant given a specific organization.

The **underlying key question** has already been mentioned:

"How can I design a well-performing MCS?"

More formally put, I would like to define my **principal research aim** as follows:

"Synthesize and explain the existing knowledge about optimal design choices concerning Management Control Systems. Describe the way design choices are influenced by contingencies and different assumptions emanating from different organizational theories."

In order to achieve this aim, I will ...:

- ... present different perspectives on the meaning of the term MCS
- ... having decided to follow the holistic perspective, describe the sub-components or parts of MCS, the design choices concerning MCS, and organizational dimensions related to MCS
- ... describe in detail the most relevant organizational theories, their assumptions, and their statements concerning optimal MCS design
- ... identify the contradictions (which I call challenges) that exist between these theories and the contingencies to evaluate in order to solve them
- ... devote a section on how to select the organizational theory most appropriate for analyzing the MCS design of an organization characterized by no more than three contingencies
- ... introduce the reader to advanced organizational concepts such as ambidexterity and equifinality, and using the latest case studies illustrate how they relate to MCS
- ... discuss organizational life cycle theories and other ways in which age and the passage of time may influence the MCS of an organization

In combination, the above research steps represent my dissertation content. For purposes of clarity, **I would also like to stress what this thesis does not contain.**

First I do not intend to provide a comprehensive summary on all the contingency and configuration studies concerning MCS ever written. This would be clearly outside of the scope of this paper. Neither will I **delve into** a description or a discussion of design choices at the level of **individual accounting instruments**, such as budgeting, activity based costing or balanced scorecard. Instead this thesis is conceptual. Looking at management accounting and management control from a high-level perspective, no new empirical insights are generated. However, existing empirical re-

search is presented and related to theoretical concepts. Doing so, some new speculative hypotheses are generated along the way but again **no new data or empirical analysis is generated to confirm or reject these hypotheses**. Organizational theories are presented in order to analyze what they have to say about the laws that determine existing and optimal MCS (which need not be the same). However, I will **only present organizational theories that share the scientific philosophy of positivism**. In other words I will only present theories that believe in factual reality and the idea that there are objective laws that govern existing organizations. This excludes 'critical theory' or theories that reject the method of treating the object and the subject of scientific enquiry as being independent. What's more, since the focus of this thesis is on the (static) content of MCS, rather than change processes concerning MCS, **organizational change theories such as the natural evolution or social dynamics perspective are not covered**. However, I will cover the influence past and future contingencies may have on present MCS.

In terms of scope, while I do cover important concepts and theories from research fields such as organizational culture and strategic management, the focus is still on the research streams of organization theory and (management) control theory. **Concepts and studies from related research fields such as human resources management or entrepreneurship, although highly relevant to this study will therefore not be taken into account**. Finally, as will be seen, there is very little empirical research on selected topics highly relevant to this study. For example there is only one empirical study on taxonomies of control types (Bedford/Malmi 2010). Likewise there is only one comprehensive case study on the way MCS instruments are combined using the concept of loose coupling (Brown/Malmi/Booth 2008). As such, **my work represents a survey on some recent developments in MCS research, rather than a review that contains any definitive answers**.

1.3. Existing literature and contributions

Over the last years, research on Management Control Systems has become increasingly dynamic, creating a couple of research streams that make up a significant part of the content included in this thesis.

Most importantly, a **group of Australian and Finnish researchers** has embarked on examining how MCS relate to a multitude of innovative organizational concepts such as ambidexterity and equifinality. These researchers alongside Professor Malmi in Helsinki and David Brown in Melbourne conducted studies that show ...

- ... how the need for ambidexterity (the ability of a company to be innovative as well as efficient) influences MCS (Brown/Malmi/Booth 2008)
- ... that equifinal MCS, i.e. different control systems, are equally capable of handling identical environmental and organizational situations (Sandelin 2008)
- ... that five types of control configurations account for a majority of MCS (Bedford/Malmi 2010)
- ... a comprehensive taxonomy of MCS instruments (Brown 2005; Malmi/Brown 2008)

All of the above-mentioned studies are extremely relevant to the topic of my thesis.

Another recent research stream concerns the works of **Simons (1995, 2005)**. Simons and a lot of researchers who build on his empirical works and theoretical concepts are examining how far MCS can be used as a mechanism to drive strategic change and innovation. The key to this research agenda is the 'Levers of control framework' (Simons 1995), which asserts that MCS instruments are used to exert **4 different types of control**. Two of these types (belief systems and interactive control systems)

are empowering, and geared towards innovation, while the other two types (diagnostic control systems, boundary systems) are mechanisms for constraining acceptable behavior. Just like balancing yin and yang, both forces need to be in harmony to **create a dynamic tension**, which is seen as the key to organizational success (Simons 1995, p.7). This idea resembles the idea of ambidexterity. However, as far as I can see, this link has not been addressed by any existing literature thus far.

A **third research stream** concerns the development of MCS over time. As I will explain in more detail, the most important question here is how MCS develop especially during the early stages of the organizational life cycle.

Finally, this thesis draws heavily on the works of **Mintzberg, Miller and Friesen**. These researchers, having worked together at the McGill University in Montréal/Canada have been crucial to the development of configuration theory, the theory of punctuated equilibrium as well as organizational life cycle theory. All these organizational theories figure prominently in this dissertation.

That being so, this paper contributes to the aforementioned literature in the following ways:

1. Chapter 3 brings together all the properties and components that make up a MCS. This **comprehensive overview** is in contrast to previous treatments of the subject, which focused on describing either:
 - a. the different types of MCS instruments
 - b. the different uses of MCS
 - c. the properties of formal controls systems
 - d. the relationship between the core control instruments and related dimensions such as organizational culture and strategy

So far, looking at these dimensions in an integrated way has been rarely done.

2. Chapter 4 on organizational theories and MCS not only discusses the plausibility of different **organizational theories** such as contingency theory and configuration theory. It presents the **findings of the three theories with respect to MCS**. So far surveys have only discussed results using one paradigm (Chenhall 2003), they have not compared results across paradigms.
3. Chapter 5 introduces and improves a **meta-framework** (Gresov/Drazin 1997) that enables the reader to decide **which organizational theory is most appropriate** to analyze a given organization. While the framework is known for a long-time, the contribution of this chapter lies in the systematic step-by-step approach it takes leading to the presentation and discussion of the framework.
4. In Chapter 6, I discuss the different ways **time as a contingency** can influence organizational design and MCS. While organizational change processes are widely discussed, there are few accounts that synthesize the impact time has on the 'content' of organizational design and MCS.

1.4. Outline of this thesis

The structure of this thesis is straightforward. Having explained the motivation, background and goals of this dissertation (**chapter 1**), the discussion then turns to the notion of MCS (**chapter 2**). An explanation concerning the significance of MCS is given before providing a historical account of the development of MCS as a term and MCS research in general. Having introduced the reader to the traditional and the modern holistic interpretation of MCS, some definitions are given. In addition, a framework is introduced that will help the reader to differentiate between the scope and meaning of organization theory, MCS and other key concepts.

Chapter 3 is all about the different components of MCS. Having adopted the holistic interpretation of MCS, a top-down concept on the different design choices relevant to MCS is presented. These design choices relate to 1) the type, attributes and use of

existing MCS instruments 2) the interrelationships between existing MCS instruments 3) the attributes by which to describe related organizational dimensions such as organizational culture or organizational structure and the external environment. The above-mentioned organizational dimensions play a dual role since they may be seen as either part of the control system itself (as administrative or cultural controls) or as being external contingencies.

Having presented the components of MCS, i.e. the object of enquiry, and the design choices related to them, **chapter 4 answers the primary research goal of this thesis. What do we know about optimal design choices concerning MCS?** Are there any general rules a manager should follow?

In order to answer these questions, I present and discuss three organizational theories, which have been dominant over the last decades. Contingency theory, the theory of strategic choice and configuration theory. Results concerning the design of MCS are somewhat similar. In particular the hybrid type is identified as a new and particularly interesting MCS design. However, important differences exist with respect to the basic assumptions of each theory.

Chapter 5 analyzes the issues identified in the course of the previous chapter in more detail. Questions concern the relative importance of internal vs. external fit, the significance of strategic choice and organizational politics, the concepts of equifinality and ambidexterity and finally the role of ambiguous ends and uncertain means-end relationships in determining the use of MCS. All these contents contribute to the creation of an integrated meta-framework that explains which organizational theory is most appropriate when analyzing a certain type of organization. To conclude, this chapter portrays the existing empirical evidence on how MCS relate to these more 'advanced' topics.

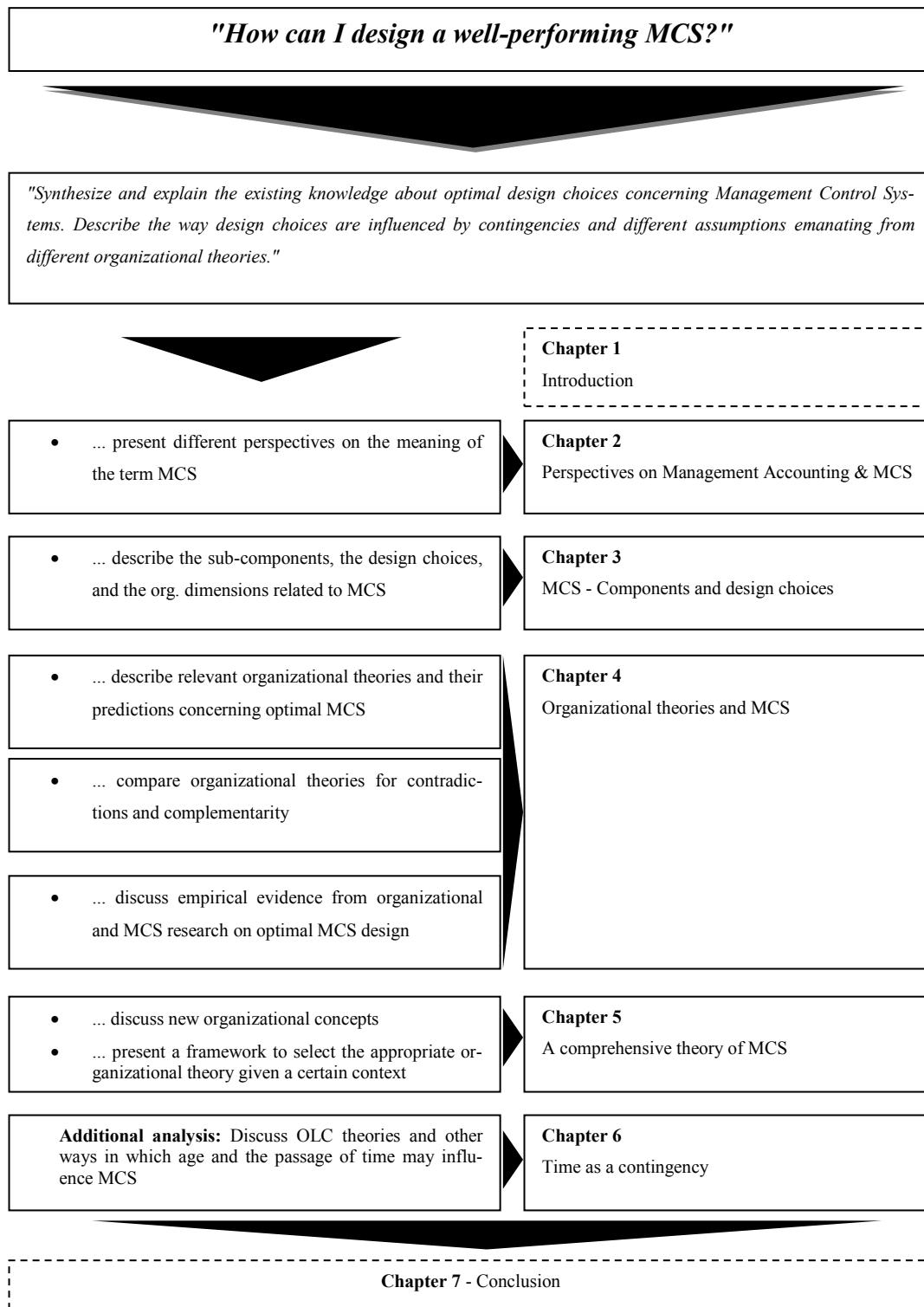


Figure 1. Research approach (self)

Having discussed MCS design in a static context, **chapter 6** looks at time as another contingency of MCS. The passage of time always relates to processes and change. In this sense, time is different to other external or internal contingencies such as environmental hostility or production technology. Having identified three different concepts that deal with the contingency of time, information is given on how MCS might be affected by the passage of time. I conclude by comparing the results and concepts of chapter 5 (which represents a static view), to the results and concepts of chapter 6 (which represents a dynamic view).

Chapter 7 provides a concluding summary of the main findings elaborated in earlier chapters

2. Perspectives on Management Accounting and MCS

2.1. Importance of MCS and of defining the term

What makes Management Control Systems important? All companies need information on whether or not performance is in line with strategy; hence most authors on MCS see control, in fact, as a basic function, a common trait that is inevitable to all organizations. Although it is only one of the elements of management systems, it is actually **regarded as being the system that contributes most greatly to improving organizational performance** (Carenys 2010, p. 41).

From a dynamic point of view, management control systems can **help to adapt to processes of market internationalization and globalization** (Carenys 2010, p. 42). More generally MCS are among others, a tool to help **manage strategic change** (Simons 1994), which is often related to growth. When a company grows in size, delegation becomes necessary, and coordination needs arise that can only be adequately met by Management Control Systems (Carenys 2010, pp. 40-41).

Given the importance of MCS, **researchers have strived to develop a better understanding of how and why control systems work in various situations**, and what could be done to improve them from the perspective of organizational goal attainment. For a specific context, researchers examined which instruments or control characteristics proved to be effective and which did not. They also examined how MCS had to be used in order to achieve maximum effectiveness and efficiency. Efficiency has to be understood in the sense of a cost-benefit analysis. Since there is a cost to the use of management control systems (direct out-of-pocket costs as well as indirect dysfunctionalities), the best MCS is not necessarily the most elaborate one, but rather, one that provides adequate control (given a specific situation and context)

for the lowest possible amount of costs. This view is equivalent to **looking at MCS as an economic good** (Merchant/Van der Stede 2007, p.790).

As already noted, a **major challenge in synthesizing or undertaking research in Management Control Systems** is to agree on a definition of the very term. (Malmi/Brown 2008, p.288) **What, then, is meant by 'Management Control System'?** This question is at the center of the current chapter. The working definition of MCS in the introduction captures the most important ideas. However, **a lot of varying definitions have been put forward.** Some of these definitions overlap, while some differ (Malmi/Brown 2008, p. 288). What's more, as will be shown in the following passages, there has also been some historical development, i.e. any **research conducted in the past has to be seen in its historical context.**

Why is it important to talk about definitions? Three reasons are of particular relevance:

1. The definition given implies the **boundaries of the research to be conducted.** As Chenhall asserts in his review, there has been considerable confusion between **terms originating from management accounting and terms originating from organizational theory.** There has also been a tendency in Management Control research to become all-embracing in terms of scope. Defining the term helps to put research results into a broader perspective (Chenhall 2007, pp. 164-165).
2. As will be shown in the following section, the term Management Control System cannot solely be seen as a synonym to management accounting. It can also be defined as a broader system itself being composed of multiple sub-systems (e.g. Flamholtz 1983; Malmi/Brown 2008). In order to distinguish between these levels of analysis and to **make clear what element of the overall framework one is actually referring to,** it is paramount to have clear and concise definitions.

3. Depending on the definition of MCS, **research results can be interpreted in contradictory ways**. Contingency factors may imply different things for different types of accounting systems and controls (Malmi/Brown 2008, p. 289). Malmi/Brown illustrate this by referring to the implications of high environmental uncertainty. In terms of behavioral control, high environmental uncertainty implies a reduction of the use of accounting controls, since rigid accounting controls may prevent employees from taking appropriate and flexible action. On the other hand, viewing MCS as decision-support systems, high environmental uncertainty suggests increasing the use of management controls, as these can also help to keep track of changes in the external environment.

So how can MCS be defined? What are the instruments, what is the purpose, who are the subjects and who are the objects within MCS? Two perspectives on Management Control Systems

2.1.1. *Introduction*

In order to better understand a complex term like MCS, it is often useful to **dissect it into its different subcomponents**. Analyzing these subcomponents, one gains a **broader understanding of the ends, means, objects and subjects of the research topic** in question.

Hence, let us apply this methodology to MCS. Management Control Systems are **systems** (means) employed by **management** (subject) in order to **control** (ends) **organizations**, respectively, the **individuals** that make up an organization (object).

There are different definitions of the term '**organization**', the object of MCS. In the context of this work I will use the term organization always in an institutional sense.

In other words, an organization signifies a collective of people rather than an activity to be performed. The **basic problem of organizations** is to obtain **cooperation among a collection of individuals** or units who share only partially congruent objectives. When a team of individuals produces a single output, there is a problem of how to distribute the rewards in such a manner that each team member is equitably rewarded (Ouchi 1979, p.833). Consequently, in order to improve performance and eliminate dysfunctional behavior like free-riding, control in the sense of structuring teams, activities and groups becomes critical.

This leads us to the notion of control, the objective of MCS. What does 'control' mean? Various dictionaries define the notion of control as the power of directing, a means of restraint, a means of regulation, a standard of comparison for checking. Synonyms for control include command, dominate, direct, steer, pilot, hold sway over, rule, exercise power or authority over, govern, manage, lead, conduct, call the tune, guide, oversee, supervise, check, hold back, curb, repress, contain (Collier 2005, p.323).

Therefore, Management Control Systems are about 'directing' or 'governing' people in organizations. And how do we achieve control? We achieve it through a system a 'control system'. A **system** can be defined in alternative ways. According to Anthony/Govindarajan (2007, p.5), a system is similar to an algorithm, i.e. "... a prescribed and usually repetitious way of carrying out an activity or a set of activities". Flamholtz (1983, p.154) has a different perspective, which underlines that there are always some sub-components to a system. To him a 'control system' is a 'designed' collection of instruments, working together towards a goal either in an independent and additive, or a complementary holistic way, which means there is potentially not only one way, one algorithm, but a multitude of equally effective control setups.

Finally, what is the role of **management** in all that? Again we have a certain ambiguity. In my opinion, control can be done *for* and/or *by* management. '**Control for management**' implies the existence of some organizational goal that management uses as a yardstick for designing and operating a Management Control System. This yardstick is typically assumed to be self-evident or to be defined by management. '**Control by management**' relates to the way a control system is created and maintained. Traditionally it is assumed that a control function is 'run' by management, by means of setting and controlling performance standards, using direct control through hierarchies or establishing shared values and practices. However, intrinsic (employees controlling themselves) and horizontal control (employees on one hierarchical level controlling each other) are alternatives that are becoming more and more popular. As such, some scholars on MCS argue that management under conditions of uncertainty requires the involvement of more organizational participants (Otley 1994, p. 292).

Looking at the above discussion there seems to be some **room for having different definitions of MCS**. There is widespread agreement on the object of MCS, individuals in organizations. Similarly, it is commonly believed that management does indeed take a dominant role in the operations of Management Control Systems. **However, scholars diverge on the scope of MCS** (is it really just about control?) **and the type of instruments** that make up a control system. In short, there is controversy concerning the means and ends of MCS.

As will become clear on the next pages, **there are basically two views on Management Control Systems**. The **traditional research stream** uses the notion of management control, management accounting or Management Control Systems (MCS) as synonyms to be used interchangeably (Carenys 2010, p.38; Merchant/Van der Stede 2007, pp.4-5). Whatever the name, at the end of the day the objects of research are accounting-based instruments. These accounting-based instruments may be more traditional (like budgeting) or more 'modern' (like activity-based-costing). Manage-

ment Control (systems) and Management accounting are essentially treated as one and the same (Chenhall 2007, p.165).

The more recent **holistic research stream** views Management Accounting as a subsystem embedded into a greater system, which might be called a Management Control System. Structural, cultural and cognitive aspects of an organization had to be included in the analysis of Management Control, since these aspects can act as substitutes to process-driven accounting systems. As I will show later this "greater system" encompasses the structures and processes of the whole organization. For this reason there necessarily is a **large overlap in research methods and the explanatory apparatus between Management Control System theory and organizational theory**. However, some researchers argue that relative to organizational theory empirical research and theoretical concepts of Management Control System theory differ in that they use a 'higher resolution' to examine more specific problems (Speklé 2001, p.424). In the following section, I want to show the historical development of MCS research giving rise to the emergence of these two research streams.

2.1.2. *The traditional MCS perspective*

2.1.2.1. *Anthony's definition of Management Control Systems*

The origins of academic **research on Management Control Systems** are tightly linked to the more general research on organizational theory. The notion of control was already identified as a core function of management in writings dating back to the early 1900s. Prominent thinkers of this time include Henri Fayol, Chester Barnard and Donaldson Brown. Fayol identified four functions of management: planning, organizing, coordinating and control (Merchant/Otley 2007, p. 788), while Frederick Taylor and his school of 'scientific management' showed a strong focus towards controlling employees' behavior.

There are two factors that set the early predecessors of modern management control research apart from their successors. **First, early organizational research was predominantly universalistic.** This means, that unlike in contingency theory - which we will discuss in more depth later - there is a **general idea that there are universal laws to management and management control**, which can be applied to the organizational design of any company irrespective of its context. **Second early theorists on management control did not separate control and planning activities** in the same way later researchers did (Carenys 2010, pp. 43-45; Kieser 2001, pp. 169-170).

The hugely influential work of **Anthony (1965)** is often cited as being the work that created the notion of "Management Control" and established it as a separate topic of academic study (Merchant/Otley 2007, p.788). Anthony had a hierarchical view on management and distinguishes management control from strategy formulation and task control (see Anthony/Govindarajan 2007, pp. 6-14).

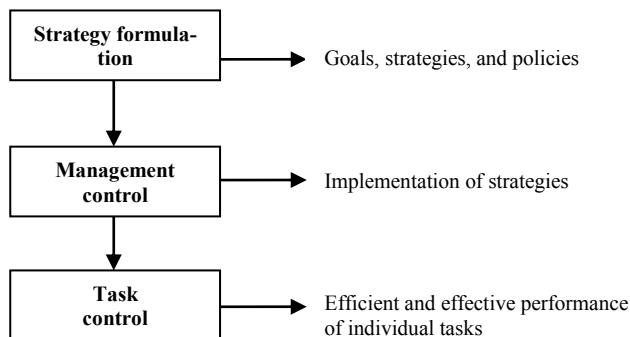


Figure 2. Management control and its relationship to strategy formulation and task control (Anthony/Govindarajan 2009, p.7)

Strategy formulation is future-oriented. It takes place at the level of top management and top management consultants and involves deciding on the objectives of an organization, and the resources and actions needed to achieve those objectives. **Task control** has an altogether different purpose. It deals with organizing specific tasks (like production or clerical work) in order to achieve maximum efficiency. It is, there-

fore, dependent on the situation (e.g. production technology, skill level of workers) and involves the use of non-financial measures.

Management Control is a process that sits in the middle between strategy formulation and task control. It serves as a bridge and communicates between the two other strategy implementations. Accordingly management control is defined as “the process by which managers assure that resources are obtained and used effectively and efficiently in the accomplishment of the organization’s objectives”.

The focus of this definition is on **controlling resource-use** - a result-orientated activity that lends itself to monetary measurement. Intervening variables like employee behavior or employee motivation that can be influenced more indirectly using non-monetary measures and controls are not considered. As a result, **the ensuing discussion on specific Management Control instruments was dominated by tools of financial accountability**. As researchers nowadays argue, **this narrow focus did have some downsides**. Not only did it lead to a neglect of research on non-monetary and non-accounting-oriented means of control (Otley 1994, p. 290). It also “... encouraged a narrow view of MCSs that falls short of capturing the richness of issues and relationships implicated in MCS design and use. In particular, it concentrated on formal (and usually accounting) controls without setting them in their wider context.” (Ferreira/Otley 2009, p.264).

2.1.2.2. *Cybernetic view*

The field of cybernetics is a concept as important to the development of early MCS research as Anthony’s distinction between management control on the one side (within the scope of research) and strategy formulation and task control on the other side (outside the scope of research). Loosely speaking, **Anthony (1965) examines the 'what' of MCS (the ends), whereas cybernetics examines the 'how' of MCS (the**

means). Together, they both comprise what is called the traditional view on MCS, which is basically identical to management accounting.

What is Cybernetics? **Cybernetics** is a discipline that studies communication and control processes of systems at large, be it machines, living things, or social systems. The classic illustration of cybernetics is a thermostat. In a room, if actual temperature is below the desired temperature, a **thermostat** measures the gap and turns on the heater. In more abstract terms: There is (1) a measurement device 'detector' that provides feedback through a communication network on (2) any gaps identified by the 'assessor' between the actual and the target state and there is (3) another device that carries out correcting action in order to align actual numbers to planned numbers 'effector'. After this is done the measurement device will assess the new state once again and the cycle repeats. This mechanism, called a **feedback loop**, may repeat to infinity (Anthony/Govindarajan 2007, pp. 2-4).

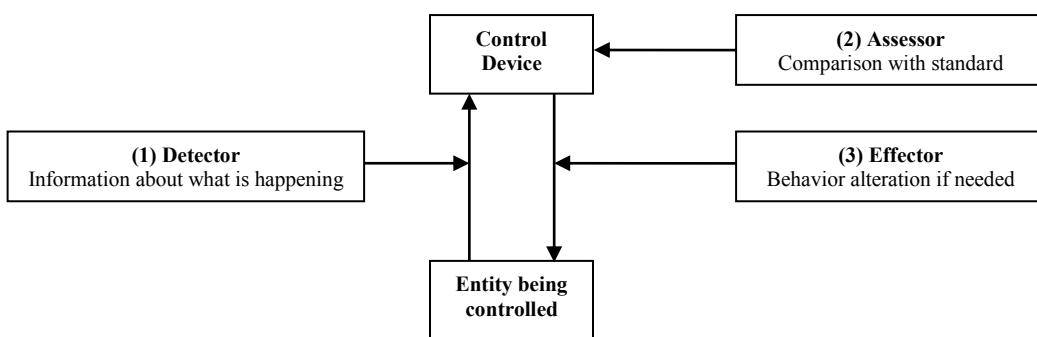


Figure 3. The cybernetic cycle (Anthony/Govindarajan 2007, p.3)

This **cybernetic approach has been applied to MCS**. Green/Welsh (1988, p. 291), define control as a “cybernetic, regulatory process that directs or constrains an iterative activity to some standard or purpose”. They argue that organizations were fundamentally based on the achievement of goals through activities and direction of resources, and so their control systems were about regulating these processes.

More concretely, **performance variance analyses and systems of 'management-by-exception'** are two practical examples of cybernetic principles. But cybernetic theory can not only be used to analyze and describe formal control systems. If people control their own behavior, i.e. if they exert '**intrinsic control**', they also capitalize on some sort of feedback loop. They do this in the sense that they compare the results they were aiming at to the actual environmental state they are experiencing and that they take appropriate action in case there are any major discrepancies. In fact this process is fundamental to all human planning and decision-making (Merchant/Otley 2007, p. 786).

Intractably linked to cybernetic management systems are planning and supervisory processes. The planning process is particularly important since it provides the system with the objectives, i.e. the yardstick that is needed to evaluate organizational performance. As some authors pointed out, cybernetic management **models of a static nature come to a limit if they are used at organizations that operate in a very dynamic environment** (Carenys 2010, p. 39).

Some more complex cybernetic models therefore also include **feed-forward loops**. **Feed-forward loops facilitate organizational learning** because they involve predictions of outcomes before final measurements are taken and/or multiple correcting feedback loops. **Outcomes become adaptive**. If the predictive model a company uses is insufficient or non-existent, then cybernetic control also becomes insufficient and must be completed with other control models (Kloot 1997).

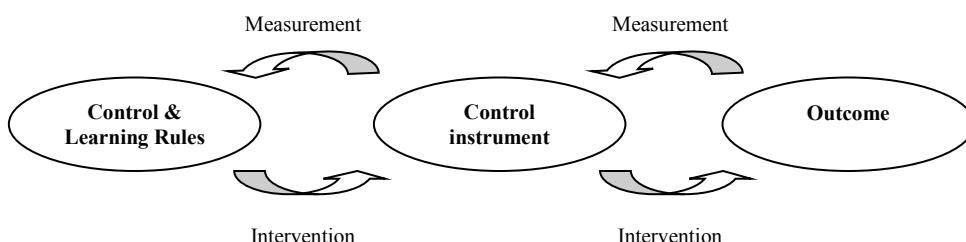


Figure 4. A cybernetic cycle with learning rules (self)

Figure 4 shows a simplified cybernetic system that allows for adaptive learning. On the right-hand side one sees a basic feedback system. A certain outcome is measured and if there are any divergences to the target value, corrective action is swiftly taken. However, on the left-hand side we see a second feedback loop. This feedback loop controls the rules that govern the functioning of the control instrument. Depending on the learning rules in place, consistently missing targets may lead to an adaptation of the target value or an adaptive reinforcement of corrective action.

Although the application of cybernetic theory can be extended to also include self-control of organizational members, **cybernetic control systems have traditionally been designed in a way that is similar to the way MCS practitioners interpreted Anthony (1965). There was a strong focus on financial control** with accounting seen as the “pre-eminent technology by which to integrate diverse activities” (Otley/Broadbent/Berry 1995). Over time this led to calls for a wider view on management control. The limitations of financial measures that had been identified by Johnson/Kaplan (1987), gave rise to **operations-based measures** that were at the origin of management accounting systems, and to the subsequent development of the Balanced Scorecard and other, similar models (Collier 2005, p. 323).

Fisher (1998), had a deeper look at the definition of MCS. Drawing on Giglioni /Bedeian (1974), he argued that there are in fact **two basic types of MCS**, one being **administrative and behavioral**, and one being **cybernetic**. He defined cybernetic MCS as “a system in which standards of performance are determined, measurement systems gauge performance, comparisons are made between the standards and actual performance and feedback provides information on the variances” (p. 52). This definition is similar to the definition of Green/Welsh. The **second type of Manage-**

ment Control System is more behavioral in nature, in the sense that it is less about controlling the outputs of employees, but more about controlling the motivation and the work ethics of controlled subjects. This input-oriented view may be implemented through **consciously designing an appropriate firm culture**, organizational structure, standard operating procedures, manuals, or human resources management. Fisher argues that until recently, the bulk of research had been focused on cybernetic systems, especially budgeting, and that therefore, a more comprehensive approach on analyzing MCS should now be pursued (Brown 2005, pp. 14-15).

2.1.3. Extensions and objections to the traditional MCS perspective

How did this alternative 'input-oriented view' Fisher identified in his paper come about? Since the end of the 1970s there has been a **stream of publications that looked at MCS from a non-cybernetic point of view**. As Chenhall (2007, p.165) states, "The definition of management control systems has evolved over the years from a focus on formal, financially quantifiable information to assist managerial decision making to include external information relating to markets, customers, competitors, non-financial information about production processes, predictive information and a broad array of decision support mechanisms and informal personal and social controls".

This development came about as **two objections leveled against the traditional perspective on MCS were gaining in popularity**:

1. Many researchers content that **Anthony's definition is out of date**. They consider it evident that contemporary organizations integrate operational control and strategic planning with management control. (Brown 2005, p. 11; Otley 1994, pp. 289-290).
2. Other researchers argue that **from the beginning Anthony's definition was too restrictive and not comprehensive enough**. For example the separation between strategy formulation, management control, and operational control

had restricted research to focus on accounting controls, in particular budgeting. Likewise, power groups other than management may play an important role in management control as well.

Otley (1994), provides a couple of reasons to explain why Anthony's definition of MCS and the traditional management control paradigm "... are becoming increasingly distant from the reality of current issues". **First**, he argues that Anthony's definition involved a perspective on organizations that was geared towards U.S. practices, not applicable to smaller organizations or organizations outside of the Anglo-American tradition. A strict separation of strategy formulation and management control necessitates a) responsibility accounting and b) a large number of middle managers. Conditions that are characteristic for large U.S. companies exhibiting a divisional structure (Otley 1994, p. 290). **Second**, he claims that organizations had changed anyway so, that "... contemporary business organizations no longer conform to the pattern assumed in the traditional management control literature." More precisely "... they are smaller, less diversified, less hierarchical and have more internal mutual interdependencies than the theory admits" (Otley 1994, p. 290). **Third**, the external environment had become more uncertain, increasing the importance of adaptation, flexibility and innovation as criteria of organizational effectiveness. Management control in the traditional sense is too focused on efficiency, i.e. not capable of meeting the challenges of modern times. **Finally**, new MCS instruments like the Balanced Scorecard had been developed that combine financial and non-financial performance indicators.

Taking account of the second objection raised against the traditional perspective on MCS, the following section presents the **main ideas** that were instrumental in the development of a **less restrictive and more comprehensive understanding of management control**.

Ouchi (1979, p.833), suggested that informal control mechanisms could be just as effective as formal control mechanisms. More specifically he looked at different possibilities of influencing employees in order to fulfill the raison d'être of an organizational control system. A system he defines as "the mechanisms through which an organization can be managed so that it moves towards its objectives". According to Ouchi (1980, p.129), the whole reason as to why control had to be undertaken in a bureaucratic context, as is the case with traditional Management Control Systems, can be traced back to two root causes: **goal incongruence and performance ambiguity**. Goal incongruence, the fact that corporate stakeholders have diverse and often conflicting interests, and performance ambiguity, the fact that effort and results are sometimes difficult to measure, are the reasons as to why there is not a market solution to problems of cooperation in the first place. This line of thinking goes back to the theory of **transaction-based economics**, developed by Coase (1937), and Williamson (1975). A market solution being ruled out, companies had two choices. They could either implement a more formal way of control, i.e. '**bureaucratic control**'; or they could put together a cohesive workforce that had enough intrinsic motivation to render formal control methods unnecessary. This solution, which Ouchi (1979) calls '**clan control**', demands agreement on a broad range of values and beliefs. To ensure the right level of commitment in the absence of formal rules and sanctions, organizations had to focus on hiring the right people and on socializing employees through various means of power and influence. The difference in underlying rationale is expressed elegantly in the following statement by Ouchi (1979, p. 846): "In everyday language, people must either be able to trust each other or to closely monitor each other if they are to engage in cooperative enterprises."

Flamholtz (Flamholtz 1979; Flamholtz 1983; Flamholtz/Das/Tsui 1985) claimed that **his colleagues were having some misconceptions with respect to Management Control Systems** (or in his words 'organizational control'). These are:

- **A preoccupation with numerical results of processes** (like measurement processes) instead of looking at the psychological effects of MCS processes like performance measurement
- **Too much focus on specific core MCS instruments** (like budgeting), instead of also perceiving the context of control, such as organizational strategy and organizational culture
- Ignorance about the possibility to achieve goal congruence between organizational stakeholders as an alternative to cybernetic outcome-congruence
- **Taking specific functions of MCS like performance measurement and treat these as ultimate organizational goals**
- A failure to distinguish between control and informational aspects of MCS

In short, we see the complaint that MCS research is too concerned with quantitative data-driven instruments of performance measurement, such as budgeting. A lot of other factors such as organizational culture and strategy are neglected. For this reason, he suggests a new holistic perspective on organizational control as can be seen in Figure 5. This perspective which I will take up in section 3.1 regards formal MCS instruments as being embedded in a wider organizational context of organizational structure and culture.

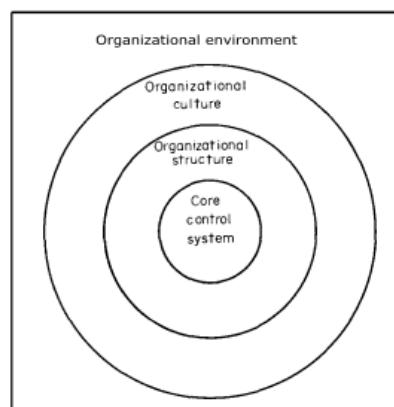


Figure 5. A holistic view on organizational control according to Flamholtz (1983, p. 155)

A **new definition of organizational control** is suggested as well: "Attempts by the organization to increase the probability that individuals and groups will behave in ways that lead to the attainment of goals." (Flamholtz/Das/Tsui 1985, p.36) Similar to earlier definitions, this definition is goal-oriented. However, it focuses on behavior and intention, i.e. reflects the deeper assumption that individuals are purposeful, goal-seeking entities, whose goals may not be congruent (Brown 2005, p. 36).

In line with this observation **Flamholtz does not limit goal-setting to management per se**. On the contrary "... goals may be established by an individual proprietor, a dominant coalition, an external authority, or an influential subset of organizational members." (Flamholtz/Das/Tsui 1985, p. 36). Consequently, Flamholtz sees **conflict as an inherent characteristic of organizations** that can only be overcome by engineering goal-congruence. Goal congruence is seen as being more powerful but also more demanding than cybernetic outcome congruence.

Otley (1980), is credited as being one of the first researchers to advocate this holistic view on MCS. Having evaluated existent contingency-based research, he concluded that previous studies failed to realize that an AIS (accounting information system), "... comprises only one part of the control structure of the organization" (Otley 1980, pp. 420-421). Extant research assumed environment and technology to affect organizational structure, which in turn determined the design of an accounting information system. Otley suggests instead that **management accounting systems are dependent on external contingencies AND other management control and information systems (figure 6)**.

MCS instruments and all other organizational variables controllable by the organization (except organizational objectives) should be seen as a package being part of a **contingency framework**, including four main components.

1. Contingent variables that cannot be influenced by the organization. Most of these variables relate to the external environment.
2. Organizational objectives, which are half internal and half external. Organizational objectives are particularly important since they represent the criteria against which to evaluate organizational performance.
3. The organizational control package. This package includes accounting systems, other management information systems, organizational design and all other structures or processes that can help achieve good management control.
4. Finally organizational effectiveness or performance can be evaluated.

Simons (1995), has contributed to modern MCS theory by creating a framework that shows how management control cannot only be used as a means to enforce management strategy, but also as a means to fulfill other organizational goals such as innovation and organizational learning. I will talk about this framework, which involves four different uses of management control in section 3.2.1.4

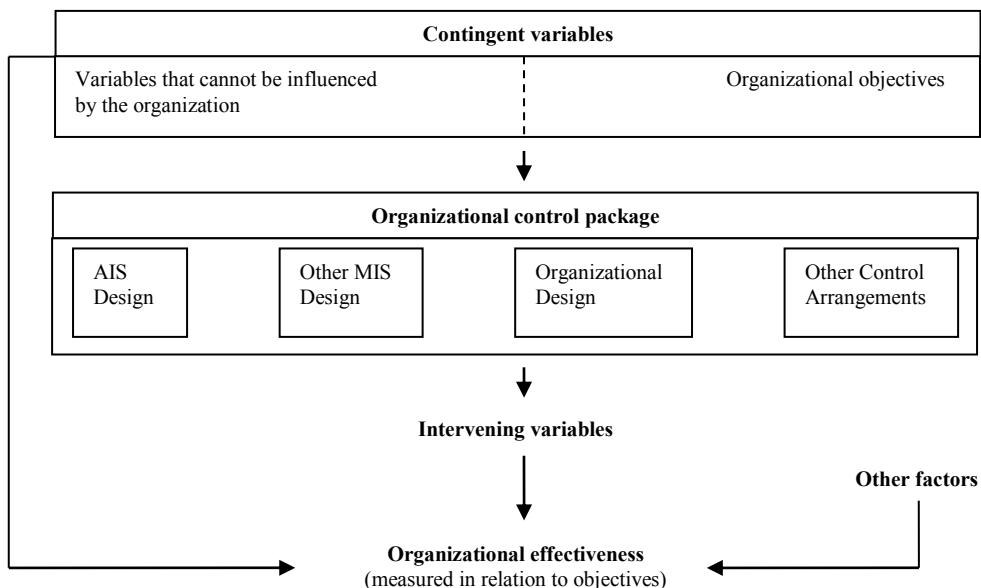


Figure 6. Contingency framework of Otley (1980, p. 421)

Finally, **Zimmermann (2000, 2001)**, introduced another aspect to the discussion of Management Control Systems. Zimmermann draws a distinction between decision-making and control. He argues that many accounting systems provide a lot of information helping managers as well as subordinates to make better-informed decisions.

However, similar to Flamholtz (1979), he cautions that these information systems do not necessarily qualify as control systems. In case that there is no mechanism that ensures or at least increases the probability that information provided is actually acted upon, one has to talk about decision-support systems instead of control systems.

Decision-support systems are not part of MCS.

2.2. A taxonomy of MCS perspectives

So how do contemporary researchers define MCS? As demonstrated above, a number of theorists have suggested that some of the assumptions made by traditional cybernetic MCS theory should be replaced by alternative, more open, comprehensive and sophisticated assumptions. Most **contributions have been formulated as objections to individual issues of traditional MCS theory**. As such, they have been helpful in adding new aspects to MCS research (like the uses of management control (Simons 1995)) and to interpret empirical data seemingly at odds with traditional thinking (like the usage of clan control in some companies (Ouchi 1979)).

However, with each researcher having focused on a different topic, progress remained isolated and piecemeal. As a consequence, **research did not lead to the development of a new, precise, integrated and comprehensive alternative definition** the scientific community would agree on. Instead, each MCS definition is slightly different to the other. And as a result, it has become a) difficult to integrate existing

research findings and b) unclear where to draw a line between MCS and related academic fields such as organizational design or organizational culture.

What is lacking is a **synthesis of existing approaches**, clearly delineating the differences between them. Table 1 shows the differences between old interpretations and new interpretations as I see them.

But how do the alternative suggestions combine? When doing empirical or conceptual work on management control, does it make sense to take up the entirety of recent suggestions?

Table 1. Key assumptions of traditional and "modern" MCS (self)

Issue	Traditional perspective	Suggested by new approaches	Proponents of new "aspect"
Key challenge	Resource allocation (planning) and delegation	Behavioral control Coordination	<ul style="list-style-type: none"> • Ouchi (1979) • Flamholtz (1979, 1983)
Key actors	Middle management; implements strategies drafted by top management in a top-down manner	Power at all hierarchical levels Power struggles may ensue Power groups other than management may be dominant	<ul style="list-style-type: none"> • Abernethy/Chua (1996) • Ferreira/Otley (2009)
Means of MCS	Accounting based systems following a cybernetic logic, e.g. budgeting	Cybernetic instruments, hierarchies, but also informal controls, such as culture or corporate culture	<ul style="list-style-type: none"> • Ouchi (1979) • Otley (1980) • Flamholtz/Das/Tsui (1985) • Merchant/Van der Stede (2007) • Malmi/Brown (2008)
Purpose (ends) of MCS	Main purpose is control defined as ensuring the implementation of predefined plans.	MCS is not only concerned with the implementation of plans. Strategy formulation, fostering innovation and building up internal capabilities is also seen as being important	<ul style="list-style-type: none"> • Mintzberg (1978, p.945) • Otley (1994) • Simons (1995) • Ferreira/Otley (2009)

	Providing information as such is seen as another important element	The information function of MCS instruments is not considered part of management control	<ul style="list-style-type: none"> • Zimmermann (2000, 2001) • Malmi/Brown (2008)
Interrelationship between MCS instruments	Interrelationships are not addressed, probably because: only one instrument exists; all instruments are integrated, e.g. through budgeting	Systems view. There are multiple MCS instruments, which are heavily interacting with one another	<ul style="list-style-type: none"> • Otley (1980) • Simons (1995) • Malmi/Brown (2008) • Ferreira/Otley (2009)

I disagree. Even though some researchers like Ferreira/Otley (2009) seem to have a tendency of being as all-encompassing as possible, I personally doubt that having such a wide focus will actually lead to meaningful results. Moreover, having too wide a focus also blurs the distinction between management control and organizational theory, as I am about to illustrate using Figure 7.

Figure 7 shows a three-dimensional space that spawns **three factors, which taken together determine the focus and/or comprehensiveness of theoretical concepts**. A theoretical concept (not just a MCS definition) may address only one instrument or a lot of instruments. In the graphic, the variable '**amount of MCS instruments**' is shown on the horizontal x-Axis. The vertical y-Axis shows the '**number of purposes**' the organizational instruments in question are evaluated for. Finally, the z-axis leads us to the third dimension, the '**inter-connectedness of MCS instruments**', or more general, **complexity**. This last dimension is high, if the topic in question, for example the MCS, is seen as a complex system of multiple subcomponents interacting in intricate ways.

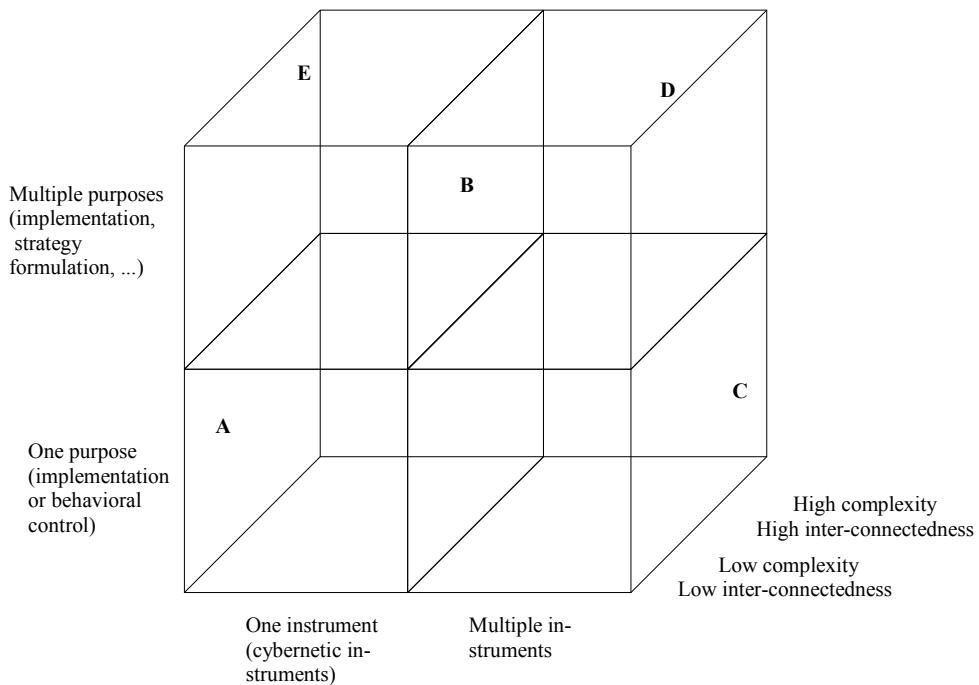


Figure 7. Dichotomies of MCS definitions (self)

Figure 7 relates to our question of MCS definition in three important ways. First, it nicely summarizes the key questions relevant to the definition of a MCS perspective. Second, it can be used to position some of the more popular MCS perspectives. Third, it helps to make a decision on which definition of MCS to use throughout the rest of this dissertation.

We have already mentioned a couple of MCS related concepts. Where are they positioned with respect to the dimensions shown in Figure 7. The **letter 'A' denotes the traditional perspective on MCS**. We are dealing with only one (budgeting) or a limited amount of MCS instruments (cybernetic instruments). There are basically two purposes, strategy implementation and information processing. Finally, the complexity of MCS is considered as being rather low.

The letters B and C denote two competing 'modern perspectives' on MCS theory. 'C' stands for '**Management Control Systems as a package**', a perspective developed by Brown (2005) and popularized by Malmi/Brown (2008), while 'B' stands for Simon's

(1995) concept of '**levers of control**'. What is the difference between the two? **Management Control Systems as a package (C)** looks not only at cybernetic types of control instruments, but at the entire range of instruments, which may be consciously used to control employee behavior, be they formal or informal. There is a strong focus on taking an integrative view that examines the interconnections between MCS instruments. Finally, there is a single-minded focus on what is seen as the ultimate purpose of MCS: 'behavioral control'. In short, Brown's concept has a strong focus on what is seen as the purpose of MCS, while being at the same time as comprehensive as possible in terms of complexity and instruments. This is in contrast to traditional MCS theory, which is defined as much by its instruments as by its purpose. Simon's concept of **levers of control** takes a balanced perspective to all three dimensions. It only looks at formal MCS instruments, thereby capturing a large part, but not the entirety of MCS instruments. Similar to **Management Control Systems as a package**, it shows a rather high degree of complexity, however, there is little effort to examine interconnections in more than a qualitative way. With respect to the purposes of his framework, Simons takes a rather wide view. Control systems are needed for purposes of strategy implementation but as well for purposes of strategy formulation and innovation. To summarize, Simons has a model that - without becoming too complex - captures almost the entirety of organizational reality. It is therefore particularly helpful when it comes to analyzing the interaction of instruments that aim to achieve different organizational goals.

Before taking a decision on which perspective I want to follow in the course of this thesis, I would like to take the time to reveal the meaning of the characters '**D**' and '**E**', which can also be seen in Figure 7. '**D**' stands for **organizational design**, (i.e. the 'action-oriented version' of organizational theory), e.g. the 'Structure in Fives' framework of Mintzberg (1979). In my understanding, organizational design as a discipline is about nearly everything. As will be shown in section 4.4.4, Mintzberg's concept tries to explain all aspect of organizational reality, looking at the entirety of organiza-

tional structures, processes and objectives. Having described organizational design in this way, it becomes clear why organizational design (and organizational theory as its theoretical foundation) is so relevant to MCS theory and why it is often difficult to draw a line between organizational design / theory and MCS theory. Organizational design is relevant to MCS theory, because **all the questions asked by MCS theory can be seen as a subset, a more focused part of organizational theory**. For this reason, the theoretical concepts of organizational theory, most of the times simply called organizational theories, like contingency theory, configurational theory, equifinality, ambidexterity, and so on, are all **applicable to MCS theory** as well. The perspective of organizational theory being a superset of MCS theory, also explains why it has become more and more difficult to distinguish between the two. In terms of scope, MCS theory has grown over the last years; with the final result being that some interpretations of **MCS theory have become undistinguishable from existing concepts of organizational theory**.

Which kind of business concepts could be behind the position taken by character 'E'? My best guess would be a comprehensive but also monolithic system, such as value-based management. Value based management is basically about one single idea, creating shareholder value by means of performance and valuation metrics using important drivers such as time preferences (discounting), risk-tolerance and opportunity costs of invested capital (cost of capital). Applicable to almost all aspects of organizational life value-based management can become surprisingly complex in its application.

2.3. Definition of key terms

Having explained the different perspectives and meanings of MCS I would now like to **clarify the different notions used in the remainder of this thesis. In the context of this dissertation, I am using the following terminology**.

'Organizational theory' or 'organization theory': I see organizational theory as an academic field that aims at gaining a comprehensive understanding of how actors, processes, institutional structures and external contingencies relevant to an organization interact in order to create or sustain enduring routines and institutions, which help a company to manage day-to-day operations as well as uncommon events. Organizational theory can be used to describe the processes by which these routines develop (*organizational change theory*), it can be used to describe and categorize and it can be used to predict optimal routines (*frameworks of organizational design*). In the context of this thesis, I will also use organizational theory in yet another sense, which is the meaning of a meta-theory, research paradigm or scientific approach, a general assumption on how organizational features are determined. One example for such an organizational theory would be contingency theory, which assumes that the effectiveness of organizational features is contingent on factors like the nature of the external environment. The opposite of contingency theory is universalist thinking, which takes a one-size-fits-all approach assuming that one organizational form or one control system is better than all the others under all circumstances.

'Management Control System instrument' (MCS instrument): In line with Malmi/Brown (2008), I am using the term MCS instrument to refer to all the individual mechanisms, processes and activities organizations use in order to influence the behavior of employees towards the achievement of its organizational goals, like efficiency in carrying out predetermined strategies, or flexibility in terms of adapting to changing circumstances. What it does not include, is conscious strategy-making in the sense of making a decision on whether to prioritize efficiency or flexibility, or whether to aim for both, which is a strategy called ambidexterity. In practical terms MCS instruments are typically instruments like budgeting, performance measurement, compensation schemes, planning, shared values & norms, selected recruitment

of new employees, standard operating procedures, and so on. A list containing additional MCS instruments (Table 2), is provided on page 50.

'Management Control System' (MCS): The entirety of purposefully employed Management Control instruments. This broad system includes instruments of management accounting (as defined by Chenhall 2007), as well as more informal types of control such as clan control and cultural control.

'Management Accounting' and **'Management Accounting System' (MAS):** I use these terms in line with Chenhall (2007), when referring to formal types of MCS instruments as well as to information-based systems of decision support (i.e. Non-MCS instruments). I also talk about MAS when referring to the traditional definition of MCS, as given by Anthony (1965).

3. Management Control Systems - Components and design choices

3.1. A framework on components and design choices

The aim of this dissertation is to synthesize and explain the existing **knowledge on optimal design choices concerning Management Control Systems**. In the last chapter we looked at different interpretations of the term Management Control System. Having made a choice on which interpretation to follow, it is now time to identify and describe design choices and contingencies relevant to the research question of this dissertation.

The **aim of this chapter is threefold**. **First**, to provide an overview on the structure and subcomponents of MCS, as defined in chapter 2. **Second**, to present typologies and attributes conceptualizing the different values or configurations these subcomponents can assume. **Third**, to analyze the context against which MCS operate, namely internal factors such as organizational structure, culture, strategy and external factors such as the external environment.

I am taking a **holistic view on MCS**, because I believe managers are able to make an informed decision on how to design or amend MCS, only if they know about a) the entirety of design choices at their disposal, b) all relevant contextual factors that may affect company performance (such as organizational strategy, or environmental hostility). This view is supported by a number of recent perspectives on the state of MCS research. According to Carenys (2010), researchers increasingly acknowledge that there is no either-or and that MCS systems do combine formal as well as informal control instruments. Moreover, Chenhall (2007, p. 167) points out that empirical evidence now suggests that the empirical study of individual MCS instruments without

taking into account the rest of an organizations' context can lead to "serious underspecification" of the research model and therefore, to "spurious findings".

Hence, drawing on Flamholtz (1979), Malmi/Brown (2008) and Otley (1980), I created a new contingency framework, shown in Figure 8. Flamholtz (1979) argues that organizational control is embedded in **organizational culture** and **organizational strategy**, while Malmi/Brown (2008) shows that cultural and administrative MCS instruments play an important role in management control. Picking up on these two ideas, I show MCS, organizational structure and organizational culture as partly overlapping circles. An in depth study of organizational structure and culture is presented in section 3.3.1, respectively section 3.3.2.

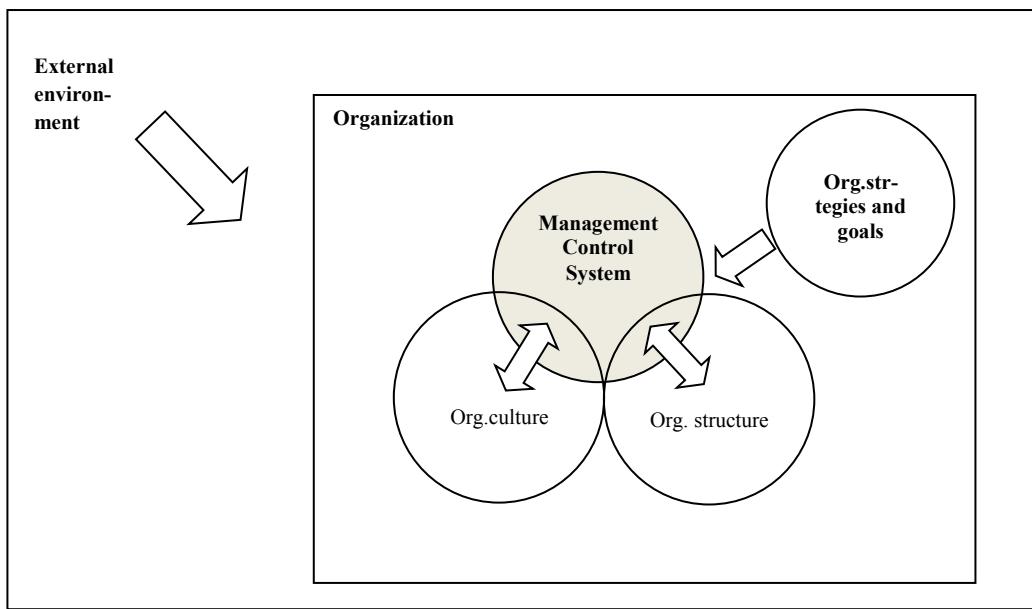


Figure 8. Contingency framework on MCS, organizational functions and the external environment (self)

Other items shown in Figure 8 derive from Otley (1980). As previously explained, Otley considers **organizational goals** and the **external environment** to be the two key contingencies which determine the design of a control system. As a result, we should definitely have some arrows pointing from both contingencies towards MCS. But, what about the other direction? Does the Management Control System have an influence on organizational strategy or the competitive environment of an organiza-

3. Management Control Systems - Components and design choices

tion? As established in the last chapter, a couple of researchers do think this to be the case (Simons 1995, Ferreira/Otley 2009). In fact, they see strategy formulation as another legitimate purpose of MCS. Following my definition of MCS and trying to keep my framework as simple as possible, I assume there is no such interrelationship. The same holds for the influence of an organization on its environment. I will speak about organizational goals in section 3.4, and the external environment of organizations in section 3.5.

Having conceptualized a contingency framework that links MCS to the environment, I would now like to have a **deeper look at the inner workings of MCS**. In particular, I want to show how MCS are a function of the types, properties, and interrelationships of MCS instruments. Meeting this demand, Figure 9 helps us address the first two aims spelled out at the beginning of this section.

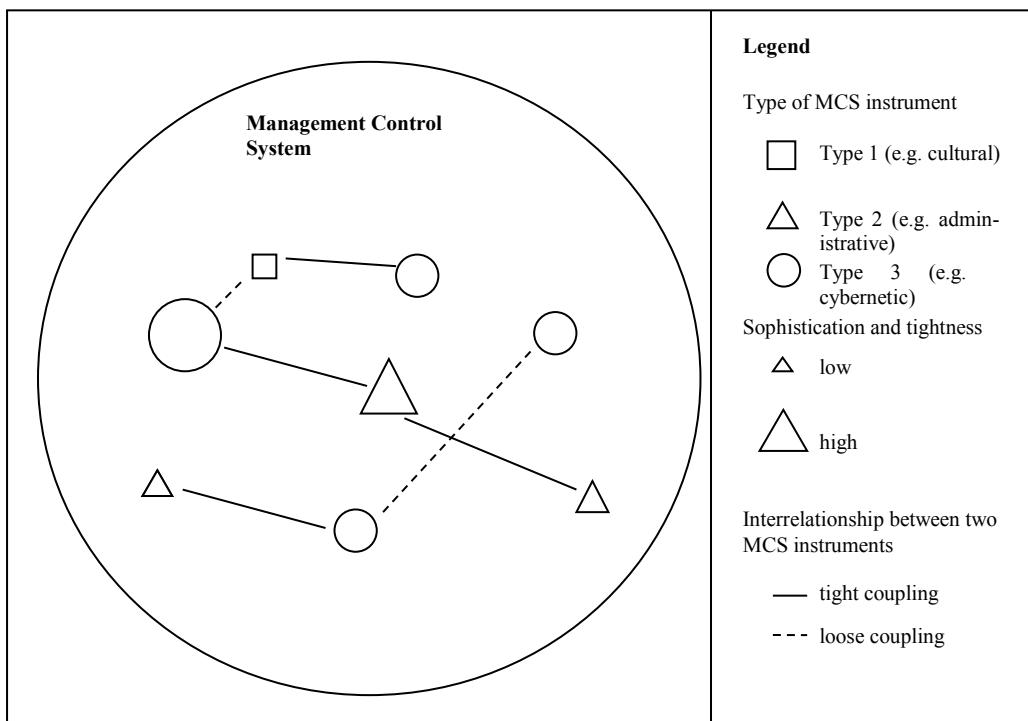


Figure 9. Elements of Management Control Systems (self)

In order to explain Figure 9, let me begin with a question: What are the **design choices management is confronted with when considering the idea of implementing a**

new MCS instrument, say a stock option plan? Well, first of all, it has to decide if it wants to implement this type of MCS instrument, in this case a cybernetic MCS instrument, in the first place. Next, management has to agree on exactly how to devise the new control instrument. Should the stock option plan entail large amounts of money and strict rules of enforcement (tightness)? Should it involve simple or sophisticated methods of option pricing (sophistication)? In other words what should be the **properties of the MCS instrument**? And finally, how does the stock option plan fit into the environment of existing MCS control instruments? Should the 'generosity' of the stock option plan be coupled to the results of other MCS instruments, such as meeting a budget, or having a certain socialization acquired by having a minimum tenure in the company, ... ? More generally, what should the **interrelation between the MCS instrument and other MCS instruments** be?

All the design choices shown in Figure 9 are important. And it is obvious that they must be seen in combination. Yet, notwithstanding the trend already mentioned towards a more holistic view on MCS, **most researchers focused their efforts on individual MCS instruments**, particularly MCS innovations like activity-based costing or balanced scorecards (BSC) (Malmi/Brown 2008, Chenhall 2007). Other researchers limited themselves to the study of certain types of MCS instruments, be they cybernetic, administrative or cultural. As Abernethy/Brownell (1997, p. 246) pointed out "It is clear that organizations rely on combinations of control mechanisms in any given setting, yet virtually nothing is known about how the effects of any one control are governed by the level of simultaneous reliance on other forms".

In the following sections I will introduce the reader to subcomponents and contextual factors that determine an MCS. I will commence my discussion by looking at MCS instruments (section 3.2). Next, I will introduce the reader to the concepts put forward with respect to organizational strategy and structure, two organizational dimensions that overlap with MCS (section 3.3). Finally, I will demonstrate how organ-

izational goals and strategies, and the organizational environment can be 'operationalized' so as to become objects of scientific enquiry (sections 3.4 and 3.5). Having completed this rather descriptive part of the dissertation, we can move on to see, first, which theoretical concepts link the subcomponents together, and, second, which predictions they make with respect to creating an 'optimal' design of MCS.

3.2. MCS instruments

3.2.1. *Classifications*

3.2.1.1. *Formal control vs. Informal control*

As shown in Figure 9. Elements of Management Control Systems (self), a MCS is at its core defined by, a) the MCS instruments it comprises and, b) the interrelationships that exist between each of the individual MCS instruments. Due to a lack of relevant publications **I will only talk about the interrelationships between MCS instruments in section 5.6.3** introducing the only case study that has been written on the subject. This section, therefore, focuses on MCS instruments.

Giving an account of the most important dimensions of MCS instruments I want to **start by summarizing the different classifications of MCS instruments**. When referring to MCS and the totality of MCS instruments, scholars of MCS rarely talk about individual instruments, such as budgeting, performance evaluation, in-house training and so on. Instead of discussing a potentially limitless amount of processes and mechanisms, they group instruments sharing similar traits into categories or types using so called classificatory systems.

The most basic classification, and the classification that is in use for the longest period of time is the one that labels **MCS instruments as being either formal or informal** (Alvesson/Kärreman 2004, pp. 424-426). Falkenberg/Herremans (1995) define an

organizations' **formal system** "... as the **written** procedures and policies that direct behavior so as to achieve the organization's goals, and/or detect/deter misconduct." This technical and formal system included explicit tools like documented organizational goals, budgets, reward criteria, performance appraisal standards, and codes of ethics. The **underlying reason for formal controls lay in the agency relationship** between supervisors and subordinates (Jensen/Meckling 1976). Both had a contract with each other and both were utility-maximizers. Because of this, there was an incentive for the agent to 'cheat' on the principal, which necessitates the implementation of a control framework.

Budgeting has traditionally been treated as the #1 formal control system. This is perhaps due to its integrative nature and the possibility to tie different functions of MCS to one instrument. Today, however, budgeting is not regarded as the only control system, but as one among others that **needs to be complemented by other control mechanisms, both formal and informal.** This is because of the growing recognition that non-quantitative measures are a necessary complement to financial accounting numbers (Clancy and Collins 1979).

There are several, oftentimes **implicit assumptions associated with the use of formal control systems.** Carenys (2010, p. 43) summarizes them in the following list:

- Behavior is managed through the design of formal organizational mechanisms (hierarchy of authority, rules, behavioral norms and defined procedures, centralization of the decision process).
- Management plans and controls the efforts by the organization's members
- The organization's objectives are perfectly defined, clear and tend to be in relation to the maximization of profit.
- Control can be exerted through the design of formal systems and based on the principle of control by exception.

3. Management Control Systems - Components and design choices

- Control of the efforts by the organization's members can be achieved through the use of logic and qualitative techniques.
- Motivation is largely extrinsic and incentive systems have to be fundamentally based on monetary payment.

"Formal controls work best when the environment is stable, routine behaviors are required, the transformation process (or employees behavior) can be monitored, and the employees' output measured" (Falkenberg/Herremans 1995, p. 134). Formal controls are about explicit mechanisms of management control. Mechanisms like budgeting, corporate credos, performance evaluation, and compensation schemes are all consciously implemented and fine-tuned by corporate management.

To the contrary, informal controls develop in a more organic way and influence employees' behavior more indirectly. **Informal controls are based on cultural artifacts like norms, emotions, values, beliefs, stories, and ceremonies.** Culture is a concept that is difficult to define. However it can be said, that an organizational culture will evolve within a corporation no matter if management is pursuing conscious efforts to create a certain type of culture or not. Culture that manifests itself through shared identity, social relations and ideology may thus have a beneficial, as well as a detrimental effect on corporate performance. Alvesson/Kärreman (2004, p. 426), define **socio-cultural controls** (a synonym to informal controls) as "...efforts to persuade people to adapt to certain values, norms and ideas about what is good, important, praiseworthy, etc in terms of work and organizational life. Ideologies justify certain principles, actions and feelings, and discourage others." In other words, corporate management or other influential groups within an organization are communicating their values in order to change employee behavior and improve organizational performance. **Group members that fail to adhere to "the unwritten rules" of an organization will be sanctioned,** which means they will be kicked out of the company or they will be isolated from important decision-making and interactions.

A lot of organizations employ informal controls in a subconscious manner. There are a couple of reasons as to why. First of all, many executives are not aware about the importance of values. Second, informal control is shaped and influenced by everyday activities like meetings, negotiation of disputes, senior management attitudes and style. This means that altering informal controls necessitates a lot of effort. Third, informal controls are rooted in corporate history. There is an **obvious inertia to traditions** and moreover many individuals are not even aware of their own traditions or values but take them for granted. Having said this, there are a number of processes that managers can consciously use or promote in order to “engineer” the organizational culture. These processes include the selection of employees, socialization and formal communication of organizational objectives and values (**Schein 2010**).

Historically, researchers focused on formal control systems. However the importance of informal controls has already been acknowledged by Flamholtz (1983, p. 160), who asserted that: “The traditions which characterize an organization's culture may be an equally or even more important factor in predicting behavior than the formal core control mechanisms.” And **nowadays there is a renewed interest in informal controls**, which is due to globalization and the significance of informal controls in a cross-cultural context.

A series of authors (Flamholtz 1983; Alvesson/Kärreman 2004, Bedford/Malmi 2010) stress the **potential complementarity between formal and informal types of control**. To control the behavior through formal control instruments, it is necessary to develop specific rules for specific situations, prior to the situations occurring. But no organization can ever specify a set of written rules that will cover all possible contingencies. **Formal control systems are therefore necessarily incomplete** (Carenys 2010, p. 40). On the other hand, well-functioning, informal control systems do not need rules, because employees will be intrinsically motivated and will intuitively know

what is expected from them by the organization. So, **informal control systems are an interesting alternative to formal control systems**. It should, however, be kept in mind, that it is difficult to change organizational cultures and that **employees may react negatively to what they perceive as manipulation** (Covalevski et. al 1998). Changing organizational cultures is what change management and Lewin's famous formula of "unfreeze-change-refreeze" is about (Lewin 1947).

In the following segment, I will **present two of the most popular taxonomies of MCS instruments**, thereby showing two different systems of classifications as well as giving a good overview of the specific MCS instruments in existence. Furthermore, I will present **two frameworks that highlight the different uses of MCS instruments**.

3.2.1.2. Merchant/Van der Stede (2007) - Object of control framework

Merchant/Van der Stede (2007), present a taxonomy that integrates formal and informal control instruments. Similarly to Anthony, they argue that control has two basic dimensions: strategic control and management control. **Strategic control** has an external interest; it questions the validation of the current strategy. **Management control**, however, has an internal interest; it tries to assure that all individuals act in the expected way to implement the organization's strategy.

There are three basic reasons as to why Management Control Systems are needed in the first place: lack of direction, motivational problems and personal limitations.

Lack of direction occurs when employees do not really know what level of performance or what route of action is expected. **Motivational problems** are due to goal-incongruence, i.e. the individuals do not have the same objectives as the organization. **Personal limitations** exist if employees do not have the skills or experience needed to do their jobs.

Table 2. MCS instruments related to group of MCS practices (self)

Examples of MCS instruments to this MCS category	
Results Controls	<ul style="list-style-type: none">• Budgeting• Written performance evaluations• Stock options• Individual bonuses
Action Controls	<ul style="list-style-type: none">• Hierarchies and organizational chart• Written job descriptions• Standard operating procedures• Planning sessions (Pre-action reviews)
Personal Controls	<ul style="list-style-type: none">• Inhouse training• Background check on prospective employees• Standard employment application• Human resources information system
Cultural Controls	<ul style="list-style-type: none">• Mission statement• Regular company-wide meetings• Newsletter or other company wide-correspondence• Group rewards

Merchant/Van der Stede (2007), assert that there are **4 groups of MCS practices (i.e. instruments)** to overcome control problems: **a) Results controls, b) Action controls, c) Personnel controls, d) Cultural controls.** For each of these groups, they provide a definition and explanation, examples, a list of instruments that are related to this group, the preconditions that need to be fulfilled in order to apply these controls, and a clarification on how the group can help to overcome the three control problems explained above. The 4 groups of control will be explained below.

Results control

Results controls are basically about **rewarding or punishing employees for good or bad performance, i.e. results**. As an example, if a sales representative meets a sales budget, there will be a bonus, if the target is not met, there will be a stern lecture. But rewards do not necessarily have to be monetary. Other rewards that may be linked to performance include, job security, promotions, autonomy and recognition. Result controls are one central **means of implementing decentralization**. For an employee that is subject to results controls, there is both potential as well as risk. On the one side, there is increased autonomy and the potential to achieve in the organizational meritocracy. On the other side, income and position become less secure. Consequently there is a **huge motivational effect**. However, there is also a positive effect on the problem of "personal limitations", since only those employees that consider themselves capable enough for the job will apply in the first place. For this type of control to work, an organization needs to have clarity on what it expects from its employees. In addition, the employees need to have the intellectual competence and the power to assume the responsibility they were given. Finally, **results need to be measurable**. Implementation of this formal type of management control is equivalent to **implementing a cybernetic cycle**: There need to be objectives, targets, measurement, and rewards.

Action control

Action controls are also a formal type of control. Even so, action controls work in the opposite way to results controls. **An employee is made accountable not for her performance, but for the actions she undertakes**. This leads to a **more bureaucratic control climate**. Think standard operating procedures. 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. That means that **managers need to be experts in terms of work processes** and that they also need to have the means to make sure their instructions are actually obeyed. Both conditions are best met in central-

ized companies, which operate in stable industries. According to the authors, there are 4 types of action controls: Behavioral and administrative constraints; pre-action reviews; action accountability and redundancy.

Behavioral and administrative constraints are about safeguards that prevent employees from doing things that should not be done. These safeguards include: Locks, passwords, limited decision making authority, separation of duties, etc. ***Preaction reviews*** are basically about planning, i.e. checking the intended action plans of employees in advance. ***Action accountability*** is about holding employees accountable for their actions. First, for this form of control to work, expectations need to be communicated either in written form via work rules, policies and procedures, a company's code of conduct, or orally, in face-to-face meetings. Second, employees need to be on surveillance so that misconduct can be detected. ***Redundancy*** means that actions or resources are increased to make sure an objective is met.

Personnel control

Personnel controls are informal controls linked to the tendency for people to control and/or motivate themselves. Authors argue that there are three basic purposes for this type of control, as well as three major implementation methods.

The **purposes of personnel controls** are:

- Clarify expectations so each employee understands what is wanted
- Increase the capabilities and resources of the worker
- Increase the likelihood that employees will engage in self-monitoring by building up intrinsic motivation

Merchant/Van der Stede (2007), propose **three methods to implement personnel control**.

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Selection and placement: Merchant/Van der Stede (2007), consider selection and placement to be one of the most important control system elements. Depending on the job responsibilities, finding the right people in the right place to do a particular job can be of utmost significance. **Training** helps to clarify expectations and increase a worker's capabilities by providing him or her with information about the organization's expectations and best practices. Moreover, training can also be used as a reward and can thus have a positive effect on employees' motivation. **Job design and provision of necessary resources:** Both measures will obviously help an employee to succeed. In contrast, an overly complex and demanding job description and insufficient resources can be a challenge for even the most talented manager.

Cultural control

In contrast to personnel controls, which seek to increase the likelihood of employees' self-monitoring, cultural controls are used in order to **support mutual monitoring**. This informal type of control is especially effective in collectivist cultures (e.g. Japan), or within any other group of people that have emotional ties to one another. Cultural deviation, which means deviating from shared traditions, norms, beliefs, values, ideologies, attitudes and ways of behaving, is met with powerful group pressure. Even though Merchant/Van der Stede (2007), characterizes organizational cultures as relatively stable, they still propose some methods to actively shape culture:

Codes of conduct - are formal written documents that provide broad general statements of organizational values, commitments to shareholders and the way in which the management would like their organization to function. There is inconclusive evidence on whether codes of conduct (or mission statements, etc....) really work.

Group rewards - are about rewarding individuals dependent upon the performance of the group they are part of. This technique obviously increases peer pressure and mutual monitoring. Group rewards can come in the form of team-based bonus programs, as well as broad stock ownership and an ownership culture.

Other approaches - Merchant and Van der Stede (2007), also refer to other approaches of shaping culture, such as employee rotation, physical arrangements, and tone at the top. The motivation behind all these mechanisms is to indoctrinate the employees with corporate values and/or to build a more cohesive workforce.

3.2.1.3. Malmi/Brown (2008) – MCS as a Package

Malmi/Brown's (2008) conceptual typology of an MCS package draws on Brown (2005), who developed the typology in the course of his Ph.D. thesis, analyzing and synthesizing nearly four decades of MCS research. The authors assert that the typology provides a sufficiently broad, yet parsimonious approach to studying the MCS empirically. They use a definition of MCS that **distinguishes strictly between control-oriented instruments and management instruments that aim to provide decision support**. Along the lines of Zimmermann (2001), only those control-oriented instruments that aim to create goal congruence are considered to be MCS instruments.

The stated 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). The typology comprises **five groups of MCS instruments: (1) planning, (2) cybernetic, (3) reward and compensation, (4) administrative, and (5) cultural controls**. The following sections will outline these controls in more detail.

(1) Planning

The authors claim that **planning had to be considered as an ex ante form of control**. Firstly, planning directs effort and behavior by setting out goals for the functional areas of the organization. Secondly, it provides the standards to be achieved in relation to the goals. Thirdly, planning as a form of communication can assist to attain goal congruence across the organization's functional areas. Malmi/Brown (2008), segregate planning into **action planning and long-range planning**. Action planning has

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a tactical focus, whereas long-range planning establishes goals and actions for the medium and long run, and has therefore a more strategic focus.

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

Figure 10. Taxonomy of MCS instruments of Malmi/Brown (Malmi/Brown (2008), p.291)

(2) *Cybernetic controls*

Malmi/Brown (2008), define cybernetic control in line with Green/Welsh (1988). The authors emphasize that a cybernetic system was either a decision support system or control system depending upon how it was used. Consequently, they state that “the linking of behavior 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). The reward system that is implied in this context, however, was itself not part of the cybernetic system.

Cybernetic controls can take on 4 different forms: **(1) budgeting,** **(2) financial measures,** **(3) non-financial measures** and **(4) hybrids** that encompass both financial and non-financial measures. Despite a significant amount of criticism (e.g. Hope/Fraser 2003), Malmi/Brown regarded **budgets** as still being central to most organizations. Specifically, as a control system, budgeting provided an integrated mechanism for planning acceptable levels of behavior and evaluating performance (Malmi/Brown 2008). It is common that employees are held accountable for certain financial measures through **financial measurement systems**. These may include

measures like net profit, economic value added (EVA) and return on invested capital (ROIC). **Non-financial measures** are nowadays becoming increasingly important for today's organizations, which is due to their ability to overcome the shortcomings of financial measures and their ability to identify the drivers of performance. (Malmi/Brown 2008, p. 293). Examples of a **hybrid measurement system** include the Balanced Scorecard (BSC) and Management-by-Objectives (MBO).

(3) Reward and compensation controls

Reward and compensation controls are about achieving goal congruence. This is done by attaching rewards to the achievement of intended management goals. There are **intrinsic and extrinsic rewards**. Both work by controlling the 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, p. 293). Malmi/Brown (2008), asserts that **not all rewards and compensation controls were linked to cybernetic controls**. Organizations may, for instance, provide **group rewards** in order to increase cultural control. For this reason, the authors consider it important to examine "alternative reward and compensation schemes, their intended purposes, and their links to various controls" (Malmi/Brown 2008, p. 293).

(4) Administrative controls

Under the heading of administrative controls, Malmi/Brown (2008), bring together all those MCS instruments that direct employee behavior directly. They distinguish three groups of administrative control systems: organization design and structure, governance structure as well as procedures and policies.

Organizational design and structure is related to using **particular structural setups** in order to encourage certain types of contact and relationships. Flamholtz (1983), argues that **functional specialization is the underlying rationale of organizational**

design, which works through "... reducing the variability of behavior and in turn increasing its predictability". A lot of researchers see organizational structure as a **contextual variable**. Malmi/Brown (2008) disagree. They argue that organizational structure is not something that has to be taken as a given. Managers actually have the power to change organizational structure. This view is in line with Otley/Berry (1980, p. 232), who assert: "Indeed, organization 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 contrast to organizational design, which is about functional specialization and the setup of different divisions, units and groups within a company, **governance structure** deals with formal lines of authority and accountability, intended to monitor employees' behavior. Governance includes a whole range of phenomena: organizational hierarchies, cross-functional task forces and committees, project teams, corporate boards, as well as the rules that govern these entities like meeting schedules, agendas, etc. In short, **governance structure includes all mechanisms of accountability to manage a company both vertically and horizontally**.

Control tools that specify the processes and behaviors within an organization, such as **standard operating procedures**, rules and policies, form part of a group of MCS instruments that Malmi/Stede (2008) call **policies and procedures**. These tools, which apply a bureaucratic approach to directing employee behavior, encompass all those control instruments that make up administrative control under Merchant/Van der Stede (2007).

(5) Cultural controls

As in the case of organizational structure, **it is disputed that organizational culture was a control instrument** that could be purposefully used and designed in order to influence employees' behavior. Similar to Merchant/Van der Stede (2007), the au-

thors take a **voluntaristic** position, i.e. they assume that managers can actively shape culture. If they decide to do so, organizational culture becomes a control system. Malmi/Brown, consider three aspects of cultural controls: **value-based controls, symbol-based controls, and clan controls.**

The authors' concept of *value controls* is equivalent to Simons' (1995) concept of beliefs systems, which will be explained in below. In short, belief systems are about the "values and direction that senior managers want subordinates to adopt". Mission statements, credos, and the like are all vehicles to convey these organizational values. The workforce can be influenced by values in three different sorts of ways. First, recruiting can be a way of making sure that only those people enter an organization that have already internalized the organization's values. Second, socialization can lead employees to consciously or unconsciously adopt organizational values. Third, adoption by force; group pressure can force employees to act on officially stated values they do not adhere to personally.

Symbol-based controls are visible expressions created in order to develop a culture of a particular type. These could include, for example, a specific building/ work space design and dress code. For instance, an organization may force its employees to wear corporate uniforms in order to instill a culture of professionalism.

The third group of cultural controls, *clan controls*, goes back to Ouchi (1979). Clans are defined as subcultures with members who share a set of skills and values instilled in them through a socialization process. Examples can be lawyers, medical doctors or management consultants. Clan controls work by establishing values and beliefs through ceremonies and rituals of the clan (Malmi/Brown 2008).

Modern MCS taxonomies like the ones of Merchant/Van der Stede (2007), and Malmi/Brown (2008), **integrate structural, cultural as well as cybernetic instruments**

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of management control. Therefore, they represent a holistic view on MCS that reconciles the former views with a focus, either on formal or informal controls of MCS. Next, we will discuss two taxonomies which discuss the use of MCS instruments.

3.2.1.4. Simons (1995) – Levers of Control

The third taxonomy I would like to present is the taxonomy of Simons (1995). Merchant/Van der Stede (2007), explained in their object-of-control framework how different control instruments could be used to counter the problems of "lack of direction", "personal limitations" and "motivational problems". Malmi/Brown (2008) followed a similar approach in the sense that they categorized the vast array of control instruments according to specific criteria. Moreover, Malmi/Brown (2008) contributed to MCS research by conceptualizing the interrelationships between MCS instruments as loosely coupled systems of MCS packages.

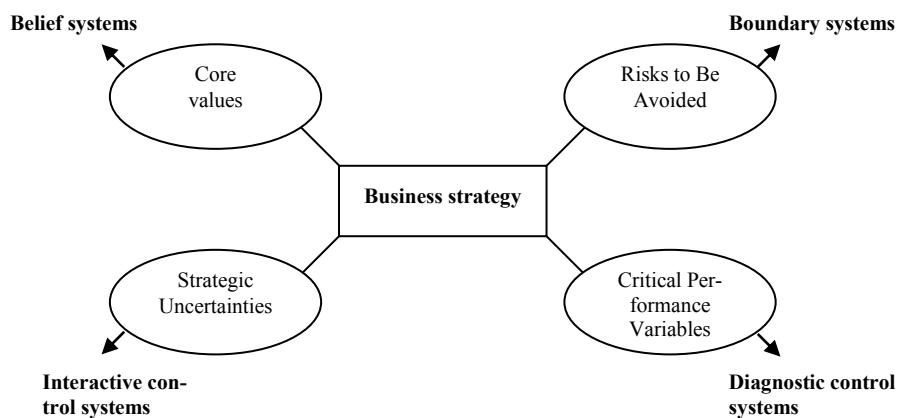


Figure 11. Levers of Control framework (Simons (1995), p.7)

Simons (1995), proposes the “**levers of control (LOC) framework**”, a framework that resulted from over 10 years of work, including case studies and related discussions with senior executives and managers. In contrast to other frameworks, this framework is not only about controlling and implementing but also about designing strategies using a mechanism called “interactive control systems”. Also, Simons does not

examine and categorize specific MCS instruments as such. Rather, he **analyzes the specific ways in which MCS can be used as well as the dynamics between different “uses” of MCS instruments**. It is now a well-known fact that it is rather the way in which control systems are used, than the mere existence of a control instrument that determines the effect and effectiveness of the system (Merchant/Otley 2007). Since there is no other widely recognized framework that tackles this issue, the “levers of control” framework has been hugely popular among researchers over the past decade. Examples include Abernethy/Brownell (1999); Bisbe/Otley (2004); Henri (2006); Tuomela (2005) and Widener (2007).

Key concepts

At the core of the “levers of control” framework are **four key concepts and four levers of control**. Each key concept relates to one important aspect of corporate control. The four key concepts of Management Control are: “Core values”, “Risks to be avoided”, “Critical performance variables” and “Strategic uncertainties”. Each of these key concepts is linked to exactly one “lever of control”, i.e. one category of “use” for control instruments. The levers of control are: “belief system”, “boundary system”, “interactive control systems” and “diagnostic control systems”.

The **belief system** guides the creative process in exploring new opportunities and instills widely shared beliefs. It is therefore linked to core values. Risks to be avoided are controlled by the boundary system. The **boundary system** acts as a limiting system that circumscribes the domain in which a company seeks new opportunities. **Critical performance variables** are controlled by the diagnostic control system, a cybernetic system, that monitors, assesses and rewards achievement on key areas of performance typically based on predetermined performance targets. Finally, strategic uncertainties are controlled by the **interactive control system**, a system to spur organizational learning and facilitate the process of developing new ideas and strategies (Simons 1995).

To put the four levers of control into context, it should be pointed out that the levers of control form part of a greater holistic system and that according to Simons it is actually the **combination of the levers, together with the environmental context that matters** when evaluating the fit and performance of an organization and an organizational control system. Belief and interactive control systems are similar since they both increase innovation and have a positive empowering effect on employees' activities. Similarly, boundary and diagnostic control systems both have a negative restraining effect on employees' behavior in order to ascertain the achievement of pre-established objectives. Simon encapsulates this contrast in the concept of **dynam-ic tension**. "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 ..." (Simons 2000, p. 301). As Widener (2007) points out, this notion is consistent with Milgrom/Roberts (1995), who analytically proved that control features could be complementary.

The four levers of control

Belief systems are used to define and transport the core values of an organization. The core values of an organization are important, first in the way information is communicated and interpreted in an organization, and second as a means to promote commitment and the search for new business opportunities. Simons defines belief 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". This definition includes formal means of "engineering" culture, i.e. means that are (1) formal, (2) information- based, and (3) used by managers to maintain or alter patterns in organizational activities (Simons 1995).

Belief systems encourage employees to search for new business opportunities. However, as Widener (2007) points out, there must also be a restraint placed on employees to stop them from engaging in high-risk behaviors. This function is performed by a **boundary system**, which is the opposite of a belief system. Boundary systems specify the limits of the above-mentioned search activity. They establish the so-called 'rules of the game' as to what is acceptable and what actions and pitfalls employees must avoid. Exposure to strategic risk is thereby reduced (Frow/Marginson/Odgen 2010, p. 446). Often, firms communicate boundaries through a code of conduct.

Boundary and belief systems act in an integrated manner. Both systems are about motivating employees to search for new opportunities. The belief system gives (positive) inspiration, whereas the boundary system tells the employee where to stop the search. Both systems work in a cultural non-cybernetic way, i.e. they do not include rewards or other automated feedback mechanisms by managers, other than punishment if a code of conduct violation has been detected.

Simons' definition of diagnostic control systems is closely related to the cybernetic tradition of management control. **Diagnostic control systems** are used to co-ordinate and control the implementation of management strategies. As a first step, critical success factors are identified and communicated to employees. Then, goal achievement with respect to these critical success factors is monitored. Results are benchmarked against a given target and any results above or below that target are then either sanctioned in a positive or negative way. As a result, employee behavior aligns with organizational objectives and managers get a better sense about where to direct their attention. Ideally, managers delegate personal supervision to staff managers and intervene only if variance analysis shows a major discrepancy between targets and actual. This approach to managing is encapsulated in the concept of "Management by Exception" (MBE).

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The fourth and final lever in Simons' levers of control system are "**Interactive Control Systems**". Belief and boundary systems are related to the already existing academic discourse on corporate culture. Similarly, diagnostic control systems have been at the centre of management control research for decades. In contrast, interactive control systems are a new concept introduced by Simons. As already said the use of interactive control systems is intended to stimulate and guide the implementation of emergent strategies. ICS are forward-looking and represent a mechanism to foster and to manage organizational learning. Having said this, what exactly is an interactive control system? In fact virtually every MCS instrument can act as an interactive control system. The difference, as opposed to a diagnostic control system lies in the use of the instrument. Interactive control systems are in the true sense of the word interactive. This means, senior management gets actively involved in a dialogue and debate across all levels of hierarchy and functions. This dialogue centers around the MCS instrument chosen to be the one ICS a company wants to focus on, e.g. a budget, a project management system or a balanced scorecard. More specifically, it is about making sense of strategically critical MA figures as a means to **understand and anticipate strategic uncertainties**. In this way, a management can basically see in real-time how the marketplace and competition changes and how successful newly implemented strategies really are. According to Simons, **managers can only select a single MCS instrument as an interactive control system** because of sparse management time. The learning that happens in the process of using interactive control systems is tightly related to this "spending" of management time. Intensive face-to-face discussions create "rich" information and are therefore simply more effective in creating double loop learning and the development of creative new solutions. In simple terms, double loop learning is about adapting management plans as well as strictly implementing them, an activity that simply needs more communication than checking accounting numbers.

An alternative use of interactive control systems applies to situations in which diagnostic control systems simply cannot be reliably put to use. This may be the case in a dynamic and competitive industry (like high-tech), but more generally, it applies to every situation in which the preconditions for using a cybernetic or diagnostic control system are not present (as discussed above).

3.2.1.5. *Discussion of concepts*

In comparison to the other two taxonomies, Simons (1995) shows two major differences. The most **significant difference lies in the purpose, i.e. the object of the framework.** Malmi/Brown (2008) and Merchant/Van der Stede (2007) focus on the **different categories of MCS tools.** The aim here is to be as comprehensive and logically consistent as possible. The framework of **Simons (1995), however, deals with the uses of MCS instruments,** and more specifically, the distribution of management attention across these different uses. As such, the framework of Simons is **well suited to address MCS studies that involve strategy formulation, implementation and change.** Not surprisingly, the concept of interactive control systems has been hugely popular and applied in a number of different studies. In contrast, researchers have not used belief and boundary systems as analytical constructs, which may be due to Simons' blurry definitions on these two systems. Arguably, almost any system under any situation could be called a belief or boundary system.

The **second most important difference between Simons (1995) and the two other frameworks touches on belief and boundary systems.** Both systems are tightly linked to corporate culture. Simons, however, defines only formal MCS systems as being part of his levers of control framework. **Organic control systems are therefore virtually excluded from Simons' MCS framework,** or in the words of Collier (2005) the “framework does not give sufficient emphasis to socio-ideological controls”. **Consequently, the framework of Simons cannot answer the question of how to combine mechanistic and organic control systems.** Many researchers circumvent

this problem by taking diagnostic control systems as a proxy for mechanistic/formal control systems and interactive control systems as a proxy for organic control systems. Given the definition of Simons (1995), this approximation is wrong, strictly speaking.

Other criticisms raised by several authors are that the framework of Simons (1995) would be too top-level focused and too **unclear about the interactions between the different levers of control**. Moreover, the model failed to give clear prescriptive answers on how to balance the 4 potentially conflicting levers (Ahrens/Chapman 2004, p. 278; Ferreira/Otley 2009, p. 265). While these additional criticisms do reflect reality, it should be kept in mind that these criticisms are equally valid when it comes to evaluating the usefulness of other competing MCS frameworks. **MCS frameworks are typically descriptive and not prescriptive** and there is no other system that is specifically designed to work on multiple levels across hierarchies. An exception is Merchant/Van der Stede (2007), who suggest using cultural control as a first method to see if other potentially more costly control instruments need to be implemented. However, this approach is based on anecdotal evidence only, and **in order to make prescriptions, it is necessary to delve into organizational theory and to combine empirical research with theories such as contingency theory and configuration theory**. We will do this in chapter 3.

The object-of-control framework by Merchant/Van der Stede and the framework of MCS packages presented by Malmi/Brown, share a clear focus on categorizing MCS instruments. What is the difference between the two taxonomies? In simple terms Malmi/Brown appears to be a bit more advanced, in the sense that it a) includes organization structure as an MCS instrument and b) the concept of cybernetic controls is more specific than the concept of results controls. I will proceed to use Malmi/Brown (2008) as the benchmark model underlying the discussion of organizational theory and MCS.

3.2.2. Properties

3.2.2.1. Sophistication

The standard toolset to measure the sophistication of a MCS instrument was developed by Chenhall/Morris (1986, pp. 19-22). Their concept, applicable to formal MCS instruments, distinguishes between 4 different information characteristics:

Table 3. Criteria of MCS instrument sophistication (Chenhall/Morris 1986, p. 19)

INFORMATION CHARACTERISTICS	
Scope	: External information : Nonfinancial information : Future-oriented (e.g., probabilistic)
Timeliness	: Frequency of reporting : Speed of reporting
Aggregation	: Aggregated by time period : Aggregated by functional area : Analytical or decision models (e.g., marginal analysis, DCF, inventory models)
Integration	: Precise targets for activities and their interrelationship within sub-unit : Reporting on intra-sub-unit interactions

A highly sophisticated MCS instrument would have a **broad scope**, it would be **updated by the management accounting specialists often** and quickly, it would **include multiple layers of aggregation** and be integrated in such a way that all **interdependencies** between the involved business functions would be **taken care of**.

Clearly it is neither feasible nor always advisable for an organization to implement a **highly sophisticated control system as it may be costly**, and depending on the individual company, it may also be too demanding given the existing skill-set of staff specialists.

What are the four dimensions of sophistication about? The *scope* of an MCS instrument can be defined as either being narrow or broad. Traditional budgeting uses so-called “Narrow-based information”. Narrow-based information is historic, mone-

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tary and only related to information inside a company. This type of information is easy to generate and only feasible for companies that operates within a stable environment with little competitive pressure and low environmental uncertainty. “Broad-based information” includes non-monetary measures, information about the external environment (including competitors) and scenarios about future development. Broad-based information is helpful when analyzing strategic decisions and navigating industries that exhibit a high degree of dynamism and economic uncertainty. Due to major shifts in the competitive landscape, broad based information has become increasingly popular. Some of the latest management innovations (e.g. Balanced Scorecard) are directly related to this trend.

Timeliness refers to the intervals at which standard reports are gathered and disseminated to management. It also captures the capacity of accountants and other specialists to quickly generate non-standard reports that managers need to analyze non-routine issues to support the strategic decision making role of MCS instruments. Timeliness comes at a monetary cost. It might however be useful in situations of high environmental uncertainty. Similarly it has been observed that private equity companies that engage in reorganizations and turnarounds are keen on timeliness of accounting controls in order to kick-start their 100day programs.

Aggregation involves three dimensions of aggregating raw data. First, raw data can be summed up according to such parameters as cost center, functional area, customer group, geography, and so on. Second, aggregation can involve temporal dimensions, i.e. different time periods. Third, raw data can be aggregated in such a way that it can be used in the context of sophisticated decision models, such as discounted cash flow models, scenario analysis, cost-volume-profit analysis, variance analysis and so on. Again, highly turbulent or uncertain industries are more dependent on higher degrees of aggregation. As an example, imagine the biotech industry. The potential release of a new medication under development might be years in waiting. In terms

of cash flow there are tremendous uncertainties due to uncertainty about competitor products and the effectiveness of the product in development.

Integration is an informational characteristic that is particularly relevant for vertically integrated companies or other organizations, which boast intensive economic interdependencies between their different subunits. The chemical industry is an example. Integration is important in helping coordination and planning. It is also essential if a large corporation wants to exploit the potential synergies across the value chain and between related business areas.

3.2.2.2. *Tightness/ looseness*

In the practitioner-oriented control literature, authors often describe firms as having tight or loose management controls. Sometimes these phrases are used in the context of major organizational dysfunctions. For instance, a major accounting scandal may be ascribed to a too lax control system, whereas a lack of innovation could be said to be the result of a too tight, too stifling managerial control system.

Merchant/Van der Stede (2007, pp. 118-178) give more information on the concept of tight or loose management controls. MCS instruments as well as MCS can be either tight or loose. **A tight MCS instrument is defined as generating a "... high degree of assurance that employees will behave as the organization wishes."** (p. 128). This generally desirable result hinges, however, on the condition that the **top management itself is sufficiently clear about what targets should be achieved** and/or about which is the best way to achieve the given targets. The more dynamic industries come to be and the more information asymmetry there is between middle management and top management, the more difficult it becomes for top managers to effectively use tight management controls. In this context, it is certainly no coincidence organizations started to downsize their number of existing conglomerate divisions at

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exactly the same time business in general became more complicated due to increasing innovation, globalization and the redesign of traditional value chains.

Tightness takes on different types for different categories of MCS instruments. **Cybernetic/results controls are particularly effective** if they are **first** highly incentivized, i.e. deviations from pre-planned targets have severe positive or negative consequences and **second**, if they are SMART. SMART is an acronym, which stands for *Specific Measurable Accepted Realistic Timely*.

Specific - predefined goals are specified in such a way that there is bilateral clarity on what is to be achieved. Often setting quantitative goals does this.

Measurable - target fulfillment needs to be measurable with high precision.

Accepted - performance targets must be communicated effectively so that targets are internalized by those charged with their accomplishment.

Realistic - realism of goals is a major precondition for acceptance.

Timely - to create action there should be a clear deadline for the fulfillment of the results specified.

A **third** necessary precondition for the effectiveness of result controls is to make sure that **performance targets are in fact aligned with organizational objectives**. To avoid potentially negative side effects it is also important to cover all important aspects of employee behavior. A cybernetic control instrument that incentivizes quantity but neglects quality could for instance be more harmful than expected.

Tight administrative controls may take on a bureaucratic form, and include detailed procedures and checklists, strict hierarchies and severe punishments in case employees violate given instructions. It is obvious how **used in the wrong way such a system can actually become a burden to corporate performance**. In other cases, (such as

the standard procedures of aviation pilots) it is beneficial to have standardized routines and fail proof procedures.

Cultural controls can either be tight or loose as well. The strength of cultural control is highly dependent on organizational culture. **Organizational culture** in turn is influenced by **national culture** as well as the culture predominant in an industry, and also the personality of the **organizations founders'**. In the next chapter, organizational culture will be treated in more detail. Suffice it to say, "strong" cultures, especially in small family owned businesses can be an effective control instrument in the sense of tight controls. However, having a too high diversity among the workforce often undermines strong cultures.

As aforementioned, the tightness of a MCS is dependent on the tightness of the individual MCS instruments which might either cancel each other out or reinforce each other. In any case tightness **of control may give rise to dysfunctional side effects**. The next section is about a third property of MCS instruments; the direct and indirect costs of control.

3.2.2.3. Costs

As with all economic goods, MCS exhibit both benefits as well as costs. It is the task of management to **find such a configuration that the benefit of aligned employee behavior outweighs the costs related to the use of MCS instruments**. What are these costs? Unsurprisingly there are direct and indirect costs. Drawing on the summary of Merchant/Van der Stede (2007, pp. 179-217), both shall be explained in the upcoming paragraphs.

Table 4. Direct and indirect costs by types of MCS instruments (self)

Type of MCS instrument	Direct Costs	Dysfunctionalities	Potential conflict
Result controls	<ul style="list-style-type: none">• Bonus payments• Cash costs of perfor-	<ul style="list-style-type: none">• Budget slack• Behavioral	<ul style="list-style-type: none">• Unrealistic targets• Violation of control-

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	mance measurement	placement	lability principle
Administrative Controls	<ul style="list-style-type: none">• Cost of middle management (hierarchies)• Cost for standardization specialists (Taylorism)	<ul style="list-style-type: none">• Bureaucratization• Loss of creativity• Delay	<ul style="list-style-type: none">• Strict rules frustrate independent minded people
Personal & Cultural Controls	<ul style="list-style-type: none">• Cost for trainings and group bonuses	<ul style="list-style-type: none">• Mismatch of culture and environment	<ul style="list-style-type: none">• "Totalitarianism"• "Phony" leadership

Direct MCS costs are typically easy to measure. They include **cash bonuses**, stock option programs, awards, but also all the **cost of staff** involved in the running of a MCS. **Management time** is another factor that needs to be taken into consideration. This factor can be enormously high, especially for comprehensive control systems such as budgeting. In the case of cultural controls, direct costs include search costs, **training costs** and costs for corporate events as well as costs to draft and publicize mission statements, credos, and the like.

Indirect costs are more difficult to estimate. They arise when a MCS is maladapted or simply poorly designed. As with tightness of control, **indirect costs of MCS are specific to the type of MCS instrument used**. In other words, there are other indirect costs to using a maladapted cybernetic/results control systems, as opposed to administrative or action control systems.

As has been seen, cybernetic (results) control systems need SMART goals as well as congruence between quantified targets and real organizational objectives in order to function properly. A lack of congruence can give rise to dysfunctional behavior called "*behavioral displacement*". As an example, a bonus system might reward high turnover. In such a setting employees will be tempted to neglect customer service. Additionally, employees have no incentive to look at earnings margins. Assuming that there were no other control systems in place, this organization may end up with depressed earnings and unsatisfied customers. **Cybernetic control systems are often**

miss-specified in the sense that they rely too much on easily measurable quantitative targets.

In the case of **administrative controls**, a disconnect between the goals of an MCS – and the results of an MCS might just as easily happen. In extreme cases, an organization provides its employees with minute descriptions of what they are supposed to and not supposed to do. In stable environments this might be exactly the right thing to do. In dynamic environments, however, the **loss of creativity, flexibility and responsibility** that goes along with such a form of bureaucratization can be harmful. One side effect that is particularly negative is the **delay** that may take place in areas that are fundamental for the value-creation of companies. For instance, red tape and centralized decision making can lead to a prolongation of product design cycles and a corresponding drop in innovative capacity.

Although not as apparent as in the case of administrative or results controls, **cultural controls may just as well be miss-specified**. Oftentimes, the **mismatch between organizational culture and environmental needs** only develops through time and is therefore difficult to detect from the inside. A good example of a maladapted corporate culture was the **elitism that reigned at IBM** before Louis Gerstner's turnaround towards a more service-oriented attitude in the 1990s. Cultural controls that may contribute to such a detrimental development are hiring the wrong kind of people and giving people inadequate training.

Overly bureaucratic rules, miss-specified performance measures and maladapted corporate cultures are not the only problems corporations possibly have to face if they do not get their control systems right. **Employees may well try to “outgame” the system**. Or they could even use fraud in order to boost their bonuses. In the case of Enron, fraudulent practices were even part of corporate culture. A strategy that

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worked well for the short term. Less extreme forms of gamesmanship include the creation of slack resources.

Creation of slack resources is a phenomenon commonly observed in **budgeting**. **Slack resources** are excess corporate resources like idle employees, production capacity or excess inventories that sub-units maintain. To a certain degree it is rational and also beneficial for a company to hold slack resources. There is always a chance a big order comes in that needs to be handled immediately. Without having slack resources it might not be feasible to increase capacity, and procure raw materials quickly enough to satisfy customer needs. Apart from reduced management tension and the increased flexibility to react to customer needs, slack resources can also be valuable as a means for middle managers to experiment with innovation. Finally, slack resources help avoid the sort of micro-management a radical just-in-time concept might entail. Slack resources are, however, not only limited to the asset or cost side of corporate accounts. *Budget slack* is defined as highly achievable budgetary targets (including income or sales) set way below (typically 20-25%) what managers regard as their best-guess estimates of the future. **Budgetary slack is especially likely to exist in situations of tight cybernetic control that make middle managers fear the negative consequences of not meeting their negotiated targets.** If there is an information asymmetry between top and middle managers, middle managers will almost inevitably manipulate performance targets in a way that goal achievement becomes easier and less risky to attain.

In the above paragraphs a number of indirect costs of MCS have been described. These have all been related to the different malfunctions of control systems: red tape, data manipulation, excessive excess resources, and so on, ... malfunctions that are in principle avoidable.

Yet, even if control systems are working on paper, too tight controls might still have **negative psychological consequences** and **negative consequences on employee welfare and employee attitudes**, which are difficult to avoid. These can act as catalysts to other harmful behaviors as described above. Each type of MCS instrument may lead to different forms of “cognitive resistance”.

Administrative and action controls are particularly unpopular with higher ranking professionals who have a high degree of self esteem and a high need for autonomy. What's more, administrative controls might not fit to a given culture, which is for instance if Asian rules are exported to US subsidiaries without any adaptations made. In extreme cases paternalistic work regulation might feel like enslavement and result in a significant loss of motivation.

Results controls only get accepted by employees when performance targets, evaluation mechanisms and rewards are all seen as fair. There are different mistakes an organizational leadership can make that may cause resentment and frustration among the workforce. Targets may be unrealistic and too tough - a violation against the SMART criteria, employees may be held accountable for causes outside of their control – a violation against the controllability principle, evaluations may be arbitrary and unfair and finally rewards might not be as high as expected. There will always be some frustration among poor performers. Taken to the extreme people-insensitive leadership and high competition among employees can create an environment that is very unpleasant to work in.

Cultural controls may also have a negative effect on employee morale. In the case of mergers and acquisitions new members of a company will be faced with a culture that is not their own and which they do not necessarily like. Another issue, one that is very seldom brought up, is the issue of “cultural totalitarianism”. If a company gets too invasive in “brain-washing” its employees, employees might well react with

internal withdrawal and cynicism. A similar situation arises if organizational management is dishonest about its values or if employees consider cultural rhetoric as nothing but a means to make them work harder.

3.3. Organizational functions relating to informal controls

3.3.1. *Organizational structure*

3.3.1.1. *Introduction*

In the previous section we discerned by which parameters to describe MCS instruments. MCS instruments are different from one another in terms of content/methods, i.e. they fall into different categories. Moreover, they differ in terms of sophistication, as well as in terms of tightness, costs and employee empowerment. Finally, MCS instruments can be used in different ways and can thereby contribute to different functions of MCS.

In this section we will look at two related dimensions of organizational reality: Organizational structure and organizational culture. Organizational structure is often seen as being on the fringes of Management Control Systems. Not as targeted as cybernetic control systems, they can still have a tremendous influence on employee behavior and organizational performance. Chenhall (2007, p.179) defines **organizational structure** as being "... about the **formal specification of different roles for organizational members**, or tasks for groups, to ensure that the activities of the organization are carried out." As I will continue to explain, this encompasses more than just the organizational chart of an organization. Chenhall goes on to stress the importance of organizational structure. "Structural arrangements influence the efficiency of work, the motivation of individuals, information flows and control systems and can help shape the future of the organization."

There have been diverging **views on whether organizational structure should be seen as management control or not**. As Flamholtz (1996, p. 603) points out "...organization structure is relatively static. It represents a strategic response to the requirements of markets, technology, and the environment." Defined as such, organizational structure does not seem to be a flexible tool that can be used by management on an operational level. Rather, it appears to be a contextual variable that is determined by external forces and therefore not susceptible to management agency (Malmi/Brown 2008).

This point of view notwithstanding, **I agree with those scholars that see organizational structure as part of the overall MCS**. Otley/Berry (1980, p. 232) argue in this favor by saying: "Indeed, organization 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." Similarly Etzioni (1961) has written extensively about control contents stating "organizations theorists have argued that organization structure is developed as a response to the problem of control".

So what is organizational structure? Is it just the organizational chart of an organization or is there more to it? In their control taxonomy already discussed earlier **Brown (2005) and Malmi/Brown (2008) take a comprehensive stance**. They define administrative controls as a set of management controls, which include (i) organizational design and structure, (ii) governance structures and (iii) procedures and policies. In line with Govindarajan (1988) they argue that all these measures allow managers to supervise the processes of the organization. In particular they facilitate coordinating and integrating the different parts of the organization. In the ensuing text, **I want to focus on the relationship between management and employees**. Governance structures being understood as the structures of interactions between owners and managers of an organization are less relevant and will not be covered.

What is the specific organizational problem organizational structure wants to address? It begins with the **separation of labor**. Separation of labor means that a person specializes in a particular field of product or work (Jones/Bouncken 2008, pp. 34-36). This gives rise to social interaction and trade, a cultural and economic phenomenon that can be traced back to hunter-gatherer societies that employed tribe members like shamans or tribal leaders. Economists have discussed the benefits and problems of separation of labor since the old days of Ricardo and Adam Smith.

Ricardo (1817) provides a colorful illustration on the benefits of the separation of tasks in his famous argument on the **advantages of trade**. The argument compares countries with different endowments of goods and skills and analyzes whether these countries should trade goods or rather try to be self-sufficient. On the one side is Portugal with a good climate for growing wine. On the other side there is England with the industrial capacity to efficiently produce cotton fabrics. In the course of his argument, Ricardo shows that trading makes both parties better off and that it therefore pays to specialize on specific endowments and talents. **Adam Smith** provides a similar example when he describes how pins can be efficiently produced using **production methods that made extensive use of specialization** i.e. the separation of labor (Smith 1776).

What are the **benefits and problems that come along with specialization**? First, as already mentioned in the example of Ricardo, specialization enables people (or countries or organizations) to focus on their talents, i.e. on their most value-adding and most motivating activities. Moreover, a separation of labor promotes specific and specialized learning, i.e. the creation of capabilities and knowledge. Both effects together (i) are fundamental in increasing the efficiency of individuals and groups, (ii) enable groups of people to produce more sophisticated goods and services.

However, specialization also brings along some major challenges. Since people can no longer be self-sufficient they need to find a way of interacting in a constructive way. This necessitates a **coordination mechanism** that brings together supply (i.e. the people and their goods and services) and demand for specialized expertise (i.e. consumers of these goods and services).

Already mentioned and explained in detail, the two **most basic coordination mechanisms** are:

- markets (i.e. trade, coordination through prices, demand and supply)
- hierarchies (i.e. organizations, coordination through command and control)

Organizations are thus a way to fulfill the coordination demands that arise when large groups of specialized people work together. But coordinating people also means motivating and controlling them. For this reason, organizational theory is closely related to control theory. As indicated in the citations of Chenhall and Flamboltz, organizational structure is explicitly about the static structural arrangements of an organization. How do these structural arrangements relate to coordination and the separation of labor?

3.3.1.2. Differentiation and Integration as the key concepts

The two key concepts behind organizational design are **differentiation** and **integration**. Both concepts, introduced by Lawrence/Lorsch (1967), define **differentiation** as the extent to which sub-unit managers act as quasi-entrepreneurs. In other words, organizational members that work on their own tasks (separation of labor), but do so in a completely uncoordinated manner. **Integration** on the other hand, relates in the extent to which sub-units act in ways that are consistent with organizational goals. To do so, there needs to be some coercive and/or motivational mechanism in place.

These mechanisms involve decentralizing authority (differentiation), and rules, operating procedures, committees and the like (integration).

When a company decides to leverage on specialization it has to decide on its optimal hierarchical arrangement. In order to do so, the German literature on organization recommends following a structured and systematic approach. This approach entails two steps. First, an analysis of the value creation process, which is called "**Aufgabenanalyse**" (Bühner 2004, pp. 20-27). Second, a process of combining activities into organizational roles (i.e. job profiles) and departments (Bühner 2004, pp. 61-103 and pp. 119-195; Jones/Bouncken 2008). This second step, which ensures efficiency and coordination, is known as "**Aufgabensynthese**".

The end result will be a list of job descriptions that reflect either a high or low degree of functional specialization, which is also called **horizontal differentiation**. Think about playing the assessment center game of assigning a team with the task of building a maximum amount of paper planes during a given amount of time. The team can decide to have everybody work on building a paper plane from beginning to end (low horizontal functional differentiation), or to work as an assembly line (high horizontal functional differentiation). Additionally, the team can also decide on the level of **vertical differentiation**. Does coordination work on a peer basis (low vertical differentiation)? Or are there supervisors dedicated to oversee the work of others (high vertical differentiation)?

On the positive side, high vertical integration may allow for higher time productivity. Employees' results might be easier to measure and evaluate. **Higher vertical integration** also allows for simpler jobs that demand **less training** and **lower salaries** which is good for shareholders. On the negative side, an excessive amount of horizontal differentiation could result in an **alienation of the employee**, and consequently, a **lower level of motivation**. The deskilling and specialization of workers also

causes a **reduction in communication and learning** and a perspective that gets lost in details. Most importantly, a multiplication of jobs descriptions leads to an increasing amount of time spent on coordination. Why? The more people there are, the more communication channels you have. Because of interdependencies, people have to coordinate with an exponentially growing amount of people. So how can coordination be achieved? Mechanism for integration and organizational structures (e.g. functional structure, divisional structure, ...) form a key part of Mintzberg's "Structure in Fives" framework we will talk about in chapter 4. The next sections will therefore explain alternative mechanisms and structures in some more detail.

3.3.1.3. Mechanism of organizational integration

As the team example above illustrates, organizations can decide to build up **hierarchies** and levels of authority. Hierarchies are arguably the most important and fundamental forms of organizational integration. Hierarchies work in the following way: Supervisors sit on top of teams or departments. Their direct and personal contact allows them not only to control the quantity but also the quality of work. The information they gather from their team members also helps them to **coordinate in cases of interdependency between tasks**. Good supervisors also have a positive impact on motivation and morale. They act as role models and foster organizational learning.

What happens if a company grows and a supervisor has to supervise not only 5, but 50 staff members? The obvious answer is to create new teams and to implement new layers of management. But there is a problem; a multiplication of layers could evolve, which might lead to **steep hierarchies** and bureaucratization.

Steep hierarchies exist if organizations exhibit a high number of hierarchical levels. Conversely a flat organization is characterized by a relatively low number of hierarchical levels (given a certain size). Statistics show that the typical US company of 3000 employees has 7 levels of hierarchy (Jones/Bouncken 2008, pp. 304-307) Howev-

er, even much larger organizations do not have significantly more layers of hierarchy. In other words, there is a non-linear relation between the size of an organization and the numbers of hierarchical levels. Why is this so? And why is there a management trend to reduce the number of hierarchical layers in order to become a flat organization? Jones/Bouncken (2008, pp. 307-311) gathered the following list of effects and **problems associated with steep hierarchies**:

- Information takes longer to travel from top to bottom
- A gradual increase of authority along the hierarchy, making promotions less attractive
- High out-of-pocket expenses for the high amount of managers
- Having too many "chieftains", accountability becomes blurred

As a result of this overwhelming case against steep hierarchies, **organizations try to be as flat as possible**. Only in those cases where control is paramount (military, prisons, nuclear plants), steeper hierarchies seem to have an edge.

That being so, why are there still so many hierarchical levels? If a typical mid-sized company has 7-levels of hierarchy, what prevents it from reducing this amount to 3 levels? The answer to this question relates back to the reason as to why layered hierarchies were implemented in the first place: The inability of people to manage more than a relatively low number of subordinates. This ideal level of number - called the **span of control** – is a function of two criteria: complexity (diversity of tasks) and interdependency of work Jones/Bouncken (2008, pp. 315).

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Table 5. Work environments by complexity and interdependency (examples, self)

	High complexity	Low complexity
High interdependency	Software development	Professional teams (Emergency room, Management consultants)
Low interdependency	Portfolio management (Venture or Private Equity capitalist)	Workers in a cotton factory

If the **complexity of the portfolio of tasks** staff members work on is high, then managers will have to exercise control in different contexts, which renders tasks more demanding. Imagine a manager that exercises authoritarian and detail-oriented control in product development. This person will have to be an expert in production, marketing as well as R&D to name a few. For this reason, the manager will not be able to manage more than a single team with few members.

In order to avoid the problems that come with hierarchical control, organizations can decide to use **three alternative mechanisms** that increase the feasible span of control, i.e. decrease vertical differentiation and bureaucratization: Decentralization, standardization and mutual coordination Jones/Bouncken (2008, pp. 247-253).

Decentralization improves the coordination of organizations. In contrast to a system of strict centralization that only allows superiors to take decisions, decentralization empowers people to take on more responsibility and independence. In other words a **mechanism of self-regulation substitutes for the command-and-control style of centralized hierarchies**. Obviously coordination between individual team members still needs to be ensured and performance still needs to be monitored. However, in contrast to centralized systems that involve a significant amount of direct intervention, decentralized systems are more hands-off. On the one side, this may lead to a loss of synergies and put higher demands on the rank-and-file. On the other side,

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however, decentralized structures have many significant benefits, especially in an external environment that favors flexibility and innovation.

Standardization is an organizational mechanism used to control the relationships across hierarchies and the lateral relationships between unrelated organizational units. Standardization happens when mandatory rules and procedures become codified and enforced on an organization-wide scale.

Standardization is a three-step process:

- (1) tasks, qualifications or results get specified
- (2) alignment to these standards becomes binding to a large amount of organizational members
- (3) in cases of non-compliance, corrective action is taken

Standardization fulfills two roles. First it **codifies organizational learning**. Standards reflect best practices that have worked in the past and that will probably continue to work in the future. Proven processes can be reused, past mistakes can be avoided. Second, standardization helps to **reduce organizational complexity and diversity**. It equips managers with a common yardstick to evaluate subordinates. This increases management capacity and ultimately the span-of-control. **In the extreme, managers become obsolete** and become replaced by rules, computers, or cultural standards. On a horizontal level, established norms, like **formulas for transfer prices between departments**, can ensure horizontal integration without taking recourse to the corporate hierarchy. Standardization can come in formal as well as non-formal, subtler ways, such as social norms and values. Both can be effective and both can lead to the same results. However, the application of standardization can also lead to detrimental effects, such as a loss of innovation, flexibility and personal accountability. These effects occur in particular if organizations fail to periodically revise i.e. to question established rules and beliefs.

A final mechanism that can be helpful to create horizontal integration is mutual coordination. **Mutual coordination** happens when organizational entities like departments or divisions coordinate their activities through bodies outside of the standard vertical hierarchy. People on the same hierarchical level meet directly and negotiate solutions to changing problems of common concern. This process of consensus building is sometimes tiresome since there is no obvious decision-maker. However for cross-cutting activities like product development or strategic change projects depoliticized working groups are the instrument of choice.

3.3.1.4. *Typologies of Organizational structures*

Given the fact that virtually all organizations are to a smaller or larger extent hierarchical, it is not surprising that organizational theorists have always been eager to categorize and to better understand the upsides and downsides of organizational structures as seen in the form of organizational charts.

The first organizational structure companies typically develop is called a **functional structure** (Jones/Bouncken 2008, pp. 348-355). A functional structure means that an organization is structured along its diverse activities, such as production, accounting, marketing and procurement. What are the advantages of such a configuration? Or more explicitly, what are the advantages if people specialize in terms of functional expertise? And of putting these groups of specialists together into different teams and departments? And what are the alternatives?

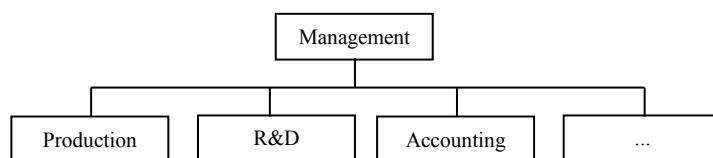


Figure 12. Organizational chart of a functional organization (self)

The **advantages of specialization** and pooling have been discussed. If people specialize they can attain a distinctive quality of knowledge that would otherwise not be attainable. And if you put a group of experts together you can achieve truly amazing results. What's more, experts can learn from each other and working collectively, they can create a subculture perfectly adapted to existing work requirements and the exigencies of external stakeholders. As an example: The R&D department of a software company in the SF bay area might learn how best to interact with young entrepreneurs from leading West Coast universities. They might also develop a subculture that is effective in dealing with the uncertainty and complexity of software development.

Why focus on function? On an abstract level it is always advisable to **create departments in such a way that intra-departmental complexity and inter-departmental interdependencies get minimized**. In this way one:

- (1) maximizes the span of control within departments
- (2) maximizes the synergies of related activities within departments
- (3) minimizes the coordination needs between departments

In other words: It is easier to manage the interrelationship within the departments of low complexity (variety) than to manage the complexity of departments with unrelated activities. Now, if a company has only one product, operates in only one geography, and only serves one group of customers, it is “functions” that are the key creator of complexity. For this reason, overall complexity gets minimized by organizing a company along organizational functions. However, **if a company becomes more complex, and diversifies into new geographies, products or customer groups, problems arise**. What's more, if subcultures become too strong, the communication within an organization might become problematic. This effect, however, can arise with any type of differentiated organization, be it an organization that is differentiated by geography, function, product or customer group.

Before moving on to discuss more advanced forms of structural organization, I would like to introduce a **framework that Simons (2005) developed** in order to identify the dimension of differentiation (product, market, function, ...), also called 'unit grouping' (Mintzberg 1979, pp. 46-71), a given organization should focus on.

Simons (2005) starts out by asserting that it is ultimately **superior customer service that enables organizations to survive and prosper**. So first, each and every company has to identify which of its various stakeholders constitutes the **primary customer** its corporate survival rests on (who is signing the paycheck?). Next the organization has to devise a **strategy to serve the needs of their customers in a unique way**.

There are **different customer strategies** a management can choose to pursue. Simons differentiates between:

- **Low-price configuration.** The foundation of this strategy is the customer who values consistency in product attributes and low price (e.g. McDonalds)
- **Local value creation configuration.** These organizations decide to compete by tailoring products and services to local markets (e.g. Nestlé)
- **Global standard of excellence configuration.** For these firms, excellence in product design, technology, or brand attributes is at the heart of their value proposition (e.g. Intel or Boing)
- **Dedicated service relationship configuration.** Service companies try to establish long-term relationships with their key clients. By offering to make specific investments (in the transaction economics sense) they promise to deliver superior value. Examples are McKinsey, SAP, Goldman Sachs.
- **Expert knowledge configuration.** Some companies decide to specialize in knowledge production. Research/Development is thus organized around domains of expertise. Examples for these configurations include the Harvard Business School as well as departments in equity research.

These strategies can actually be grouped into three categories (price leadership, product leadership and customization), which have a lot in common with **Porter's typology of business strategies (1980)**. Once the primary customer is identified, organizations have to **adjust their unit structures** in order to adequately reflect the requirements of each type of customer strategy. In other words "form follows customer service strategy".

Simons distinguishes between two types of corporate units. The first type of unit represents elements of the **organizational core**. The organizational core reflects shared services. Oftentimes highly centralized and standardized, the organizational core strives for efficiency. The second types of unit are **market-facing units**. Market-facing units are clusters of firm's resources designed to respond directly to the preferences and desires of its primary customer group. To supply these units with significant resources will help a company to better adjust to individual customer preferences. This "responsiveness", however, comes at the cost of diminished standardization and economies of scale. A reduction in efficiency is the result.

In terms of **organizational setup**, Simons proposes one specific setup for each of his 5 customer service strategies. The logic behind his recommendations is easy to explain. Price leadership as well as product leadership (Global Standard of Excellence and Expert Knowledge) favor the operational core and corporate functions. Since the company does not offer customization, efforts can be directed towards efficiency in terms of price or quality. Customization strategies like "Local value creation" and "Dedicated Service Relationship", however, call for significant client specific investments. As such, efficiency has to be sacrificed for market responsiveness and flexibility. Market-facing units become relatively important in terms of authority given and availability of resources.

The framework of Simons (2005) provides a helpful theory that offers practitioners a way to link organizational structure to business strategy. How it can be employed becomes clear when we introduce the notion of divisionalization.

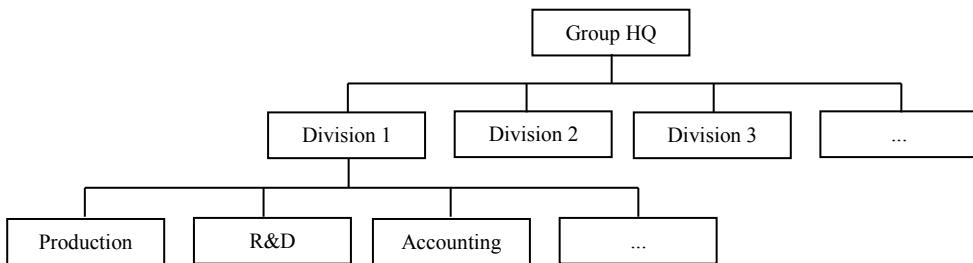


Figure 13. Organizational chart of a divisional organization (self)

Divisionalization denotes a specific process of organizational change. As Chandler (1962) observed and described at length, successful organizations often change their configuration after a certain time. They do so after a period of strong growth, diversification (in terms of products or markets) and first signs of organizational overstretch. What then happens is the introduction of new hierarchical levels and the change from a functional structure to a new one that is organized along products, markets or customers. This new organizational structure is called a divisional structure. Divisionalization and decentralization are closely related to one another and often go hand in hand. Because of the size and complexity of today's multinational companies, only few global players still work with a functional structure.

So, now, how can we link Simons (2005) theory of unit structure, with divisional structures and our generic thoughts on interdependency and complexity? A potential answer will be given by Mintzberg's "Structure of 5" discussed in section 4.4.

3.3.2. *Organizational culture*

3.3.2.1. *Levels of Organizational culture*

Culture is a broad phenomenon that needs further explanation. There are different levels to it as well as different ways of interpretation. Flamholtz (1983, p. 158) defined organizational culture as “**the set of values, beliefs and social norms which tend to be shared by its members and, in turn, influence their thoughts and actions.**” This interpretation considers culture as something completely intangible. **Simons (1995) has an altogether different focus.** He defines belief systems, and therefore culture, as being the formal mechanisms (i.e. mission statement, credo, ...) with which management wants to shape the thinking of the workforce.

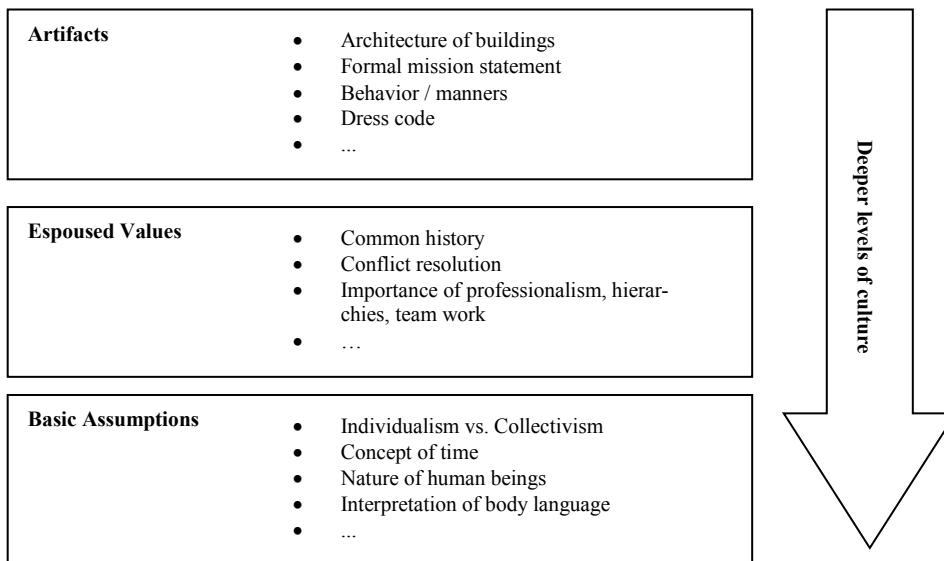


Figure 14. Different levels of culture according to Schein (2010), self

Schein (2010) developed a framework, which integrated both of these views. In his framework he distinguishes between **three levels of culture** (Figure 14). Though all these levels are integral to his cultural concept, they differ greatly both in terms of visibility to the observer as well as in the “embeddedness” in individuals and the organization. To use an analogy: Just like the personality of an individual manifests

itself at different levels of behavior and consciousness, the culture of an organization, which can be seen as the “personality” of an organization also has different layers.

“**Artifacts**” are at the surface. They represent all the **tangible overt manifestations of culture one can see and feel**. Examples of these are the architecture of buildings, the dress code, behavior of people as well as any formal mission statements or published lists of values. More tacit codes of conduct, like the unwritten rules that govern business meetings, are also artifacts in the sense of Schein. Artifacts are the least embedded forms of cultural expression, i.e. they can be changed relatively easily by managerial intervention. Even though artifacts are an important part of organizational culture and easy to observe, they do not constitute its most important elements. They were rather just hints that need to be interpreted and evaluated in order to understand the more deeply held values and beliefs they are a mere representation of.

A level deeper one can find “**espoused beliefs and values**”. Espoused beliefs and values embody the **collective thinking of how things are, how things work and how things ought to be**. The formation of espoused beliefs and values is a dynamic learning process. When a corporation is founded, people from certain professional backgrounds come together. They begin to take joint decisions and start to become part of a shared history. Obviously it makes a big difference if the company founders all come from a business or a tech background. What is important to keep in mind here is that espoused beliefs and values may well contradict officially published mission statements. This is similar to the psychology of individuals, where one can differentiate between self-image, public-image, and true personality.

“**Basic assumptions**” are even one level deeper than espoused beliefs and values. They form the core of organizational culture. While espoused beliefs and values are still conscious to people, basic assumptions are so deeply held, they are **often taken for granted and not debated**. As a result violations of commonly shared assumptions

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are either inconceivable or severely punished. One example of a basic assumption in Western capitalist culture is that a company needs to make a profit. Changing basic assumptions is a difficult endeavor and is associated with a lot of anxiety and cognitive dissonance. Examples of basic assumption:

- How to find truth (through science, experience, religion, tradition, ...)
- How to conceptualize time (be oriented towards the future, be oriented towards a “golden” past, imagine time to repeat itself in cycles, ...)
- How to interpret body language and personal space
- The nature of human beings (inherently good or bad)
- The preferred mode of social organization (collectivist, individualistic)

3.3.2.2. National cultures and organizational subcultures

The basic assumptions of Schein are oftentimes related to **national cultures**. An example would be how body language differs between an American and a (seldom smiling) Russian waitress. Another, more often cited example concerns the differences between the individualistic and collectivistic orientations of Western, respectively Asian countries. A study that investigated this issue was Birnberg/Snodgrass (1988). Although a bit dated, Birnberg found **significant differences in the setup of MCS between companies in the US and Japan**. As he had expected, the less individualistic cultural tradition of Japan, which emphasizes values like harmony, cooperation and team-work, showed control properties akin to those described by Ouchi (1979) as clan controls. MCS controls were less formal, and significantly less time was devoted to the explicit control of employees. A more recent study of Chow/Shields/Wu (1999) took a different approach. It analyzed how design of MCS instruments differed for Taiwanese subsidiaries of companies with Taiwanese, US-American or Japanese headquarters. In other words, the influence of organizational culture (which is presumably strongly influenced by the national culture of organizational headquarters) and the influence of national macro-culture (as the culture of the employees in a subsidiary) were pitted against each other. The results showed a

strong influence of the national culture for most of the MCS instruments categories. Yet, as the study of Pratt/Mohrweis/Beaulieu (1993) showed, organizational culture does play a role. According to this study, it is mainly through selection that US companies establish their cultural influence in their British subsidiaries.

When we talk about national cultures we talk about something that Schein calls **macrocultures**. Macrocultures represent cultures among nations, ethnic and religious groups as well as cultures among occupations that exist globally (like management consulting and investment banking). Macrocultures can have a profound impact on organizational cultures. This can be seen in multi-national corporations and the frequent communication issues that arise between subsidiaries in different countries. National or ethnic cultures are frequently described using the 5 dimensions of culture as defined by **Hofstede (1980)**. These dimensions are:

- **Power distance** - represents the degree to which power is distributed unevenly and the degree to which this inequality is accepted by people
- **Individuality** - describes if a society places more importance on the individual or society as a collective
- **Masculinity** - is high if society endorses personality traits traditionally seen as being masculine, such as competitiveness, aggression and career-orientation
- **Uncertainty avoidance** - a synonym for risk-aversion, which is manifested through laws, careful planning and applying the precautionary principle.
- **Long-term orientation** - this dimension measures the extent to which people sacrifice short-term gains for long-term goals. Hofstede uses this dimension as a proxy for Confucianism

Apart from macrocultures and organizational cultures there can also be **organizational subcultures**. Subcultures signify cultures that develop within an organization e.g. along different departments. As will be seen in later chapters, subcultures play a

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crucial role in the corporate life cycle and organizational change. As such, competing subcultures can have a beneficial as well as a harmful impact on a corporation.

Schein identifies three generic subcultures that develop in almost any mature company (Schein 2010, pp. 57-67). The **executive subculture** is the subculture of people reigning on top of the hierarchy. These people have become accustomed to having a top-down view on things. They tend to be emotionally detached and numbers driven. Employees are seen as resources in a perpetual war with competitors.

The **engineering subculture** comprises all those specialists involved in the design of products and production processes. These "architects" of scientific value creation, oftentimes engineers, believe in a general producibility and planability of positive results. They aim at designing elegant and fail proof systems. However, people in the "front line" often see engineers as being too technocratic.

People "in the front line", i.e. the people that do the actual operational work are part of the **operational subculture**. They know that business is about people and experience and that the technocratic solutions conceived by engineers do not always work in reality. Unplanned contingencies frequently need to be dealt with. The operator subculture can manifest itself differently depending on the specific context. A pilot of a commercial airplane, an MD in a hospital is part of an operator subculture, but so is the worker in an assembly line or the waitress in a fast food restaurant. Notwithstanding these differences, all operators depend on executives to procure them with the resources, training and support to get their job done.

As can be seen from Schein's case study of DEC and Ciby-Geigy, one generic subculture or another can dominate corporations. On a general level it is fair to assume that the majority of hi-tech startups in the late 90s (like DEC earlier) had an engineering focus. Conversely it can be said that the value-based management and shareholder

value paradigm, which started to gain ground in the late 80s and 90s remodeled a lot of companies towards a stronger dominance of their executive subculture. It might be this background against which the cultural appeal of "idealistic" and "utopian" Internet startups may be better understood. They were clearly 'different'.

Subcultures can be instrumental to **organizational change**. Dent (1991) describes the case of a British railroad, that - faced with new government regulation - had to change from an engineering to a business orientation. The case highlights a complex situation of how MCS instruments, organizational changes (i.e. changes in organizational structure, responsibilities) and changes in culture worked together in successfully creating a new type of organization. Ahrens/Mollona (2007) describe a more recent case of how different sets of subcultures worked alongside each other in various departments of a British Mid-Northern steel mill. Changes in corporate strategy led to the preferential treatment of one department to the detriment of another. In the end, however, the change in strategy was unsuccessful and the steel mill was closed down.

Organizational cultures can be described in three ways (Dauber/Fink/Yoles 2012, p.2): the dimensions approach, the interrelated structure approach, and the typology approach. In the following subsections I will introduce two concepts, one using the dimensions approach, and one the typology approach.

3.3.2.3. Dimensions of Organizational culture

Is organizational culture simply a result of national culture as has been suggested above? Or are company-specific elements playing a significant role as well? In a study quite similar to his earlier study on dimensions of national culture, **Hofstede et al. (1990)** explored these highly relevant questions using quantitative statistical analysis. To be more precise, Hofstede conducted interviews with select employees of ten

Dutch and ten Danish companies. Additionally, he asked employees to fill out surveys containing 135 questions on organizational values and practices.

Similar to Schein, **Hofstede et al. (1990)** distinguishes between **different layers of organizational culture**. Organizational values, which are related to value statements and core beliefs; and organizational practices, which consist of organizational symbols, heroes and rituals that make up the "outer" layer of organizational culture. The analysis of survey and interview data reveals some interesting patterns.

First, by analyzing the correlations between the answers given to different questions, he is able to identify 3 dimensions of value and 6 dimensions of organizational practice. Together, these dimensions are sufficient to characterize an organizational culture.

The **three dimensions of value** are: need for security, work centrality, and need for authority. The **six dimensions of organizational practice** are: process-orientation vs. results-orientation, employee-orientation vs. job-orientation, parochial (identification with the organization) vs. professional (identification with the profession), open vs. closed communication system, loose vs. tight control, normative vs. pragmatic approach to deal with ad hoc problems.

Having identified the key attributes of an organizational culture, Hofstede and his fellow researchers move on to examine the interrelationships between the key attributes he identified and the demographic and environmental contingencies of an organization. He finds a large correlation between organizational values and the demographic attributes of an organization's workforce. In other words, the **organizational values of a company are to a large part determined by the values dominant in a given country** (i.e. the nationality of the workforce) and the average age and educational background of its workforce. Consequently, companies with a similar

workforce tend to share similar organizational values. This finding is in line with the results of Chow/Shields/Wu (1999) I mentioned before.

In contrast to organizational values, **organizational practices are mainly driven by industry and company specific factors**. Since organizational practices are not as deeply related to the beliefs of individual employees, changing them is less obtrusive, and socialization much easier to achieve. As a result, an organization has the flexibility to adapt organizational practices to its structure, its size, its control system and its production technology, thereby achieving complementarity between its different subsystems. Is the resulting configuration of organizational subsystems deterministic or the result of strategic choice? This is one of the key questions of organizational research.

Hofstede does not take sides in the determinism versus voluntarism debate. However, he mentions that organizational practices, values and contingencies blend into distinct clusters, i.e. types. Three types of organizational culture seem to emerge:

- A **bureaucratic type** with a large need for authority, process-orientation, a high age of the work force and a strict moral code of conduct.
- A **professional type** with a strong work ethic, an occupational orientation, and a high educational level.
- A **conservative type** with a closed communication system, and promotion based on past merits.

3.3.2.4. Typologies of organizational culture

One of the most basic typologies of corporate culture dates back to Etzioni (1961). Etzioni (1961) classifies organizations according to the relationship between the individual and the organization. He identifies three types that exist in every society:

- **Coercive organizations** like prisons, military units or mental hospitals use force in order to control the behavior of people. In this context it is less im-

portant what the subordinates think. It just needs to be ensured that they do what they are told to. Transgressions are penalized with severe punishment.

- **Utilitarian organizations** represent business organizations in the traditional sense. Cooperation is voluntary. Motivation is purely opportunistic and driven by economic motives. However once an employee becomes part of the organization he or she is expected to obey.
- **Normative organizations** are driven by ideology and idealistic consensus. The individual contributes and accepts authority because his/her goals are essentially the same as the ones of the organization. Traditionally, normative organizations included churches, political parties and so on. However, there has been a recent trend, especially among prestigious companies to develop from utilitarian into normative organizations and to extend control on employees through the means of cultural indoctrination.

It has already been shown how over the last decades, the meaning of MCS has made a similar transition. It has changed from one that was connected to cybernetic control systems and the pure implementation of strategy to one that now also includes cultural components and a bottom-up formulation of strategy. **In terms of Etzioni (1975), organizations now put a stronger focus on creating control structures in line with normative organizations.** Kunda (2006) and Alvesson/Kärreman (2004) both provide case studies on this phenomenon. As Kunda (2006) points out, the new concept of a “strong culture” as defined by Peters/Waterman (1982) is especially prevalent with prestigious white-collar organizations. The next paragraphs are intended to illustrate the way cultural control works exactly.

Kunda's case depicts **one location of a leading high-technology company on the US-American West Coast.** In this company, which Kunda calls Tech Inc., employees underwent a rigorous selection process and were offered above average salaries. In return employees were expected to fully incorporate corporate values and culture.

This system worked well insofar as the company was for a long time financially successful as well as successful in motivating its employees to work long hours every day. From a psychological perspective the system was less benign. What looked from the outside like an organic harmony between the intrinsic motivation of organization and individual, resembled at closer look, a sophisticated combination of ideology, coercion and seduction. In line with the argument made by Alvesson (2002), the conflict centered on “**identity organization as organizational control**” with the self becoming a contested terrain between corporate demands and ideology on the one side and more individualistic extra-organizational needs on the other. Alvesson (2002) claims, that this was as much a process of external persuasion by management as a process of proactive “identity work” on the side of employees. Employees were looking for meaning in their lives, they exhibited at least a “... minimal amount of self-doubt and self-openness” and thus in conditions of late modernity, their “... identities are comparatively open and achieved rather than given or closed, ...” (Alvesson 2002). This **loophole of “unstable identities”** can be exploited using a number of techniques management has at its disposal. These techniques can be grouped into four categories:

- The employee: regulations in which the employee is directly defined or implied by reference to other employees.
- Action orientations: regulations in which the field of activity is constructed with reference to appropriate work orientations.
- Social relations: regulations of belongingness and differentiation.
- The scene: regulations indicating the kind of identity that fits the larger social, organizational and economic terrain in which the subject operates.

Alvesson stresses that they "... reject any suggestion that management is omnipotent in its definition of employee identity." In the later parts of their paper, they justify this assertion by illustrating how countervailing factors of cultural-communitarian patterns (i.e. group dynamics) and micro emancipation (i.e. self reflection) actually thwart management rhetoric.

Finally, the case study also highlights a complication of Etzioni's framework that Schein (2010, p.165) points out: "within any given organization, variations of all three authority systems might be operating". In the case of Tech Corp., these variations come in the form of temporary workers, which were dealt with in a utilitarian way and which did not form part of the "in-group".

To summarize, we have seen that the culture of an organization is dependent on a number of criteria, such as the idea of man (good or bad), the similarity of people, the focus of a company (internal or external), or a process vs. results orientation. Jointly, all these criteria will determine how culture influences and communicates with more tangible objects of organizational reality, such as organizational strategies, organizational structure and MCS instruments.

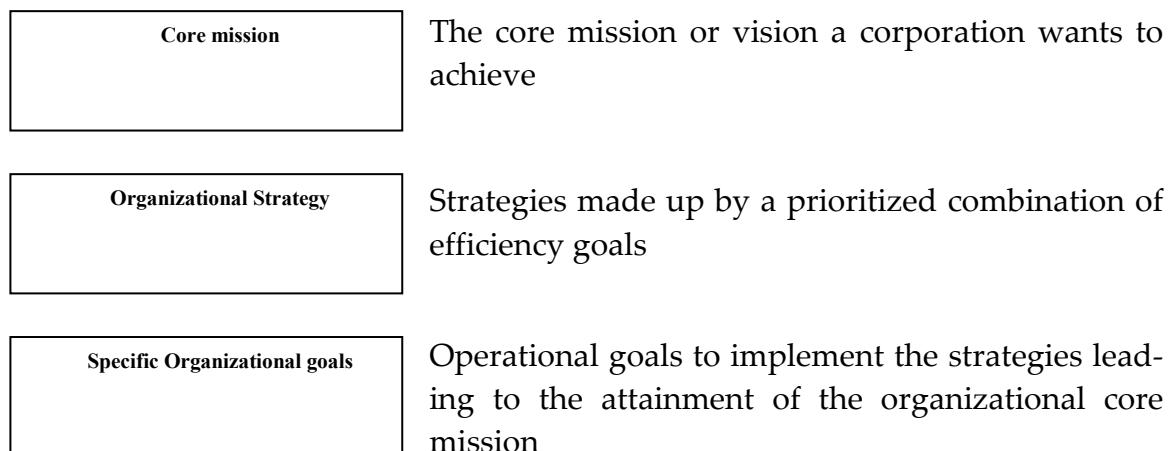
3.4. Organizational mission and strategy

3.4.1.1. The core mission as the underlying objective

The control setup a company finally opts for is not only related to corporate culture or the external context as defined by competition, market opportunities, and so on. Management control is also a function of the organization's mission and strategy. This subsection of the thesis will a) define what is meant by the terms 'core mission and strategy', b) describe different typologies of business strategy, c) introduce the reader to organizational goals and taxonomies of organizational goals.

What does it mean for a company to be successful? What is the ultimate goal a company wants to achieve? There are many criteria a company can be striving for. And even more indicators to keep track of “success” or failure. In discussing the question of organizational goals I would like to make use of a tri-partite hierarchy of organizational motives.

The **core mission or vision** of an organization is truly central to all aspects of an organization's very being. As such, it represents the “raison d'être” of an organization. The core mission can be defined in different ways, it can be broad or specific, and in terms of content it can evolve around culture or financial targets.



What exactly does this mean? First of all, an organization needs to identify the primary stakeholder it has to attend to. Is the focus on the customer or the shareholder, or is it on both? Does the organization follow a pure shareholder value strategy? Or does the organization cater to the interests of its other stakeholders as well? Is the core mission stated in quantitative terms, like become the #1 or #2 player in each business segment the organization is operating in? (General Electric, see Anthony/Govindarajan 2007, p.54) Or is it idealistic and visionary like Microsoft's well-known vision of “having a PC in every household”?

Researchers have different points of views on how much flexibility they think organizations have in choosing their core mission. There are those scholars like Schein (2010, pp. 74-78) or Simons (1995) who see the core mission of a corporation as a **cultural phenomenon of management**, first infused into the company by its original founders. In principle, founders had complete freedom to select whatever core mission they liked best. If they found innovative ways to run their business they could be successful with any core mission they chose. However, once an organization commits itself to a certain core mission, change is supposed to be difficult, since the core mission is one of the central elements of organizational culture.

Other scholars take an altogether different point of view. Adherents to the concept of **shareholder value and value based management** see the world as a huge market-place ruled by fairly strict market laws (Rappaport 1986). They think, at least for publicly listed companies, it has become a 'conditio sine qua non', to manage in such a way that shareholder return (be it in the form of dividends or share price appreciation) is maximized. Product market competition, the market for corporate control (a.k.a. corporate raiders) as well as financing requirements, would in the long term eliminate all those organizations who do not manage their business in line with VBM. The core mission itself thus gets relegated to a pure mechanism of achieving the right numbers. The change of a company's core mission is seen as being unproblematic (Ittner/Larcker 2001, pp. 358-359; Anthony/Govindarajan 2007, p. 55).

I believe both concepts, representing voluntarism, and environmental determinism are partly valid. Capital markets do in fact work as a boundary condition to the degrees of freedom management has in drafting its own agenda. As private equity firms have shown, market mechanisms can be stronger than long-standing organizational traditions. However, this is not true for all companies. The shareholder value principle only holds for publicly listed companies. And only those companies that are not too large to fail (or too big to be taken over by corporate raiders.). What's

more, there are more stakeholders to an organization than management and shareholders. For this reason alternative approaches like the "primary customer" concept of Simons (2005, pp. 31-76) who emphasizes the importance of customer as the ultimate desicion-maker, and dynamic stakeholder approaches like the one suggested by Jawahar/McLaughlin (2001) should also be taken into account when evaluating organizational strategy.

In any case, what both concepts have in common is that they treat **strategy as a contingent variable** deducted from the combination of organizational mission and external contingencies. Strategy is implicitly seen as a conscious plan that is developed by management and staff officers, which simply needs to be executed as efficiently as possible.

Ittner/Larcker (2001) suggests the following six step process to value based management optimization (Figure 15):

1. Choosing internal objectives that lead to shareholder value enhancement.
2. Selecting strategies and organizational designs consistent with the achievement of the chosen objectives.
3. Identifying the specific performance variables, or "value drivers", that actually create value in the business given the organization's strategies and organizational design.
4. Developing action plans, selecting performance measures, and setting targets based on the priorities identified in the value driver analysis.

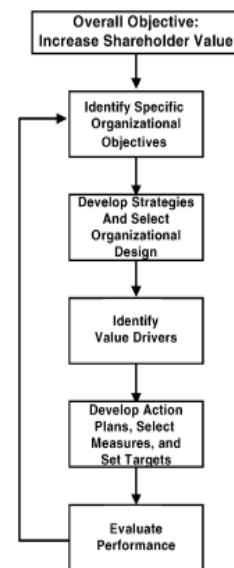


Figure 15. Analytical process for determining MCS design (Ittner/Larcker 2001)

5. Evaluating the success of action plans and conducting organizational and managerial performance evaluations.
6. Assessing the ongoing validity of the organization's internal objectives, strategies, plans, and control systems in light of current results, and modifying them as required.

Figure 15 provides a graphical representation of this deterministic top-down process. As Ittner/Larcker (2001) points out, this flow-chart is not only representative of value-based management frameworks but also similar to alternative economic and contingency-theory based models of organizational design. As signs of proof, he shows the frameworks of **Brickley/Smith/Zimmermann (1995)** and Otley (1980), which are indeed similar in terms of structure.

The "levers of control framework" of Simons (1995), which we already discussed, provides a slightly different perspective. For Simons, the core values of a company are transmitted by what he calls the belief system of a company. But there is no such thing as one strategy that follows from a belief system. Instead, there are four different levers of control, each linked to one control concept and one different perspective on strategy (Figure 11). Similar to Mintzberg/Lampel/Ahlstrand (2005), who identify 11 different ways to approach the concept of strategy, Simons distinguishes between strategy as plan, strategy as pattern, strategy as position, and strategy as a perspective.

To me, strategy is a fluid concept that describes the implied way of action a company is using consciously or unconsciously to achieve its goals. Strategy can be planned and implemented in a top-down manner. Or it can be the emergent result of bottom-up experimentation. What mode of innovation is preferable is case-dependent and also depends on the context and the capabilities of an organization.

3.4.1.2. *Typologies of strategy*

Since the beginnings of strategy, research practitioners have looked at empirics to identify the most promising ways to conduct business. They identified clusters of strategies, archetypes, and typologies of alternatives organizations typically fall into. The most important and most well-known of these is certainly Porter's typology of business strategies.

Porter (1980) identifies three generic business strategies: price leadership, differentiation and focus. As a **price leader**, an organization aims at becoming the cheapest producer for a customer, while at the same time satisfying all other needs (e.g. quality, service, ...) in a sufficient way. To achieve cost advantages, a high market share, economies of scale, and an efficient cost management become imperative. Cost leadership is always a potential strategy. In commodity markets of standardized products, it might in fact be the only viable strategy for a company. A **differentiator**, by contrast, maximizes on criteria such as quality, utility, service, and so on. The product is designed in such a way that customers perceive some value that only this product can provide in a satisfactory way (also called unique selling proposition). Branding and marketing become important. The additional benefit the product can provide justifies a price premium that customers are willing to pay. The "**focus strategy**" represents a third alternative. This strategy is about finding a niche and providing special value to customers within that niche. "Tailor-made products", "luxury cars" or localized products (e.g. "Mecca Cola"), are all typical examples of such a strategy. The quality of a niche is dependent on its profitability and ultimately on how difficult it is to satisfy the demands of niche customers by mass-market producers.

Miles and Snow (1978) have developed an alternative typology, distinguishing between four types of strategic patterns. In contrast to the competitive strategies framework of Porter (1980) that classifies strategies in terms of their content, this

concept looks at the way companies adapt to market opportunities and market threats. The choices companies make with respect to the way they innovate ("the administrative problem"), choose between product markets ("the entrepreneurial problem") and production technology ("the engineering problem"), placed organizations into one of **four generic strategy types**:

- **Defenders have a relatively limited product range.** Top managers in this type of organization are experts in their niche and highly efficient in bringing about incremental improvements to the efficiency of existing operations. Since technological efficiency necessitates large upfront capital investments, these types of companies focus on their existing core competencies and production technology instead of searching for opportunities outside of traditional domains. Production and finance managers are most influential in organizational decision-making.
- **Prospectors take a proactive approach towards their environment.** Constantly experimenting with new ways of doing things, this type of organization seeks or creates opportunities whenever and wherever they arise. Not being able to compete head-on with the 'economies of scale' defenders are able to muster, prospectors frequently invoke the game-changing innovations that are a major source of uncertainty for competitors. Marketing and R&D experts are the most powerful departments of this organizational type.
- **Analyzers can be best described as companies taking a strategy of calculated risk.** They are hybrids of defenders and prospectors. Having a secure base in stable business areas, these companies advance into new businesses by aggressively adopting the best practices of existing competitors.
- **Reactors are the only dysfunctional type in Miles/Snow typology.** These organizations perceive change and environmental risk but fail to address these issues. Since there is no consistent strategy on how to deal with environmental changes, reactors will either change or fail.

3.4.1.3. Operational goals

Porter (1980) and Miles/Snow (1978) portrayed strategy as coherent combinations of organizational structures and actions. The benefit of taking this perspective is that it provides a cursory observer with a simplified and idealized description of interrelationships between existing organizational arrangements. The downside of **typologies** is that they **mask the true complexity of organizational interrelationships**. What's more, they are not helpful when it comes to understanding those organizations, which do not readily fall into one of the hypothesized clusters or types.

For this reason, I want to present a **typology of efficiency goals** by Quinn/Rohrbaugh (1983), who have built upon a list of efficiency criteria assembled by Campbell (1977) to be seen in Table 6.

Table 6. Select list of performance criteria based on Campbell (1977, p. 36)

• stability	• personal development
• productivity	• career opportunities
• efficiency	• conflict vs. co-operation
• profit	• behavioral control
• number of work-related accidents	• Efficient planning processes
• employee satisfaction	• consensus between organizational members on organizational goals
• motivation	
• value of human capital	

There are numerous **lists of efficiency criteria** similar to the one shown in Table 6. They invariably hold different efficiency criteria and they invariably look messy. Campbell himself admits: "Different people adhere to different models, and there is no correct way to choose among them. Thus, when a list is put together from different conceptual points of view, the composite list will almost invariably look messy" (Campbell 1977, p. 49). In other words, the composition of the lists are arbitrary and do not reflect an integrative or systematic logic.

3. Management Control Systems - Components and design choices

Based on the judgments of an expert panel **Quinn/Rohrbaugh further aggregated and classified the criteria along three dimensions:** internal vs. external focus, flexible vs. control-oriented structure and means vs. ends. Conceptually, each of the typologies described above can be seen as a different prioritization of efficiency i.e. success criteria shown in the diagram of Quinn/Rohrbaugh (1983).

The experts interviewed by Quinn/Rohrbaugh agree that the criteria of organizational effectiveness can be sorted according to three axes or value dimensions. The first dimension, which is shown as the horizontal x-axis relates to the organization's focus of attention. This focus of attention may be internal, looking at the well-being and development of people. Or it may be external, looking at the performance, well-being and development of the organization itself. The second dimension relates to organizational structure, and the relative priority that is given to stability or flexibility. The third dimension addresses the dichotomy between organizational means and organizational ends and the emphasis given to processes (e.g., planning and goal setting) or final outcomes (e.g., profit), (Quinn/Rohrbaugh 1983, pp.369-340).

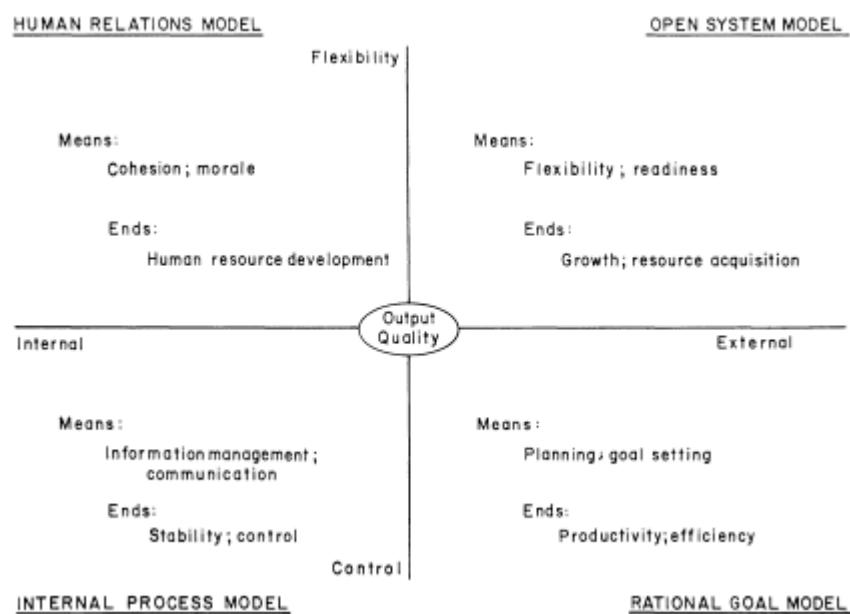


Figure 16. Competing values framework of Quinn/Rohrbaugh (1983, p. 369)

While each dimension represents an important dilemma of organizational theory, each combination of focus and organizational structure relates to a different school of organizational theory. An external perspective with a focus on control for instance, represents the efficiency criteria reflected in the rational goal model.

Burton/Obel/DeSanctis (2012, pp. 11-17) present a much simpler typology of organizational goals. They distinguish between achieving **efficiency** and **effectiveness**. Efficiency is about producing established goods using as little resources as possible. In other words, it is about cost minimization. Effectiveness on the other hand is about selling new products, innovation, and increases in revenues. Most researchers agree that even though it is difficult achieving both aims simultaneously, it promises the

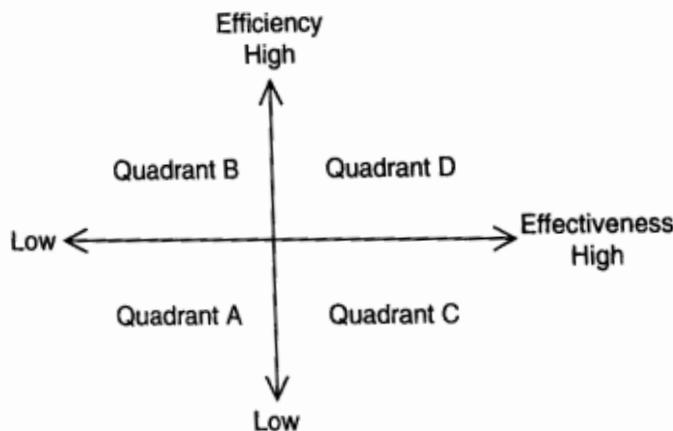


Figure 17. Effectiveness and efficiency as organizational goals (Burton/Obel/DeSanctis 2012, 12)

highest levels of performance. Achieving both aims simultaneously is also called "ambidexterity".

3.5. The environmental context

3.5.1. *An organization and its environment*

MCS, organization strategy, organizational culture and organizational structure have been thoroughly described in previous sections. All these elements serve but **one**

goal: To deal successfully with the external environment an organization is operating in. To find out how best to achieve this, researchers tried to understand the environment better by looking at the following questions:

- Where is the border between an organization and its environment?
- Which elements of the outside world are relevant to an organization?
- Which dimensions are particularly suited to describe the most relevant aspects of an organization's environment?
- How do these dimensions affect the use of MCS instruments?

At first glance it seems easy to draw a border between an organization and its environment. Its employees and physical assets, inventories, machineries and so on make up an organization. Everything else, the remainder, is part of the environment. (Burton/Obel/DeSanctis 2012, p. 38). In the past, organizational theorists suggested to define organizations in analogy to organisms like a tree or a fish, which have a clear-cut border to their environment (Jones/Bouncken 2008, pp. 253-254). Apart from the fact that - as people interested in biology might know - the roots of trees do actually live in a symbiotic relationship to certain bacteria and fungi; is it really that easy? New trends like the "borderless enterprise", or the increasing use of joint ventures and strategic partnerships suggests that **things might be slightly more complicated** (Jänkälä (2007), p. 88). **As an example, think about the German airline Lufthansa, which is part of Star Alliance**, a group of airlines that serves customers worldwide. The airlines of Star Alliance cooperate very closely with each other in terms of logistics, operations as well as marketing (e.g. frequent traveler programs). **In case one of the member companies got into financial distress all the other airlines would be affected as well.** So is it really taking the right perspective to look at Lufthansa in isolation? And to treat other members of the alliance as just some other market participants Lufthansa has long-term contracts with?

However, **other approaches** have their disadvantages too. The **approach of March/Simon** (1958), for instance, which includes all those entities somehow affected by an organization's actions is clearly too wide. Moreover, this approach easily becomes circular. Another, and in my opinion better approach takes a **legal perspective** and includes all those economic agents which have a legal labor contract with an organization as a legal entity (Jones/Bouncken 2008, p. 254). **Fiss (2008) differentiates two separate approaches.** Both originate from configuration and open systems theory. While they have been suggested as tools to identify the core elements of an organizational setup, they can, in my opinion also be used to better delineate the border between an organization and its environment.

The **traditional concept** is to look at the interconnectedness of economic actors. If the **actions of two actors are deeply interconnected, i.e. correlated**, like when there is a hierarchical relationship - then there is a strong indication that the two actors are part of one system (i.e. an organization).

The alternative concept, suggested by Fiss is complementary, since it is looking at the **causality of outcomes**. If one economic actor has a strong (positive) influence on the performance of another actor, then there is a high likelihood of the two entities being part of one and the same system. To sum up; there are a whole bunch of concepts which try to define exactly where an organization ends and where its environment begins. Each of the concepts has advantages and disadvantages, which in my opinion suggests to abandon strict objective criteria and combine the above-mentioned criteria in a subjective manner.

3.5.2. Layers of the environment

Existing literature (Huskobla 2010, Jones/Bouncken 2008, Burton/Obel/DeSanctis 2012) suggests to structure the "organization-environment space" into **five layers of organization and environment**:

1. The core of an organization, e.g. employees, factory buildings, ...
2. Peripheral elements of an organization. Examples are JV partners, strategic allies and majority shareholders
3. The competitive marketplace also called the task environment
4. The global environment relevant to the company
5. The remaining world

The first and the second layer have been discussed before; hence, I would now like to focus on layers 3, 4 and 5, i.e. the competitive marketplace, and the global environment with and without immediate relevance to the organization.

The competitive or task environment includes those **environmental factors**, positive and negative, that are of **immediate relevance to the daily operations of an organization**. For a company it is important to maintain good relations with suppliers and customers. It needs to have an eye on competitors, potential new market entrants and substitute products, which might pose a danger to the profitability of its business.

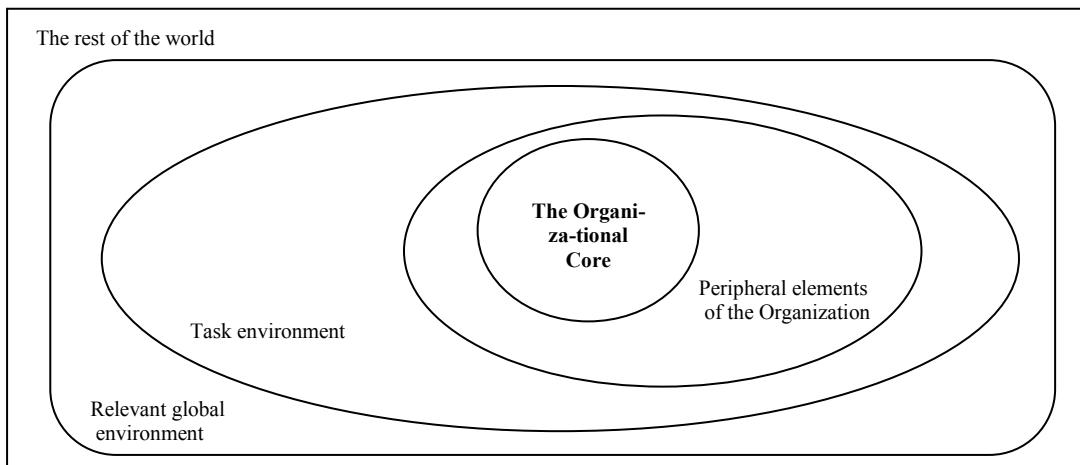


Figure 18. The Organization and its environment (self)

The famous five forces model of Porter (1980) that focuses on the product market is one of the most popular concepts in this context. It is still used today as it helps practitioners to analyze the different factors of a given competitive environment and to come up with predictions on the future of competitive dynamics. It can be extended to also include other important stakeholders such as equity-holders, debt-holders, or unions (Jones/Bouncken 2008, pp. 266-288, Huskobla 2010, pp. 50-51).

In contrast to its competitive environment the global environment only has an **indirect effect on an organization**. That means it does not impact the organization specifically, but it rather **changes the conditions under which companies of a given industry or competitive environment are operating**. What is within the scope of the global environment? Well, actually everything except the organization itself and its competitive environment. Researchers have compiled lists to **classify environmental factors into a handful of groups**. Lists typically include the following environmental factors (Jones/Bouncken 2008, pp. 266-288, Huskobla 2010 pp. 50-51):

- Technological development
- Legal and policy issues (including environmental regulation)
- Socio-cultural factors
- Macroeconomic conditions

Different environmental factors are relevant to different organizations. As an example, if a company has no operations and no competitors, suppliers, or customers from Russia, it will not need to be concerned about the macroeconomic or political situation of this country. However, if analyzing a company like British Petroleum, with - until recently - significant oil & gas investments in Russia (e.g. BP-TNK), one will want to know what is going on there in terms of politics and regulation. To conclude; factor lists are helpful since they provide practitioners and researchers with a starting point to identify relevant issues for strategy making.

3.5.3. *Dimensions of the environment*

Since they are numerous, many scholars of management accounting and organizational theory have abstained from analyzing individual environmental factors and their impact on organizational design. Instead they looked at **broader and more abstract categories**, which capture only the most significant characteristics of an environment. A lot of different environmental dimensions seem to exist, but looking at the content of the divergent ideas, all variables used boil down to three important concepts:

- environmental unpredictability
- environmental complexity
- environmental hostility

Most researchers either use these dimensions (Child 1972, Chenhall 2007, Jones/Bouncken 2008, Huskobla 2010, Burton/Obel/DeSanctis 2012) or just two dimensions with broader meanings.

Environmental unpredictability is a "lack of understanding or ignorance of the environment in terms of the nature of the factors and their variance. Greater variance means lower predictability." (Burton/Obel/DeSanctis 2012, p.43). There is a temporal dimension to this term, as **obviously stable and slow moving environments are easier to predict than dynamic and turbulent environments**. While stable environments provide conditions that allow for more accurate forecasts, it is in times of turbulence and high uncertainty about forces that impact a firm that insightful analysis is most helpful. As a result companies in turbulent environments need to develop. Environmental unpredictability occurs most often in cyclical industries and in industries which show rapid technological progress.

Environmental complexity "is measured as the **number of factors in an organization's environment and their interdependency**" (Burton/Obel/DeSanctis 2012, p.43).

A high amount of highly interdependent factors can result in overwhelming complexity. In a way there is **nothing more complex than the economy of a country taken as a whole.**

Unsurprisingly, the **demise of communist centralized planning** is an excellent historical **illustration of the challenges faced by managers to cope with overwhelming environmental complexity**. While the Soviet economy was in its infancy, things were still manageable. During the times of Stalin and Khrushchev, growth rates were so high that even Western economists were wondering if centralized planning was not a better allocation mechanism than free market capitalism. However, as the Soviet economy slowly expanded into other areas than heavy industry, i.e. as the economy became more sophisticated and diversified, complexity became more challenging, and centralized planning less efficient. There are certainly other political factors that lead to the downfall of the Soviet Union, such as the aggressive anti-communist politics of the Reagan administration, but coordination problems due to overwhelming environmental complexity were certainly a key aspect (Kenez 2006).

A more mundane example given by (Burton/Obel/DeSanctis 2012, p.43) are airline companies which have to struggle not only with competitors, but also with oscillating oil prices and, as witnessed after 9/11, sometimes abrupt changes in consumer behavior.

Environmental hostility. Probably the factor with the highest immediate relevance to a company. Environmental hostility or tension represents the **difficulty a company has when it comes to withstand the existing forces in the competitive marketplace**. In a hostile environment the main question is not in how far there is complexity or predictability of future events but **how to survive in an environment** with low margins, a high level of competition, regulatory challenges or difficult access to financing and resources. Of course, environmental hostility can have different effects

3. Management Control Systems - Components and design choices

on individual firms. An industry shakeout will produce winners, and losers. Which company wins or loses is much dependent on the internal resources of the individual companies, as the external environmental situation is similar for everybody.

In an early study of contingency research (Khandwala 1973), it was shown that **different forms of competition - one of the elements of environmental hostility - account for significant differences in the setup of MCS. Assigning specific values to the environmental dimensions a specific company is operating in is difficult.** First, it is oftentimes not easy to operationalize abstract dimensions in a meaningful way (Kieser 2001, p. 175). What's more, there is a large gap between the detail oriented work around individual environmental factors and the broader research which confines itself to look at abstract dimensions.

One approach I like was developed by **Hambrick (1983)**, which **combines the broader approach of environmental dimensions with the more detail-oriented approach of environmental factors.** Using literature of organizational theory and strategy research, Hambrick identified a **dozen key environmental factors, like the instability of technology and market share, industry concentration and product sophistication.** Subsequently, he analyzed which environmental factor had the largest impact on which industry. And finally, he came up with a **typology of industry archetypes he located on an environmental hostility / uncertainty matrix.**

Having completed our perspective on the subcomponents and design choices related to MCS, we can now turn our attention to the next chapter which will tell us more about the 'rules' which determine how optimal MCS design choices relate to the organizational context. The next page shows a chart (Table 7) that can be used to put down the sensitivities of MCS design parameters with respect to external contingencies.

Table 7. MCS Design Choices - Contingency Matrix (self)

		Contingencies											
MCS - Design - Parameter	Results Controls	Size		Age		Technology		Competition		Marketing		Price	
		Employees	Assets	Sales	Years	Programmability	Can be evaluated?	Product	Marketing				
		Tightness	Sophistication	Interconnectedness	Results Controls	Interconnectedness	Action Controls	Interconnectedness	P&C Controls				
		Action Controls	Tightness	Sophistication	Interconnectedness	Results Controls	Interconnectedness	Action Controls	Interconnectedness	P&C Controls			
		Personal & Cultural Controls	Tightness	Sophistication	Interconnectedness	Results Controls	Interconnectedness	Action Controls	Interconnectedness	P&C Controls			
		Organizational structure	Span of Control Index	Standardization Index	Decentralization Index								
		Hofstede et al Culture Type (1990)	Bureaucratic type	Professional type	Conservative type								

4. Organizational theories and MCS

4.1. Introduction

The objective of this thesis is to understand **how best to design Management Control Systems**. In order to arrive at a satisfactory answer to this rather complicated question one needs to obtain clarity on two fundamental issues:

1) MCS and the environment in which they interact

What is a Management Control System, what are its elements and properties and how can these be classified? Furthermore: Which organizational subsystems (e.g. organizational culture) and external contingencies (e.g. environmental uncertainty) are related to a MCS and, finally, what is the best way to describe and classify the elements within a MCS environment?

2) Assumptions and predictions of organizational theories

The theories which researchers have used to analyze and explain the existence of different MCSs all derived from organizational theory. Based on whichever organizational theory they used, researchers arrived at different results. For this reason it is important to inquire the following: Which theories have been put forward to account for the existence of radically different Management Control Systems? What are the differences in assumptions between theories and to what extend do they lead to different predictions? Finally, is there a way to reconcile the theories assuming that each theory basically covers only a certain aspect of reality?

The previous chapter provided exhaustive answers to the first set of questions. Hence, it is the aim of this chapter to answer the second set of questions, i.e. to introduce the reader to different organizational theories and the predictions they make with respect to the design of MCS.

I will start by presenting three theoretical approaches that explain why MCS are the way they are and how they ought to be designed in order to be effective. More specifically, I will describe the theories' historical background, their main assumptions and most importantly, I will uncover what they have to say about the criteria that influence the design of Management Control Systems. As we will see, each of these approaches has its root in general organizational theory, which encompasses not only management control, but also the academic fields of organizational structure, organizational strategy, and so on. It was only after some time that scientists of management accounting discovered these "toolkits" developed by their peers. Since management control is a discipline that takes its roots from management accounting as well as organizational research, this cross-fertilization does not represent any incompatibility. To the contrary, as we will see in the section on configuration theory (section 4.4.), the holistic view taken by scholars of organizational theory like Mintzberg (1979) has been highly informative with regard to the work of more MCS-focused researchers like Bedford/Malmi.

The theories used to explain MCS in static environments are: **Contingency theory**, **the theory of strategic choice and configuration theory**. There are three reasons for focusing on these theories:

- 1) All three theories represent **positivist theories**, i.e. theories that accept the notion that there are universal laws or rules to be discovered by social scientists. This explicit assumption rules out any approaches of radical subjectivism. Although the author believes that there are conflicts of interests and to some degree different perceptions of reality, he is opposed to the view that all reality was merely constructed.
- 2) Some alternative approaches like evolutionist theories or theories of behavioral learning are intrinsically dynamic. They will, therefore, only be introduced in later

sections of this thesis. To some extend theories of neo-institutionalism (DiMaggio/Powell 1983) - which state that organizations are merely mimicking each other - can also be regarded as being dynamic rather than static.

3) The three theories to be presented have dominated the academic discourse over the last decades. What's more, the theories presented are related in the sense that strategic choice and configuration theory can be seen as reformulations or refinements of contingency theory.

4.2. Contingency theory

4.2.1. *History & development*

Since the days of Taylor, organizational researchers have tried to find out how best to organize organizational processes. It was the **theory of bureaucracy** developed by German sociologist Weber, which was most popular during the first half of the 20th century. Weber claimed that there were different forms of leadership (leadership by tradition, leadership by charisma, ...). He also claimed that one type of leadership; "**leadership by bureaucracy**" - efficient and complementary to rationality - was destined to become the universal form of leadership for all organizations of society. Bureaucracy in the sense of Weber was defined by **formality**, i.e. set hierarchies, the rule of law (or standards), a focus on job positions rather than individual human beings, and a need for written documentation (Kieser 2001, pp. 51-53).

In the 1950s organizational theory was to a large part influenced by the thinking of Weber and **people still held the belief that one organizational setup was optimal for all organizations**, no matter how big or small these organizations were, and in which industry they operated. As with respect to management accounting, the discourse was dominated by **how best to implement bureaucratic technical control**.

Unsurprisingly budgeting and other forms of formal control were seen as the most important means of management control.

It was only ten years later, that scholars started to embrace **the quintessential notion of contingency theory: "it depends"**. How did this come about? New computer technology developed. Critical rationalism developed by Karl Popper (empirical falsification) gained more and more popularity. Both factors gave researchers the means and the motivation to **conduct large empirical studies** and to challenge existing theories for the first time in the history of organizational theory.

Researchers also investigated **if reality was in line with the claim that bureaucratic control was universal** and more efficient than any other means of control. Soon, scholars (Udy 1959, 1961) and Hall (1962, 1963) found evidence to **disprove this claim** demonstrating that the control systems of different companies showed in fact a tremendous amount of variety. In addition, authors like Argyris (1952) and Thompson (1961) provided evidence that bureaucratic control was oftentimes associated with considerable inefficiencies.

The **dogma of bureaucratic control being the universally best means of control was discarded**. But new questions arose. Why are there structural differences between companies in the first place? And given a certain external context, what is the best organizational structure for a company?

A series of studies on the links between performance, organizational structure and situational parameters (e.g. the competitiveness of the environment or the type of production technology) followed. The analysis found there were distinct relationships between (allegedly) independent variables, like the competitive environment of a company and dependent variables like the differentiation of organizational structure. Pioneering work in early contingency theory had been conducted by

Burns/Stalker (1961), Woodward (1965), Lawrence/Lorsch (1967) and Galbraith (1973). At the same time the **influential work of corporate strategists such as Chandler (1962)** was published, illustrating the contingent relationship between the strategy and organizational structure of an organization.

To cut a long story short, **by the early 1970s, contingency theory** - a term first used in Lawrence and Lorsch (1967) - **was firmly established as the dominant approach in organization theory** (Child 1977). It did not take long before the same happened in the related field of management accounting and control systems. Otley (1980, p. 413) identified two reasons for what he then called a "recent vogue" in management accounting:

1. The development of contingency theory in organizational studies (as described above) and a subsequent cross-fertilization.
2. An urgent need for a new paradigm to explain empirical findings that were in stark contrast to universalistic theories.

"Accounting was tentatively developing contingency ideas and realising the importance of structure. The result was a minor avalanche of literature including Bruns & Waterhouse (1975), Sathe (1975) Watson (1975), Gordon & Miller (1976) Ansari (1977), Hayes (1977), Daft & Macintosh (1978) Hopwood (1978), Piper (1978), Sathe (1978) and Waterhouse & Tiessen (1978)." (Otley 1980).

According to Chenhall (2007) and Klaas (2004, p.1), contingency theory has now become and remains the dominant approach of organizational theory. On the flipside, universalist approaches (perhaps best exemplified by Hofstede's (1968) study of budgetary control) fell largely out of favor (Otley 1980).

4.2.2. Assumptions

Three important elements are at the heart of contingency theory:

- The belief that organizational reality is contingent on external factors, i.e. there are no universal solutions.
- The research process by which new knowledge is gained.
- The concept of fit.

In its simplest form, structural contingency theory suggests that no single control or MCS is optimal in all situations and that organizations' structures are contingent i.e. dependent on contextual factors. **In other words: "It all depends."** A more provocative form suggests that organizations, which achieve a fit or congruence between their structures and contexts, are in some sense more effective (Lawrence/Lorsch 1969). For MCS research, this translates into saying that there is **no generic and universal management accounting system applicable to all possible circumstances and organizations**. This basic tenet might seem self-evident, however, as has been seen in 1960 and before, a lot of researchers in organizational studies had different ideas. **Contingency theory takes a middle ground - on the one side saying that each company was specific** and that there were no laws that could help managers design their organization and their control systems - **and on the other side the idea that there were universal prescriptions for all organizations.**

To sum up: The overarching aim of contingency research is to **identify and explain relationships between independent contextual variables on the one side and dependent organizational variables on the other, using quantitative statistical analysis**. An organization is seen as an open system whose viability is critically dependent on a fit **between these two**.

4.2.3. Concepts of fit

What is fit? What does it mean to say "two things are complementary", "go together", are "consistent", ...? Drazin/Van de Ven (1985), Chenhall (2007) and Luft/Shields (2003) provide overviews and interpretations on the **conflicting definitions**

that do exist. These different definitions of fit have an impact on which analytical and statistical methods a researcher needs to use in order to conduct empirical research. More importantly however, different conceptualizations of fit also lead to different assumptions on 1) the **possibility that different MCS might be equally successful given similar environmental contingencies (equifinality)** and 2) the relative importance given to the internal cohesiveness and complementarity of organizational processes and structures (i.e. how important is it for different MCS instruments to work together in harmony?). Chenhall distinguishes between **three conceptualizations of fit** (Chenhall 2007, pp. 188-190):

1) "**Selection fit**" is the concept most closely aligned to structural determinism. Contextual factors influence organizational structures, MCS instruments and so on in a **unidirectional manner**. However, there was no actual connection between organizational fit and performance. Why? Because **according to the theory of selection fit, there were no companies that existed in a misfit to their environment**. In line with (social-) Darwinian and mechanistic thinking Selection fit assumes 1) a world with an extreme amount of competitive pressure and 2) that in line with the mechanics of population ecology, **all companies not in perfect fit with their environments would not last - and would, therefore, be weeded out**. Selection fit is the oldest concept of fit. There is no room for equifinality. Contingency theory has been criticized to be deterministic on grounds that most traditional contingency research had been based on the assumption of selection fit.

2) "**Contingency fit**" and "**interaction fit**" incorporate performance "into the equation". Assuming that there are in fact **companies 'in misfit' showing week performance** studies employing models of contingency and interaction fit examine **bi-variate interrelationships** between contingent (dependent) and (independent) contextual variables. Combinations between the two are evalu-

ated and compared to organizational performance. Chenhall (2007) identifies two differences between contingency and interaction fit.

First, contingency fit assumes that there was a one-to-one relationship between contextual variables and MCS variables. Any mismatch between the ideal value of the MCS variable and the actual value of the variable produces a mismatch and a decrease in performance. **Interaction models are much more flexible and also allow for equifinality**, that is the possibility that given a certain context, similar results might be achieved by different arrangements of MCS instruments (Merchant/Otley 2007, pp. 787-788).

Second, there is a **difference in the way that fit is determined**. Interaction fit models are oriented towards empirics. Since all different kinds of combinations might be optimal, it is more difficult to use it for hypothesis driven work. Contingency fit on the other hand, can be used to test theory-driven hypothesis.

3) "Systems fit" is closely **aligned to configurational theory**, a refinement of contingency theory developed during the early 1980s (Miller 1981). Aligned to configurational and modern management control theory, systems fit takes a **holistic view on MCS**. Since all the components of a MCS need to work together, **MCS instruments need to be aligned with each other**, which means there needs to be a fit as an integrated whole. Therefore, testing for system fit involves **testing multiple fits simultaneously**, involving a wider variety of dimensions of context and MCS. Variation in performance stems from variation in overall systemic fit with multiple, equally well performing configurations - i.e. equifinality - being possible. Cluster analysis is the empirical method of choice. Systems fit plays a less important role in mainstream contingency research.

Most differences between contingency research and the concepts of strategic choice and configurational theory are based on varying definitions of fit. As what concerns contingency theory there is an implicit assumption that companies have no other choice but to adapt to the dominant structural alignment of their industries (or whatever the predominant contingencies for a given company are. In that sense contingency theory in its simplest form postulates a mechanistic quasi-deterministic way of organizational alignment, the so-called **situational determinism**. Conversely, managerial leeway and radical innovation that breaks with the rules of the past are de-emphasized. Situational determinism has been heavily disputed, leading to the 'theory of strategic choice' (section 4.3).

4.2.4. Application on MCS

Dent (1990) and Chenhall (2007) provide a **list of design choices** in management accounting that have been scrutinized using a contingency approach. These include:

- amount and ambiguity of data (Daft/Macintosh 1978, Macintosh 1981).
- balance between financial and non-financial, internally and externally focused, and historical vs. forecast information (Gordon/Miller 1976, Gordon/Narayanan 1984, Ewusi-Mensah 1981).
- the frequency of reporting (Waterhouse/Tiessen 1978).
- styles of budget use, including the formality of the budget process and the relative impact of managers at different organizational levels (Bruns/Waterhouse 1975, Govindarajan 1984, Merchant 1984).

These are merely examples. In principle all the design parameters concerning MCS instruments as explained in section 3.2 can be analyzed using methods of contingency research. Obviously this may result in an **enormous amount of research data** that may be all but impossible to integrate.

In order to structure the insights that contingency theorists already gained with respect to MCS, I would like to use the classification of Chenhall (2007) who **grouped situational contingencies into 7 categories**. These are the findings gathered so far:

1. The external environment

As we have seen, the external environment of an organization is characterized by the amount of risk, uncertainty, complexity, and hostility it faces (section 3.5). Especially the effects of uncertainty, i.e. the unpredictability of future events, has been extensively studied. Given the fact that the earliest contingency studies (e.g. Burns/Stalker 1961, Lawrence/Lorsch 1967), focused on these type of contingencies, we now have a fairly solid basis for making the following conclusions (Chenhall 2007, pp. 172-174):

- The more uncertain the external environment, the more open and externally focused the MCS.
- The more hostile and turbulent the external environment, the greater the reliance on formal controls and emphasis on traditional budgets.
- Companies in uncertain environments will only use tight financial controls in combination with an emphasis on flexible, interpersonal interaction.

The last conclusion on combinations of MCS instruments is particularly interesting since it is in line with the new hybrid kind of MCS portrayed in recent case studies by Alvesson / Kärreman (2004) and Frow/Marginson/Odgen (2010), which examined the simultaneous use of mechanistic and organic MCS instruments.

2. Generic concepts of technology

With respect to technology it is not the technology of the product that matters. What matters is the reliability with which the outcomes of a production process can be measured and evaluated.

- The more technologies are characterized by standardized and automated processes, the more formal the controls, including a reliance on process

control and traditional budgets with less budgetary slack. On the flipside, participation in budgeting, personal controls, clan controls and broad scope MCS play less of a role.

- The opposite is true for technologies of high task uncertainty.

These results are not only proven by empirical evidence, they are also backed up by the theories of transaction cost economics (Speklé 2001).

3. Contemporary production technologies (e.g. JIT)

Advanced production methods like Just-In-Time production (JIT), or Total Quality Management have also been scrutinized on their impact on Management Control Systems. Since these specific concepts are not the focus of this thesis, I am excluding them from my short introduction to the empirical results of contingency research on MCS.

4. Organizational structure

Is organizational structure an external contingency? Or is it a control lever to be used by corporate management? In reality it depends on the time frame taken. In the long run, any organizational structures can be altered and used as a potential complement and/or substitute to process-oriented and information-based management control instruments (such as accounting measures). In the short run, organizational structure can be seen as a given. Taking that perspective: Which interrelationships between MCS and organizational structure have been detected?

- Large organizations with sophisticated technologies, high diversity and more decentralized structures are associated with more formal, traditional MCS (e.g. budgets and formal communications).
- Decentralization is associated with the MCS characteristics of aggregation and integration.

In other words: The "looseness" of control created because of decentralization is compensated for by the application of more formal and stringent instruments of management accounting (Chenhall 2007, pp. 180-182).

5. Size

When evaluating time as a contingency, size is, similar to age, a contingency of particular importance. Changes in size are commonplace. Changes in the environment often follow or are a result of changes in size (e.g. due to internationalization). Evidently, as long as a company is growing, changes in age lead to simultaneous changes in size.

Alas, there are few studies that analyze the effect of size explicitly. Moreover, most researchers focus their examinations on large companies, thereby providing only a biased picture of organizational reality (Jänkälä 2007). Only in recent times researchers became interested in the MCS of small and medium sized companies (SME), young startups and growth companies. There is a large overlap with discussions on the organizational life cycle of companies. Later in this thesis I will examine this topic in more detail. The propositions Chenhall (2007, pp. 182-184) had collected are superficial and self-evident. Large companies are expected to be more differentiated, their structure is expected to be more divisionalized and their control systems are expected to be more sophisticated.

6. Strategy

Just like organizational structure, strategy is not an element of context but rather the means by which managers can influence the nature of the external environment, the technologies of the organization, the structural arrangements, the control culture and the MCS. In short, the destiny of their organizations. The role of strategy addresses the criticism of "structural determinism", the allegation that

contingency theory would not leave any room for the agency of management, 'strategic choice'.

In comparison to other contextual variables, strategy is not static but forward-looking, which means it is highly relevant to the topic of 'time as a contingency' (chapter 6). In this sense one could see strategy as a means to adapt to future contingencies, or if one followed a more activist strategy, as a means to shape future contingencies. Past empirical research focused on identifying MCS appropriate to the archetypes of strategy discussed earlier in this thesis. Not surprisingly, there is a large difference between defensive and entrepreneurial strategies:

- Efficiency based strategies, i.e. strategies characterized by defender and harvest orientations and following cost leadership are associated with formal performance measurement systems
- Prospector strategies are related to informal, open MCS characterized by more subjective long-term controls and an interactive use of budgets

7. Culture

Culture can be interpreted as national culture or organizational culture. Chenhall (2007, pp. 186-188) discusses culture solely in terms of **national culture**. National culture shall not be discussed here, since it was sufficiently addressed in section 3.3.2. But **organizational culture** matters. It is something that can in fact supersede national culture. This was shown in a study by Soeters/Schreuder (1988), which compared the corporate culture of accounting firms in the Netherlands using a Hofstede scale. Some of the firms had a US, some a Dutch background. Even though in both cases all employees came from the Netherlands, it could be shown that there were significant differences between the values of the two workforces especially with respect to "masculinity". Interestingly the reason for this phenomenon seemed to be self-selection rather than socialization. So how does organizational culture relate to management accounting or MCS? Bhimani (2003) noticed

that there existed **only a handful of studies that analyzed the direct effect of organizational culture on management accounting practices**. Unfortunately these are only of limited value since they focus on public organizations (more specifically the UK National Health Service and local governments) (Goddard 1997, Bourn/Ezzamel 1986) instead of organizations in general.

4.3. The theory of strategic choice

4.3.1. *Objections to contingency theory*

Contingency theory can be credited with acknowledging the existing diversity of successful organizational forms. However, in the late 1960s some organizational theorists started to disagree with contingency theory, claiming it was "too narrow" and "too deterministic". **Child's (1972) theory of "strategic choice" tries to go beyond contingency theory**. As Child points out in his famous paper, he is interested in developing a **theory of strategic choice framed as a decision-making process**. Consequently, ideology, expectations, and power relations, among other dimensions, are all expected to play a significant role (Demers 2007, pp. 11-13). Three aspects are particularly remarkable about his theory.

First, in contrast to earlier theorists **Child is interested in processes, i.e. changes**. When Child asserts that "adequate understanding derives from the understanding of process", he shows a concern with developments largely absent from earlier works of organizational theory.

Second, Child's model is quite **holistic** as it simultaneously looks at the external environment and strategy as well as ideology, expectations, and power relations.

Third, decision-making is mentioned. In contrast to traditional contingency theory, Child (1972) holds that management was only partially constrained by the dictates of

its environment and that **there was room for management to make decisions** related to ... :

- ... the environment within which the organization is operating (environment).
- ... the performance against which the pressure of economic constraints has to be evaluated (performance).
- ... the design of the organization's structure itself (structure).

In this context it is important to point out that rather than using the word management, Child uses the term "**dominant coalition**", a term used to denote the group of people in control of an organization, the group that actually has the power to take and implement decisions. In many cases the dominant coalition of an organization will be identical to its management group. However, dominance might also rest in the hands of individual managers, or in the hands of a particularly influential "clan" outside of management hierarchies (see clan control Ouchi 1979).

Related to the three dimensions of strategic choice mentioned above (environment, performance, and structure), **Child raises a number of issues he believes to refute contingency theory** and the implicit belief that organizational behavior could be understood by reference to functional imperatives rather than political action.

Environment (Child 1972, pp. 8-10):

- It is **unclear where to draw the boundaries of an organization** (see also section 3.5.2). What if an organization regards some of its customers as key customers and other customers only as peripheral customers? What about subsidiaries? What about companies that are part of an alliance but not part of the organization itself? In Child's eyes the uncertainty about which part of the external environment was relevant, discredited the idea of functional determinism.

- **What about changing the environment instead of changing the organizational structure?** Child asserts "organizational decision makers do take positive steps to define and manipulate their own corners of the environment." For large and influential oligopolists, or companies that do not operate in mature markets, there is in fact a possibility to change the rules of the game.
- Finally, in line with "**strategy as position**" (Mintzberg/Lampel/Ahlstrand 2005), the **managers of an organization may choose in which markets they want to compete**. If they are not satisfied with the economics of one competitive environment, they may choose to exit this particular market.

Performance (Child 1972, pp. 10-13):

- Questioning the assumptions of "selection fit", Child asks what performance level was actually needed for a company in order to survive? **And what would happen if corporate performance exceeded this "satisficing" level?** He goes on to speculate that the "decision-making group may take the view that the margin of surplus permits them to adopt structural arrangements which accord the better with their own preferences". As a result, two organizations that see themselves in identical situations might opt for completely different yet equally viable organizational structures and processes. The fact that most companies do have significant **slack** is an indication that the performance constraints seen in reality might not be as exigent as claimed by contingency theorists.
- Furthermore, there is the **question if organizational structure and processes matter all that much in the first place**. Or if there were not more important levers to organizational performance. If historic legacies like a poor "choice of markets", low "technical efficiency" of existing assets or a "lack of skills" exist, how could organizational design possibly make a difference?

Organization theory (Child 1972, pp. 13-16):

- In organizations there is a dominant coalition, which in fact takes all relevant decisions. **There is no transcendent system or the organization itself, which acts.** For this reason, one has to look at the politics and cognitions of these relevant decision makers.
- Contingency theory does not look at **strategy** as defined and popularized by Chandler (1962). Strategy opens a lot of alternative routes to success. Structural choice takes on an extremely voluntaristic position. Contingency theory, however, is tied to determinism.

4.3.2. An alternative contingency model

As an alternative to existing contingency theory, Child proposes an alternative model, which incorporates the individual agency of managers. **Organizational design is understood as a process** that includes three steps. **First**, managers evaluate the situation their company is in. To do so, they analyze expectations of stakeholders (like employees, creditors, shareholders), changes in the external environment and the internal resources of an organization. The prevailing organizational culture and strategy is taken account of. **Second**, the dominant coalition decides on an updated strategy. This strategy might involve a move into or out of given markets. **Third**, according to Child a company will then try to "establish a configuration of manpower, technology, and structural arrangements which is both internally consistent with the scale and nature of operations planned."

Donaldson (1996, pp. 14-41), one of the staunchest defenders of contingency theory, disagrees strongly with the claims that had been raised by Child (1972). First of all, he clarifies that there was a confusion of terms. **What is called strategic choice, should rather be called structural choice**, since the issue in question was not about which strategy to choose, but rather about whether organizational structure was predetermined by circumstances or not. Nobody disagreed with the possibility that

management - if it wants to do so - might carry out a corporate strategy (not business strategy!) of changing the focus of its operations. Of course a company from the automobile industry could sell its operations and become an IT company, thereby changing the contingencies that influence or determine its organizational design. However, such a move is not what contingency is supposed to be about.

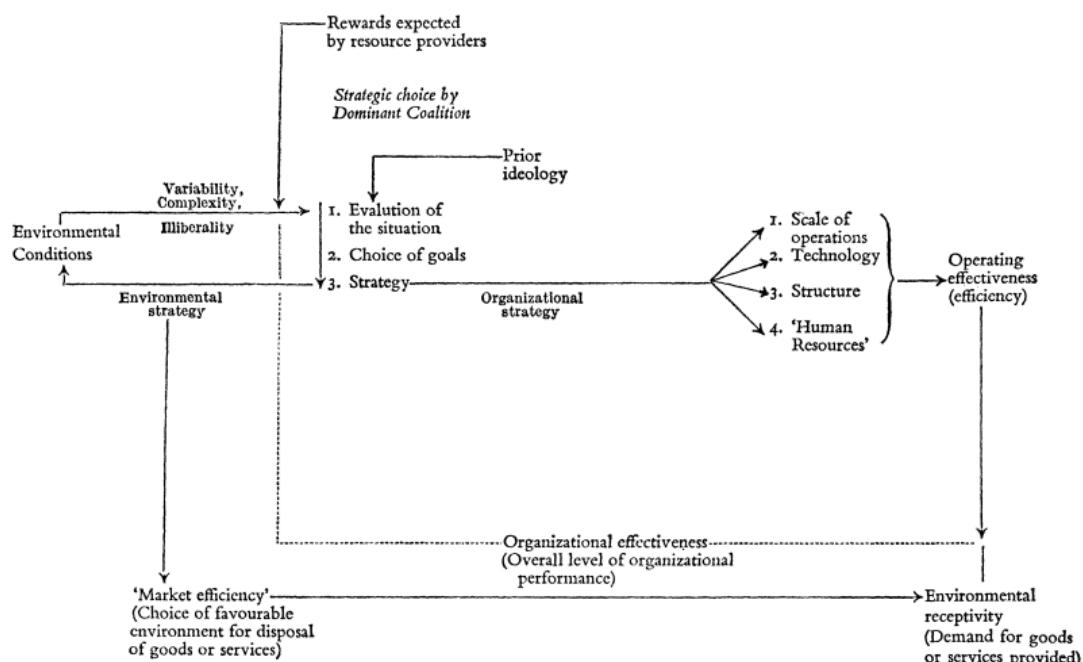


Figure 19. Child's (1972) "Strategic choice" contingency framework

With respect to an **organization manipulating its environment** and "changing the rules" of the game Donaldson is less critical. Although he admits that this possibility might exist, he cautions, however, that such an observation would be **the exception rather than the rule**. In one of his papers Donaldson actually conducts an empirical investigation to find out what was more often the case: Companies adapting to their environment or an environment being manipulated to fit to the strategy and structures of an organization? Unsurprisingly the empirical result of his analysis only shows "relatively few cases where adjustment comes about by the alteration of the contingency to fit the structure" (Donaldson 1987, p.22).

Finally, Donaldson goes to great lengths in order to discredit the "**slack argument**", i.e. the idea, that "an environment in which competition was less than perfect - that is, one in which there was any degree of slack - could tolerate in existence an organization with a maladapted structure" (Donaldson 1996, p. 21). His main argument can be summarized easily: **Organizational structure would have to be in fact really unimportant as a performance lever**, to allow for such a high amount of slack to persist. So who is right? Donaldson or Child? I would say, even if one does not agree with the voluntarism of Child, he still raises some valid points.

First, of course **some leeway in the design of organizational structure exists**. Few industries are so competitive and unforgiving that the slightest divergence from the optimum prescribed by contingency theory would result in quick organizational death.

Second, (business) strategy is indeed very relevant to contingency theory. To better understand the discussion between Child (1972) and Donaldson it is important to **keep in mind that at the time when Child's paper was written, strategy was not yet recognized as a contingency in its own right.** In fact, as Chenhall (2007, p. 164) mentions in his review on contingency research "Perhaps the most important new stream of literature has been that which is related to the role of strategy." Similarly organizational culture and processes were not yet covered by contingency theory at all. So what we are basically seeing in Child's theory of strategic choice is a broadening of focus that replicated by mainstream contingency researchers only years later.

However, and this is my **third** point, I do not agree with Child's statements concerning the malleability of an organization's environment. Donaldson convincingly demonstrates that **only a minority of firms have the capacity to change the environment they are operating in** and that to the contrary, the overwhelming amount of companies rather adapt to the environment they are operating in. Moreover, also in

agreement with Donaldson, I see the decision to enter or exit a market as something that has no relevance to the validity of contingency theory.

Fourth, there is some truth to Child's claim that it was **subjective truth and the political process** that accounted for what could be seen in reality. However, subjectivism can only impact so much. If the political process or managers' cognitions completely misalign with reality, then **reality will eventually strike back**. Organizations will go bankrupt or will otherwise become dysfunctional.

Finally Child's **focus on processes** and his **urge to achieve internal consistency** paved the way to important extensions of contingency theory. While processes are essential to the topic of organizational change, internal consistency is squarely at the heart of configuration theory, which we want to examine next.

4.4. Configuration theory

4.4.1. *Introduction*

Configuration theory is the third and final theory I aim to present in the context of explaining static MCS. **Configuration theory takes a holistic "systems view" of fit**. Rather than analyzing an "unmanageable" number of permutations of one-on-one relationships of contingent and organizational variables, researchers of MCS should focus on just a few configurations or gestalts. Gestalts are basically **groupings of firms that are defined by a common profile or theme**. In the words of Miller (1981, p. 9) "they represent a statistically significant clustering among variables such that, given a partial description of an organization (or scenario), it becomes possible to identify its Gestalt or category and thereby to accurately predict many of its other features." Configuration variables, be they external (environment, technologies, industries) or internal (strategies, structures, cultures, ideologies), are not seen as inde-

pendent contingencies but rather as **tightly interdependent elements** of one internally consistent configuration. **The more consistent a configuration the more effective and the more profitable the configuration can be expected to be.** Most researchers of configuration theory assume there are only a small number of high-performing organizational gestalts.

Like contingency theory, configuration theory is a universal theory, i.e. it is an approach that can be applied to any scientific context, not just to organization theory. Having predictive power for more than just one aspect of organizational reality, the generic strategies of Porter (i.e. the cost leader, differentiator, and niche strategies), as well as **many other classifications already mentioned earlier in this thesis, in fact, qualify as configurations or gestalts.**

Configurations can either be developed conceptually (typology) or derived empirically (taxonomy). Typologies are based on the Weberian logic of ideal types, accentuating key characteristics so as to draw a priori distinctions between organizations (Meyer/Tsui/Hinings 1993). As Miller (1996, p. 506) says, "Good typologies are more than anything products of inspired synthesis and a strong sense of conceptual aesthetics". Miller argues that a lot of typologies developed by researchers appeared arbitrary and thin. They either included too few components or failed to show a serious attempt to explain why these components interrelate. Making this effort and being able to highlight the structural differences between divergent configurations is what distinguishes "good" typologies like Mintzberg (1979) and Miles and Snow (1978) from "bad" typologies. Whatever typology used, applying typologies to empirical research context poses a certain challenge. The allocation of organizations to types is often not clear-cut, since the conceptual definition of most typologies does not define measurement criteria or cutoff points in a precise manner. For this reason, a lot of researchers view typologies not as testable and falsifiable theories but as mere classification schemes (Wolf 2000, p. 108). Some researchers, such as Scherer/Bayer (1998,

pp. 341-344) are even opposed to use configuration theory in a positivist empirical way.

Doty/Glick/Huber (1993) disagree. They define configurations as ideal types that can be empirically tested. **What is the difference between an ideal type and a classification?** As Doty/Glick/Huber (1993, p. 1200) explain, there is a difference when it comes to the relationship between organizational design and performance. For classifications, the implicit assumption is that all organizations in a group, that are part of a classification type, should display a relatively similar performance. Viewing configurations as ideal types however, organizations that only marginally resemble the types are expected to show a much weaker performance than organizations that match to the exact definitions of posited ideal type. In other words, **classification schemes are only about whether an organization is "in" or "out". Ideal types, however, provide an exact definition of how a type should look "ideally".** This means, empirical research taking an "ideal types perspective" has to look at the differences between existing organizations and assumed ideal types. The larger the distance the weaker the performance of a company. In sum, whether one conceptualizes configurations as classifications or ideal-types makes a big difference when it comes to testing for the empirical validity of configurational theories.

Taxonomies typically take a classificatory approach. They are "discovered" using empirical data and multivariate classification algorithms such as cluster analysis. While taxonomies are theoretically superior to typologies in the sense that they are based on facts rather than speculation, it has been disappointing to see that many taxonomies are of poor quality (Wolf 2000, pp. 110-122). Against this backdrop the recent taxonomy on control created by Bedford/Malmi (2010) represents a breakthrough. For this reason, we will discuss this taxonomy at a later point of this dissertation (section 4.4.6) in more detail.

As Meyer/Tsui/Hinings (1993) point out, there is some ideological struggle among researchers as to whether a taxonomic or a typological approach was generally preferable. They see this dichotomy between typologies and taxonomies as being largely artificial, and the debate between typologists and taxonomists as being divisionary and unproductive. I agree. Typologies are grounded on empirical experience just as taxonomies are. But they are so in a different way. Taxonomies **create new coherent data sets** in order to identify clusters and interrelations. In contrast, typologists **reach out to existing empirical experience**, such as anecdotal evidence, quantitative or qualitative studies, in order to formulate working hypothesis. In a similar way, good taxonomies are not only a product of empirical observations but also of theoretical thinking, as it takes careful theoretical considerations to select and define the variables and dimensions for the initial data collection. Again, conceptual theoretical thinking is actually used, only in a different way as with typologies. To conclude, as already mentioned by others, **typologies and taxonomies should be viewed as equally valuable, complementary approaches to representing organizational configurations.**

4.4.2. History & development

What are the roots of configuration theory? While seen by many as an extension to contingency theory (e.g. Kieser 2001, pp. 191-198), other researchers (e.g. Miller 1996, p. 506) claim that configuration theory goes back to Weber and early scholars of contingency theory such as Burns/Stalker (1961). Both had actually followed a configuration approach, which had later been abandoned by other researchers for the more stylized and reductive models of contingency research.

In any case, **in the late 1970s and early 1980s, configuration research saw a boom with some groundbreaking publications in organizational theory and strategy research being published.** As early as 1976, Gordon and Miller (1976), one of the pioneers of holistic MCS thinking, mentioned, "contextual variables would cluster to-

gether as "commonly occurring configurations" or "archetypes". Otley (1980) taught researchers of **management accounting** that understanding the whole must precede that of the parts thereby laying the foundations for configurational thinking in MCS research. In the field of **business strategy**, Miles and Snow (1978) published on "typologies", while Porter's "generic strategies" (1980) became the bedrock of a new research stream on competitive strategy. And of course, there have been publications on **organizational theory**, traditionally focused on organizational structure. Mintzberg (1979) and Miller (1981) are probably the two most influential publications on configurational theory as such.

The above-mentioned configurational concepts came under a lot of different names, like typologies, gestalts, generic strategies, modes, archetypes, strategic groups, strategic scope groups, competitive groups and taxonomies. **Whatever their name, all terms are in fact configurations that share a holistic view on management, a common methodology and research paradigm**, greatly contributing to a merging of such diverse fields of research as strategy, management theory, organization theory and management accounting. Even though inspiring, this also led to fragmentation and confusion, since 1) researchers did not agree on a common terminology and 2) did not sufficiently communicate across their respective fields. Short/Payne/Ketchen (2008, p. 1055), suggests that both phenomena were related, saying, "one reason why configurational thinking has not been fully incorporated into some research streams is because scholars have been inconsistent in their use of terminology."

Since configurational research was conducted under the guise of many different concepts and labels, an effort to create a common terminology was needed. Short et al.'s (2008, pp. 1055-1058) **typology of terms defines 5 different types of configurations**. Configuration itself is the cover term. The remaining 4 terms differ along two dimensions. The **first dimension** is *applicability of organizational configurations*, a binary variable that can take on two values: Context specific (i.e. for a certain industry only) or

generic. The **second dimension** describes the scope of organizational features covered by the configuration using again two alternative values: Strategy-only or organizational features. Porter's strategies focus on strategy but are applicable across industries. They are, therefore, known as generic strategies. Mintzberg's "Structure of 5" framework is applicable across industries and covers a group of organizational features (like strategy, environment, control, ...). Accordingly, it is known as an *organizational form*. So is the typology of Miles/Snow (1978).

Table 8. A taxonomy of configurations (based on Short/Payne/Ketchen 2008, p. 1057)

Applicability of configurations (vertical)	Strategy only	All features
Scope of org. features (horizontal)		
Context - specific (e.g. industry specific)	Strategic groups	Archetypes
General applicability	Generic strategies	Organizational form

What is the content of configuration theory? Configuration theory is highly critical of contingency theory. In fact Miller (1981, p. 1) even claimed that "the field of organizational theory seems to be reaching a crisis point: a state in which a central research approach is proving to be manifestly inadequate. The situation is somewhat like that which faced Copernicus as a result of the legacy of the Ptolemaic system of astronomy." By this he meant that a new approach should replace contingency theory in order to resolve the "myriad" of conflicting findings around atomistic theories concerning the linear associations among small sets of variables. This would also lead to better fulfilling the three goals of organizational research: Description, explanation and prediction. Miller (1981) raises 4 specific criticisms against contingency theory:

1. Bivariate or sharply circumscribed multivariate relationships are assumed to be leading to fragmented and spurious findings

As Miller and other critics point out, contingency theory oftentimes leads to spurious, fragmented and irreconcilable findings. The reason for this is "under-specification" (Dent 1990). In an extreme case, researchers regress two variables knowing there are other variables, which bear integral and obvious relationships with them. There is a recognized trend toward multivariate regression and partial correlation. However, it is said to be not as widespread as it should be. Miller asserts that to understand a complex network of interdependence among variables, a broad research scope is necessary. Reductionism is the opposite.

2. The context is not taken into account - Included subsamples may be completely different to one another

At first sight, this criticism seems to be identical to criticism #1. However, taking the context into account is more than just adding another variable to a multivariate regression. This latter approach only works if there is sample-wide multivariate linearity. The problem of having two subsamples that show different relationships to an output variable can only be resolved through splitting the samples. However, this is oftentimes problematic, since it can lead to samples too small to gain reliable empirical results.

3. Only one path to success assumed relevant, is explored. This assumption does not necessarily reflect reality

Even though existing forms of fit allow for equifinality, few contingency theorists actually use them. Most are simplistic in the sense that they assume at least implicitly that there is only one way to succeed given a certain technology or environment. More specifically, they **ignore the substitutability of various adaptive strategies**. Later we will discuss equifinality further, a concept that is often misunderstood as a sort of "everything goes".

4. Adaptation is studied using a static perspective

We will examine dynamic theories of MCS in the chapter 0. For this reason, it suffices to say that contingency theory was traditionally conducted in a cross-sectional way. Processes of development were not examined. Neither were the implications of past and future contingencies on organizational reality. In the meantime, however, contingency theory did develop a hypothesis on change processes (e.g. Donaldson 1987, Klaas 2004).

4.4.3. Assumptions

Configuration theory claims to rectify all of these shortcomings. Miller illustrates this using a particularly intuitive analogy from the art of warfare:

If one wishes to study the structure and efficacy of martial strategies of the eighteenth century, it is inadvisable to look only at the relationship between the magnitude of cavalry and artillery forces across a large sample of situations. Battles are too complex and too different to understand by employing so narrow a perspective. The relationship between cavalry and artillery will probably vary in its degree, direction, and its ultimate significance according to the battle context: the time of year and climate, the landscape, the training of the generals and officers, troop morale, logistics, the nature of armaments, and so on. It is only by looking at the complex interaction of many variables, preferably as they interact over time and are manifested by a stream of decisions and events, and by seeking to distinguish one type of battle situation from another, that we gain insights into the determinants and consequences of the strategies. Only then can useful predictive models emerge. We shall attempt to show that this analogy also holds for the study of organizations and organizational adaptation (Miller 1981, pp. 2-3)

Three assumptions are essential to configuration theory (Miller 1981):

1. **Organizational and environmental variables are tightly interrelated.** Variables are not determined in a unidirectional way as assumed by contingency theory. Instead, the determination of variables involves **chaining, reciprocity and cyclicalities**. Miller illustrates chaining and cyclicalities using the example of a bureaucratic organization. In the **bureaucracy**, he says, controls can give rise to more formalization and standardization of **structure**. This would reduce the set of viable strategies (like the defender **strategy** of Miles/Snow 1978), which might in turn restrict the firm to stable **environments**. The key success factor for stable environments is not innovation but efficiency, which can be increased by even more **bureaucratization**. In chaining, one connection leads to another, which shows that configurations can be engendered in a variety of ways. Taken together, chains create an internal logic behind configurations that can be discovered through logical reasoning and cluster analysis.
2. **One needs to take a holistic view.** Doing so will reveal the interrelationships between the above-mentioned variables. It will also avoid to "commit" mistakes associated with the first and second criticism leveled against contingency theory (see above).
3. **There are only a few robust configurations.** Organizations that do not exhibit an alignment of variables (i.e. they do not form a coherent gestalt) do not exist or will disappear sooner or later).

The first two assumptions are based on perceived empirical findings. They are also informed by the wish to take a new approach so as to avoid the problems associated with contingency theory. Assumption #3 is based on a number of more complex theoretical considerations.

In order to justify assumption #3 one needs to substantiate the claim that there were only a limited and small number of high-performing cohesive configurations. **How**

does Miller come up with such a statement? Two assumptions of Miller are responsible for his belief:

- 1) The assumption that cohesive organizations are characterized by chaining and **interdependency** as already mentioned. In other words, **internal consistency**.
- 2) The **assumption that many organizational variables are discrete or intermittent**.

As an example, for purposes of organizational design, the size of an organization could be regarded as being either big, medium or small; the tightness of financial controls as being either strict or loose; and so on. Organizational variables do not reside on a continuum of values but are rather mapped on a restrictive ordinal scale.

Given Miller's second assumption, there is only small number of permutations of "values" of organizational variables. And given the condition of internal consistency, there are obviously even fewer internally consistent configurations. Hybrid types may exist but they are assumed to be either inconsistent or temporary.

Having understood why there are only a limited number of successful configurations one needs to understand the ways by which - according to Miller - dysfunctional or inconsistent configurations are prevented to persist. Miller identifies two mechanisms: Natural selection and adaptive structural functionalism. **Natural selection** reflects Darwinism assuming that competitive forces would eliminate "unfit" organizations. Natural selection is in line with the assumptions of selection fit and in contradiction to the concept of strategic choice. **Adaptive structural functionalism** represents the possibility that organizations gradually adapt to a changing environment. More specifically, organizations will gradually adopt structural attributes, which are more functional and rewarding, while abandoning those that are problematic.

What is interesting: natural selection and adaptive structural functionalism are two deterministic mechanisms of organizational change that are incompatible with stra-

tegic choice or equifinality. However, as described above, Miller posits that the configuration theory was superior to contingency theory exactly because it allowed for equifinality, while contingency theory was flawed because it did not. We will come back to discuss this apparent contradiction when we talk about the 'challenges of MCS theory'.

4.4.4. Mintzberg's "Structure in Fives"

4.4.4.1. Mintzberg's typology as a benchmark for configurational MCS research

Having established a basic understanding of configuration theory we now turn to actual classifications of organizational configurations and the predictions they make with respect to the potential design of Management Control Systems. To this end I will **discuss two different models**.

Mintzberg (1979) represents a typology of organizational design. Based on contingency research as well as individual case studies, Mintzberg integrated existing knowledge in a conceptual way creating his framework of "Structure in Fives". **This framework, which is probably the most famous and most complete configurational framework in existence has been extended multiple times** by Miller and others, adding additional important aspects of organizational theory (like business strategy or leadership style).

The much more recent analysis of **Bedford/Malmi (2010)** develops a taxonomy of control configurations by analyzing an empirical dataset that captures information on variables representing the most recent concepts of holistic MCS research. In order to define and analyze the variables used, this study draws on the "levers of control" framework (Simons 1995), the "Management Control Systems as a Package" framework (Malmi/Brown 2008), the "object-of-control" framework (Merchant/Van der Stede 2008) and the classification of environmental contingencies developed by

Chenhall (2007). Albeit exploratory, the results of this analysis are representing the most up-to-date and sophisticated perspective on configurations of organizational control in existence.

Comparing the classifications of Mintzberg (1979) and Bedford/Malmi (2010) will be interesting for a number of reasons. Even though both models share the same aim, i.e. identifying what are the most important configurations of organization and control, they also differ in important ways.

First, **Bedford/Malmi (2010) is more recent**, which means it may better capture new developments in organizational control. Second, there is a **small difference in focus**. Bedford/Malmi (2010) concentrates on management control, whereas Mintzberg has a stronger focus on subcultures and group interests. Third, **Mintzberg is a conceptual framework** that provides a clear-cut typology of ideal types, each unambiguously described using a qualitative narrative. The taxonomy of **Bedford/Malmi was, however, developed using real data** and cluster analysis. The ideal types of Mintzberg can be used to better understand and identify relevant clusters of Bedford/Malmi. Obviously, however, it is important to avoid confirmation bias, the psychological tendency for researchers to recognize already familiar patterns in existing raw data. Finally, **Mintzberg's framework builds on the research tradition of organizational theory**, a research field that has traditionally seen control as being an element of organizational structure. Bedford/Malmi's framework, however, is based on modern MCS research that has taken inspiration from all related academic fields, namely management studies, management accounting, organizational theory and human resources.

In conclusion, **Bedford/Malmi can be expected to provide a more modern and complete perspective**. Given the differences in research tradition and focus, Mintzberg's frameworks should be helpful by providing a point of reference against which to

judge the plausibility of Bedford/Malmi's taxonomy. Mintzberg's "Structure in Fives" is maybe *the* most well-known organizational typology. It represents one of the most comprehensive classifications of organizational forms that exist, since it not only captures organizational structure, but also the external environment and a lot of other organizational features. Finally, Bedford/Malmi (2010) make reference to Mintzberg (1979) while discussing their taxonomy.

4.4.4.2. *The building blocks of Mintzberg (1979)*

In this section I will present the typology of Mintzberg. In brief, the typology conceptualizes an organization as the result of two internal and one external dimensions working together in determining the design parameters and the overall 'character' of a company. Each dimension can take on 5 different values and consequently Mintzberg distinguishes between 5 organizational configurations that ensue.

More specifically, these **5 different configurations are each representing a different combination of a dominant ...**

- (1) **organizational part** (the operating core, strategic apex, middle line, technology structure, and support staff)
- (2) and **mechanism of coordination** (direct supervision, mutual adjustment, standardization of work processes, standardization of outputs, standardization of skills).

Each organizational part prefers one mechanism of coordination. Together, these two elements interact with ...

- (3) **contingency factors**, e.g. age and size, technical system, environment, and power
... in order to determine organizational ...

(4) **design parameters** (job specialization, behavior formalization, training and indoctrination, unit grouping, unit size, action planning and performance control systems, liaison devices (such as integrating managers, teams, task forces, and matrix structure), vertical decentralization (delegation to line managers), and horizontal decentralization (power sharing by non-managers).

The five configurations of Mintzberg are: the simple structure; the machine bureaucracy; the professional bureaucracy; the divisionalized form and the adhocracy.

To better understand Mintzbergs' configurations it is helpful to **explain and discuss each of the above-mentioned categories in turn**. Doing so, I will pay attention as to whether or not Mintzberg's framework actually captures each of the different organizational dimensions (organizational structure, organizational strategy, organizational culture and management control) that have been described earlier. In addition, I will analyze how in doing so Mintzberg relates to the already presented typologies on these organizational dimensions.

Basic organizational parts. Mintzberg (1980, p. 323) distinguishes between 5 basic organizational parts.

- The **operating core** includes all those employees who produce the basic products and services of the organization, or who directly support their production (e.g. designers, engineers).
- The **strategic apex** consists of top management and their personal staff.
- The **middle line** comprises line managers who have formal authority and are responsible for supervising daily operations.
- The **technostructure** comprises staff specialists, who are in one way or another responsible for the maintenance of the structure and adaptation of the organization to its environment. Management accountants and consultants are a good example.

- The **support staff** includes those groups that provide indirect support to the rest of the organization (e.g., legal counsel, public relations, payroll).

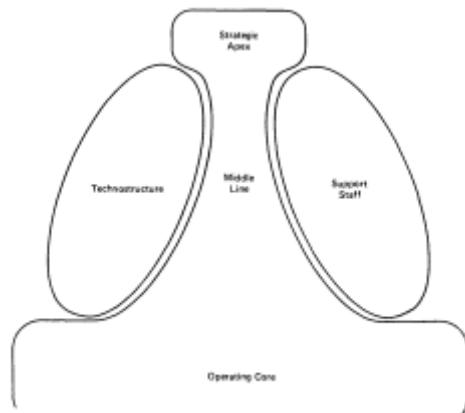


Figure 20. The five Basic Parts of the Organization
(Mintzberg 1980, p. 324)

Each of these groups has its own values, interests and certain types of structures and processes it prefers. There is **some similarity between Mintzberg's organizational parts and the subcultures identified by Schein (2010)**. However, where Schein focuses on values, Mintzberg seems more concerned with positions of relative organizational power. As such, he introduces middle management as a separate group, situated between what Schein would call the operational and executive subculture. What's more, it is not engineers and designers that are seen as being the main auxiliary group, but rather employees, which are part of a so-called technostructure. Being mostly concerned with financials and the bottom line, Schein would probably see this group as being part of his executive group.

Coordinating mechanisms. Mintzberg (1980, p. 324) identifies the following: **direct supervision, mutual adjustment, standardization of work processes, standardization of outputs, standardization of skills**. Since already explained earlier on organizational structure, these mechanisms do not need to be explained here. It is fascinat-

ing to see how surprisingly well Mintzberg's coordination mechanisms match with the **categories of MCS instruments defined in Merchant/Van der Stede's "object of control" framework**. Standardization of outputs is similar to cybernetic controls or output control. Standardization of work processes fits the description of action controls. Standardization of skills can be seen as being related to personal controls, whereas mutual adjustment equates to cultural control. Only "direct supervision", which one could also call 'hierarchies' is not an explicit part of Merchant/Van der Stede's 'Object of Control' - framework (while actually it is, in the 'Management control as a package' - framework). However, one can see hierarchies as another form of control that allows superiors to specify required work processes, skills, and outputs in a flexible way; and thereby, as being implicitly part of the object of control framework. Linking Mintzberg's coordination mechanisms to the 'Management Control Systems as a Package' framework of Malmi/Brown should also be possible. However, for the sake of being brief, we will refrain from doing so.

Contingency factors. Mintzberg assumes that contingency factors interact with internal elements in order to determine organizational design parameters. Mintzberg includes the following contingency factors in his analysis: age and size, technical system, environment, power factors.

Comparing these factors (Mintzberg 1980, pp. 327-328) with the list of contingency factors compiled by Chenhall (2007) one notices the following differences:

- Mintzberg **does not include organizational structure** as an external contingency to his model. This is unsurprising since organizational structure is part of the configuration, part of the inner core of the organization itself.
- Mintzberg **does not include culture or strategy**. Since both can be seen as being at least partly determined by the organization itself this absence does not necessarily constitute an omission. Looking at the other elements of Mintzberg's model (like the basic parts of the organization) and especially the

descriptions of the configurations, one does get the impression that strategy is regarded as being a byproduct of an organizational configuration. In the context of Mintzberg's model, organizational culture is not explicitly mentioned. However, the descriptions of the different configurations show that overall **organizational culture is very much driven by the interaction of its different subcultures**. Depending on external contingencies and power factors, one subculture like the subculture of the strategic apex or the operational core, prevails within the organization and thereby defines the overall organizational culture. As with respect to culture as a control instrument, **mutual adjustment and standardization of skills** (like recruiting only high potentials from law schools) are mentioned and clearly relevant, since they can lead to a clan-like control configuration (Ouchi 1979).

- **Power** is a contingency not extensively treated in Chenhall (2007). By including power factors, Mintzberg recognizes the possibility that decisions are not taken in light of a global optimum, but rather in the light of conflicting interests. This may lead to political conflicts and suboptimal results. One example is mentioned by Mintzberg: a CEO whose strong need for power increases centralization.

Design parameters (Mintzberg 1980, pp. 325-327). Finally, Mintzberg provides a list of 9 design parameters, which are essentially tools to carry out the different coordination mechanism. Although not explicitly stated, most design parameters relate to no more than one specific coordination mechanism. Therefore, they could be interpreted as different MCS instruments.

1. Direct supervision / Hierarchies:

Unit size, also called "span of control". One of the most basic parameters of hierarchies and direct supervision.

Job specialization, is the chief parameter for the division of labor related to direct supervision

Unit grouping. This term refers to the question of which dimension of differentiation (product, market, function, ...) a given organization should focus on. Earlier we presented the framework of Simons (2005) which explains that this decision is a function of strategy and product markets.

Vertical and horizontal decentralization refer to the level of delegation of formal decision making, respectively to the relative degree that power flows informally outside of the vertical lines of authority.

2. Standardization of work processes:

Behavioral formalization, is the design parameter by which work processes are standardized. One could call them the MCS instruments of action control

3. Standardization of skills and knowledge & mutual adjustment

Training and indoctrination are the chief means to standardize skills and knowledge, culture and values. From a cultural viewpoint, they also facilitate mutual adjustment.

4. Standardization of outputs

Planning and control systems, which Mintzberg separates into ex-ante action planning and ex-post performance control. These traditional systems of management accounting are referred to as output control or cybernetic controls. In terms of use they are mostly used to establish diagnostic control (Simons 1995).

5. Mutual adjustment

Liaison devices are the means by which an organization encourages mutual adjustment across units like task forces and committees. They are instrumental in establishing horizontal decentralization (Simons 2005).

Before looking at how Mintzberg combines all these elements to come up with organizational configurations, I want to **summarize and reflect on the elements described**. Many elements and terms used in Mintzberg's model, like hierarchies, parts of the organization, centralization/decentralization, coordination mechanisms, and so on, are related to the domain of organizational structure. This is not surprising since organization structure can be regarded as the traditional domain of organizational theory. What's more surprising, is that the MCS instruments identified by Malmi/Brown (2008) and Merchant/Van der Stede (2007) are covered surprisingly well in Mintzberg's list of coordinating mechanisms and design parameters. In contrast, there is not much talk about different uses of MCS instruments (like Simons 1995). Moreover, further specification on how MCS instruments differ in terms of sophistication and tightness is only left to the qualitative explanations that Mintzberg provides for the different configurations. Finally, concerning relevant contingencies, external national culture is omitted and organizational strategy not explicitly reflected on.

4.4.4.3. Combining the building blocks of Mintzberg's theory

Mintzberg combines all the elements described in a straightforward way. First, he looks at the five basic parts of an organization and their respective motivations. This gives him an indication of which coordinating mechanism and which configuration might be preferred by each of the basic parts (or power groups one might say). He concludes that the strategic apex would prefer centralization, the techno-structure standardization of work, the operating core standardization of skills, mid-

dle management standardization of outputs, and support staff mutual adjustment as a coordinating mechanism.

Second, drawing on empirical results from contingency theory, he gathers information under which contingencies:

- a) a given power group is especially influential and
- b) a given coordination mechanism particularly effective

Third, contingencies and basic coordination mechanisms are brought together to fill out the gaps, i.e. to reason how specific design parameters might fit into the bigger picture. **Finally**, the information is assembled and a "story" is told which can then be checked for internal consistency. As a result, Mintzberg comes up with five different configurations (Mintzberg 1980, pp. 331-338).

The **simple structure**: Companies having a simple structure are oftentimes, young, small, and entrepreneurial. Sophisticated MCS instruments do not exist. Neither is there a large middle management, technostructure or support staff. Because the company is small, power is centralized at a strategic apex. Decisions can be taken in short periods of time.

The **professional bureaucracy**: is characterized by the composition of its workforce. In a professional bureaucracy, work is carried out by a highly educated, specialized and autonomous workforce; be it medical doctors, accountants, or aviation pilots. Standardization of skills becomes the most important coordination mechanism. A professional bureaucracy is feasible in environments that are both complex and stable.

The **divisionalized form**: As already discussed in the section on organizational structure, once a company becomes too large, additional layers of hierarchies need to be

introduced. As activities become more and more diverse it might also make sense to change from a functional to a divisionalized structure. If this happens, middle managers become a powerful constituency. Standardization of outputs, i.e. output control, is the most appropriate coordination mechanism for the strategic apex to deal with this challenge. Corporate divisions (in case of a corporation) or portfolio companies (in case of a financial holding) tend to operate in environments which allow for the application of output controls, such as value-based management metrics.

The **adhocracy**: is similar to a professional bureaucracy. However, since an adhocracy operates in a more dynamic environment, which does not allow for prepackaged customer solutions, work is not carried out by stand-alone professionals as in the professional bureaucracy, but by flexible teams, or task forces, which are drawn together in an ad hoc way in order to target a specific problem faced by the customer or the company itself. As a result, standardization of skills is replaced with mutual adjustment as the key coordination mechanism. Once an adhocracy becomes older, it may start to codify existing knowledge, thereby developing into a professional bureaucracy.

The **machine bureaucracy**: is probably the most famous control configuration in existence. There is a long list of authors that have described companies of a bureaucratic type; for example Woodward (1965), Lawrence/Lorsch (1967) and above all Weber with his concept of bureaucracy. Mintzberg classifies companies as machine bureaucracies if they show the following characteristics:

- highly specialized, routine operating tasks and formalized procedures
- proliferation of rules and regulations and formalized communication throughout the organization
- centralized power at the top; wide span of control at the operating level (i.e. a high subordinates per supervisor ratio)

- large degree of influence by the technocracy, which designs rules & procedures.

To sum up, machine bureaucracies compete by standardizing actions. This may result in a decrease of flexibility. However, efficiency will be improved greatly. Machine bureaucracies are rather large and found in environments that are both simple and stable as only under these circumstances will a standardization of processes be profitable as well as feasible.

As above-mentioned, the standard framework of Mintzberg lacks any explicit incorporations of strategy and organizational culture.

Miller (1981, pp. 11-12) uses the machine bureaucracy as an example to show how the different parts of a configuration and the environment a company is working in are mutually supportive. The specialization and formalization of work procedures in a machine bureaucracy leads to high costs, and a high level of resistance against innovation and change. As a consequence, industries made up of machine bureaucracies will develop an interesting dynamic. Since nobody is going to gain from radical changes and technological arms races, a lack of innovation and a mentality of "not rocking the boat" take hold. Consequently, environmental stability becomes stronger, companies more specialized and transformative innovation less attractive to market incumbants.

4.4.4.4. Extensions to Mintzberg (1979)

As already stated, the original model of Mintzberg (1979) does not encompass strategy or organizational culture in a formal way. There is no classification of strategies or organizational cultures. Nor is there a mapping that explains which strategy and organizational culture might go along with each of the 5 organizational configurations. Even though Mintzberg is largely silent on the subject, **one gets the impression that Mintzberg considers the soft factors of strategy and culture as being ra-**

ther unimportant. In other words, it seems like Mintzberg assumes that deterministic structural forces rather than strategic choice eventually determine organizational configurations. Miller (1986) and Kets de Vries/Miller (1986) worked on extensions to Mintzberg's model in order to fill this gap.

I. Competitive Strategy

Competitive strategy was a subject that developed in a more meaningful way around the time Mintzberg published his "Structure in Fives" framework. As a result, Mintzberg's framework could not have possibly included the strategic frameworks of Porter (1980) and Miles and Snow (1978), thereby leaving the link between structure and strategy unclear. Miller (1986) identified this missing link as a "central gap in the literature" asking the following questions:

1. Given a particular strategy are there only a limited number of suitable configurations and vice versa?
2. Is it possible to relate the concepts of strategy theorists like Porter (1980), Hambrick (1983) and Miles and Snow (1978) to those of major structural theorists i.e. Mintzberg (1979) and his forerunners?

In order to establish such a link one needs to agree on 1) a common typology on organizational structure and 2) a common typology on organizational strategy. For Miller (1986) finding a common typology on organizational structure was easy. He simply took **Mintzberg's (1979) five configurations** as these already synthesized previous typological research on organizational structure. With regards to strategy things were more complicated, since there existed different classifications by different authors. What are the differences and similarities of Porter (1980), Hambrick (1983) and Miles and Snow (1978)? What **dimensions of strategy** do they use and how could they be integrated into a common framework?

Miller (1986) identified **four attributes that define strategy**. Each attribute can either have a low or high value:

- Differentiation, which aims at making company's products "stand out", either through having superior products or superior marketing.
- Focus, which means to only serve a specialized part of an industry. The organizational focus is on those geographies, customers or products that offer the most favorable competitive environment.
- Asset parsimony is the opposite of asset intensity and denotes a strategy of being as "asset light" as possible.
- Cost leadership.

Combining these four binary attributes gives rise to 16 different combinations, i.e. 16 potential business strategies. However, not all combinations are complementary. For example according to Porter (1980) successful firms tend to pursue either cost leadership or differentiation strategies, not both. Similar incompatibilities cut down the number of generic and successful (!) strategies even further to a total of five strategies. **Consistent strategies** are Miller (1986, p. 240):

- Niche marketers: high differentiation, low asset intensity, focused on specific regions or products.
- Innovators: high differentiation, low asset intensity, focused on technology (equal to the prospectors type of Miles/Snow 1978).
- Marketers: high differentiation, low asset intensity, focused on technology (equal to the differentiator strategy of Porter 1980).
- Cost leaders: low differentiation, cost leadership, high asset intensity (as defined by Porter 1980).
- Conglomerates: includes different business units that may have their own business strategy (a fifth type not related to a distinct business strategy).

So now we have five consistent strategies and five organizational configurations. It is simple to relate each strategy to each of Mintzberg's configurations. The divisionalized form follows a conglomeration strategy. The simple structure is related to niche differentiation. The organic structure, i.e. a professional bureaucracy or adhocracy try to win through a strategy of differentiation. And finally, a machine bureaucracy strives for cost leadership.

I would now like to illustrate the relationship between strategy and structure, using again, the machine bureaucracy as an example. As we know, machine bureaucracies are hierarchical, bureaucratic and ruled by top managers and experts on production processes. They operate in stable environments using automated production systems. What are the strategic options to such a type of organization? Given the inherent inflexibility and stable external environment characteristic to machine bureaucracies, innovation does not make sense. Machine bureaucracies need to exceed a certain minimum size in order to fully reap the benefits they are aiming for: efficiency gains provided by the separation of labor. A minimum amount of sales is equivalent to a minimum market size and market share. Only in case this minimum market size and share can be exceeded will it become profitable for a machine bureaucracy to play a niche strategy. Two strategies are left: **cost leadership and differentiation by marketing.** A strategy of cost leadership is indeed the natural choice for machine bureaucracies. Cost leadership can be attained using the laws of mass production that are at the core of a machine bureaucracy. Some organizations are successful using this strategy. They cut costs to the bone, and either earn margins superior to the competition or else build up market by selling cheaply. If a machine bureaucracy has resources superior to its competitors it might also implement a strategy of marketing differentiation, for instance by combining efficient production technology with advertisement and an improvement in quality. Cigarettes are an example that come to mind. Industry-wide production processes are probably simi-

lar and quality improvements are certainly possible without sacrificing on production processes and efficiency Miller (1986, pp. 243-245).

II. Personality and Culture

Organizational culture is a second dimension of organizational reality not explicitly treated by Mintzberg (1979). **To what depths is Mintzberg's treatment of organizational culture lacking?**

As noted, organizational culture is a multifaceted phenomenon. In sum, it is **about two interrelated issues** (Hofstede et. al 1990): What are people used to (organizational practices) and what are they willing to do in the future (organizational values). **Three insights are crucial here.** First, organizational culture is a historic phenomenon of gradual development starting with the personality of the founder at its beginning. Second, an organization is typically embedded in a macroculture i.e. national culture that not only influences an organization's employees, but also all the other stakeholders an organization is dealing with. Third, and in line with Mintzberg (1979) and Schein (2010), organizational culture becomes subject to the interactions of organizational subcultures. Organizational subcultures reflect the values and motivations of power groups and occupational cultures (like the engineering subculture). Like all human interaction, interaction between organizational subcultures may either lead to cooperation or conflict.

Mintzberg's model of organizational configuration focuses on the interests and interactions of different organizational power groups or subcultures. However, it fails to describe the values and practices of these power groups. Moreover, his model is largely silent on 1) the early stages in the development of organizational culture (point #1 from above) and 2) the embeddedness of organizational cultures within national culture (point #2 from above). What kind of concept or analysis can fill these two gaps?

In order to reflect how organizational culture is embedded within national culture, one could introduce national culture as another external contingency to organizational configurations. Moreover, one could try to find out in how far different organizational structures and control instruments were compatible with different national cultures. I am not, however, aware of any configuration studies on the subject.

In order to better capture the historic dimensions of organizational culture it becomes necessary to have a **deeper look at the personality of an organization's founder as well as the CEOs succeeding him in managing a company.**

Kets de Vries/Miller (1986), represents one of the few papers on the topic inspired by configurational theory. Their concept is based on the following assumptions:

1. Strategy, structure and even culture can be a result of CEO personality.
2. The more powerful the CEO and the more centralized an organization the greater the impact of the CEO's personality on the organization.
3. The more similar the personalities of top executives the more extreme and one-sided the personality of an organization.
4. Parallels can be drawn between individual pathology - the excessive use of one neurotic style - and organizational pathology, the latter resulting in problems and poor performance.

In short: **The concept is based on the premise that the personality of the CEO can dominate the organization in a negative or positive way.** There is unfortunately no link to the configurational model of Mintzberg. However, the authors describe how negative, i.e. neurotic personalities lead to organizational pathology and dysfunctional control systems. In my opinion, it is not helpful to have such a negative view on existing companies. However, this perspective can be useful as a way to evaluate startup companies. Why? Startup-companies are definitely dominated by CEOs.

Clearly, decision-making is centralized. And clearly, a lot of start-ups fail, partly due to CEO personality and misguided mentalities towards control. A short illustration using one of the five pathologic constellations defined by Kets de Vries/Miller explains the relationship between CEO personality, organizational culture, MCS and performance. Many CEOs are said to be narcissistic, which means they are overly fond of themselves, displaying an exaggerated need for attention and excitement. Narcissistic CEOs possess a significant amount of charisma, which makes it easy for them to gather a significant amount of subservient followers. Companies with these types of leaders will be good in initiating new initiatives, but too risk-seeking and lacking proper management control systems. As a result such organizations may lose significant amounts of money on new ventures or misguided M&A transactions Kets de Vries/Miller (1986, pp. 272-274).

4.4.5. Evidence on configuration theory

4.4.5.1. Evidence on configurational theory in general

Before we have a look at the modern taxonomy of Bedford/Malmi (2010), let us first turn to the empirical evidence on Mintzberg's configurational typology. **So far the focus has only been on theoretical hypothesis and concepts.** Nowhere did we prove thus far, that the ideas Mintzberg and his followers had put together were indeed reflecting actual reality. Nor did we provide evidence for the idea that complementarity was indeed important in order to achieve organizational effectiveness. In the following, I would therefore like to present some empirical evidence that will help to make a judgment on the validity of the ideas presented so far.

Wolf (2000, pp. 91-92) has a pessimistic opinion on the empirical validity of configurational theory. Citing Doty/Glick/Huber (1993) as an example, Wolf argues that **a lot of empirical research had failed to support configuration research.** Apart from methodological problems, people tended to see patterns just because they wanted to.

In sum, configuration theory might be nothing but a false promise to give order to domains where there is none.

But let's take a closer look. The first empirical study that stumbled upon evidence on configurational mechanisms being at work was Khandvalla (1973). Khandvalla analyzed how organizational measures designed to provide "uncertainty reduction", "differentiation", and "integration" would be related to the organizational performance of 79 Canadian manufacturing companies. He came to the following three conclusions:

1. There are no significant correlations between individual organizational measures or structures and performance and the environment. In other words, there are no universal best practices.
2. For high-performing companies we can observe a significant positive correlation with respect to the sophistication of its organizational measures. More specifically, high performing companies exhibit high, average or low values of sophistication across all three categories of organizational measures ("uncertainty reduction", "differentiation" and "integration"). Companies that are sophisticated in one category but relatively unsophisticated in others tend to be low performing.
3. The level of organizational sophistication is related to organizational size and the level of uncertainty within an organization's environment.

To sum up. Only specific combinations, i.e. consistent configurations of organizational measures lead to high performance. There are no universal laws nor any simple relationships to environmental contingencies.

A more recent empirical study by **Burton/Lauridsen/Obel (2002)** lends additional credibility to some of the general assumptions of configurational theory. Burton conducted a quantitative analysis on 224 Danish SMEs (Small and Medium sized Enterprises) using interviews and questionnaires to gather data on the strategies, envi-

ronments, technologies, cultures, leadership styles and MCS instruments of the different organizations. The data was used to test a couple of hypothesis on the effect of design misfits on organizational performance. So instead of taking the conventional approach of trying to find out what optimal configurations should look like, the authors used empirical data to **check if design combinations that look 'terrible' on paper (i.e. given configurational theory) actually do show the poor results they are assumed to**. In order to come up with their hypothesis they used the organizational typology also found in Burton/Obel/DeSanctis (2012), a multi-contingency framework inspired by Mintzberg (1979), Miles and Snow (1978) and many others. **Combinations of organizational elements expected by the authors to lead to poor performance:**

- Conducting a prospector strategy in a low uncertainty environment.
- Using routine technology (i.e. non-adaptable cheap standardized work processes) in turbulent environments.
- A developmental climate (focus on innovation) while pursuing a defender strategy.
- Combining a defender strategy with a matrix organization.
- Running a simple control configuration in a large organization.
- ...

The analysis that involves simple linear regressions yields a surprising result. As expected, compared to firms with no misfits, firms with single or more misfits show a significantly inferior performance. However, and this is the surprising part; in terms of Return on Assets, it makes no difference whether a company exhibits one misfit or more. **Seemingly, a consistent configuration can be ruined by just one misfit whereas any additional misfits do not matter. This result displays compelling evidence of the configurational theory of internal complementarity.** However, it leaves open the question as to whether there are only a few effective ideal types as

claimed by Miller (1981) or also a lot of intermediary "Cartesian" hybrid types as argued by Donaldson (2001).

4.4.5.2. Evidence on Mintzberg (1979)

But what about Mintzberg's theory itself? As Doty/Glick/Huber (1993, p. 1197) point out "*the widespread attention given to Mintzberg's (1979, 1983) typology reflects its strong intuitive appeal, but because the typology and the underlying theory have received little or no systematic empirical examination in large-scale comparative studies, there is little support for the theory*". **In fact the contrast between the attention received in textbooks and journals and the meager empirical support can be seen as remarkable.**

Doty/Glick/Huber (1993) took up the challenge and **designed a test to validate Mintzberg's theory of "Structure in Fives" and failed to do so.** What was their approach? As mentioned before Doty interpreted Mintzberg's typology not as a classification system, but as a theory of "ideal types", the assumption being that the closer an organization was to one of the ideal types, the more consistent it was, the higher the fit, the higher its performance.

So, if Mintzberg was correct, **there should have been a strong negative correlation between a) the performance and b) the distance between an organization's (actual) configuration and its (theoretical) ideal type.** Calculating this distance involves a couple of steps. **First**, one needs to estimate the values that Mintzberg's ideal types may take on with respect to the variables measured in the survey. Since Mintzberg did not provide a quantitative definition for its ideal types, the values had to be estimated by the researchers. **Second**, what concept of fit should be employed? As explained in the section on contingency theory "**systems fit**" is the concept of fit most compatible with configurational theory, which was also used by Doty/Glick/Huber (1993). **Third**, in which way do ideal types and actual organizational configurations need to match? What does Mintzberg assume?

When reading Mintzberg (1979) it is not entirely clear, if an organization should choose to mimic any of the five organizational types or if only one suitable organizational type is compatible with a given organizational environment. More abstract, there is **no clear answer, if there are contingencies, or if there is equifinality**. In order to be on the safe side, the authors decided to model and test all relevant specifications of contingency and equifinality. They did so using a sample of 128 surveys from US companies providing information on:

- organizational effectiveness as defined by Quinn/Rohrbaugh (1983), a model I previously described in the section on organizational effectiveness
- the five key coordinating mechanisms
- environmental turbulence and complexity
- regulation and technical sophistication
- age and size

Much to the authors' surprise, they found no confirmation for Mintzberg's typology whatsoever. First, there was no match between 1) the ideal types consistent with an organization's environment and 2) the ideal types organizational configurations were actually closest to. This means that there was no fit with the external environment, as "extended contingency theory" would suggest. (Extended contingency theory is the name Mintzberg gives to the theory that there must be a fit between the internal elements of an organization and the organization and its environment.) **Second,** there was no proof for the hypothesis that organizations most similar to their appropriate ideal types were significantly more effective than other organizations. Stated differently, **internal fit as defined by Mintzberg does not seem to matter.**

Why these devastating results? There are a couple of reasons that might be the cause. **First,** and most importantly, Doty failed to include **strategy** as one of the parameters to test for. Sure, strategy is not part of Mintzberg's original framework. However, as

previously described, Miller (1986) provided a compelling extension to Mintzberg's original framework that describes in detail which strategies are compatible with which organizational types. **Second**, including the **superstructure** of Mintzberg's diversified type is not really consistent with doing research on a business unit level. This construct should have therefore been eliminated from the analysis. **Third**, **typologies** may not be the right way to analyze configurations in the first place. Perhaps the proponents of taxonomies are right when stating typologies are theoretical and poorly based on facts. **Fourth**, the study of Doty was conducted almost 15 years after Mintzberg's organizational theory was published. Conceivably times have changed and Mintzberg's organizational theory is outdated.

4.4.6. *The control taxonomy of Bedford / Malmi*

Having discussed the famous typology of Mintzberg (1979), I now intend to turn to a more recent contribution in configurational theory. In possibly **the first empirical study integrating findings from traditional organizational theory and MCS research**, Bedford/Malmi (2010) gather cross sectional survey data on 400 Australian medium to large strategic business units asking survey participants to provide information on long-term planning, performance measurement, compensation, structures, policies & procedures, belief systems, strategy, environment and performance. In short, they obtain **information on the complete array of organizational characteristics researchers had identified before**. Their aim is not to provide definitive answers, but to develop a preliminary understanding of commonly occurring combinations of control elements existing in practice. Even though Bedford and Malmi consider the theoretical frameworks of **Mintzberg (1979) and Miles and Snow (1978)** to be helpful as a means of interpreting their own findings, they claim that both frameworks are quite dated compared to the empirical reality of today Bedford/Malmi (2010, p. 27).

So, Bedford/Malmi use different methods of cluster analysis. What they come up with are **five clusters that look surprisingly similar to the clusters identified by Mintzberg (1979) and Speklé (2001)**. In the following, I briefly present these clusters focusing on the existence and use of MCS instruments and the differences compared to Mintzberg (1979).

Simple configuration

This configuration is **comparable to the configuration of Mintzberg, which has the same name**. Control and coordination is informal and personalized, achieved through centralized decision-making and directives, restricted autonomy and direct surveillance. Performance is typically rather low and control functions unsophisticated across the board. **In contrast to Mintzberg, Bedford/Malmi point out that there were not only simple configurations of direct control, but also simple configurations of hierarchical control.** Simple configurations of hierarchical control involve not only one but several levels of organizational hierarchy. They are typically found in larger organizations, since direct control by the CEO itself is only feasible for small companies.

Results configuration

The results configuration **relies on result controls as defined by Merchant/Van der Stede**. Subordinates have relative flexibility in the way local contingencies are handled. However, because performance measurement and compensation tools are applied in a strict way, **subordinates have only limited latitude when making strategic decisions** like those concerning possible trade-offs between short-term and long-term performance. Accounting and budgeting are central. Control is achieved using cybernetic MCS instruments. Cultural controls are rather unimportant. Although not explicitly mentioned by Mintzberg (1979) Bedford/Malmi see similarities to what they call the results-oriented version of the machine bureaucracy (1979).

Action configuration

This configuration is **almost identical to the classical machine bureaucracy described by Mintzberg (1979)**. However, in contrast to the stereotypical way it was portrayed by earlier authors, **Bedford/Malmi find that machine bureaucracies actually have the capacity to perform well, especially in highly variable and uncertain environments.** Meta-procedures on problem solving and integrative liaison devices were used in such a way that centralized hierarchical relations and an extensive use of rules, routines and operating procedures could be in place without leading to rigidities and inertia. **Interestingly results configurations are to be found in stable environments while action configurations were used in turbulent environments.** The reason for this could be that action configurations provide for better cooperation between supervisors and employees, which in turn may facilitate joint problem solving.

Devolved configuration

The fourth cluster Bedford/Malmi identified can be found in turbulent and unpredictable environments. Characterized by a lack of tough action or results controls, control in devolved configurations is exercised mainly through mutual adjustment and consensus-building. Hierarchies are relatively unimportant, while belief systems and social control receive significant emphasis. As Bedford/Malmi point out, the devolved organization is **similar to the organic type of Burns/Stalker (1961) and the adhocracy of Mintzberg (1979).**

Hybrid configurations

This cluster is certainly the most fascinating one. **Hybrid configurations transcend the traditional assumption that "technocratic and socio-ideological controls are mutually exclusive" (Alvesson/Kärreman 2004).** Instead an intricate combination of controls is used in order to simultaneously achieve the competing objectives of flexibility and efficiency. The **dynamic tension between these objectives** becomes evi-

dent when looking at the strategy and production processes of these companies. On the one hand production processes are said to be easy to control, plan and evaluate (high programmability), which is a precondition as well as a result of a focus on efficiency. On the other hand the competitive strategy of organizations using a hybrid organization is very much geared towards innovation and a focus on customers. **Organizations using a hybrid configuration are typically larger, older and better performing than other companies.**

To sum up, results of the Bedford and Malmi empirical study are similar but not identical to the typologies developed by Miles/Snow (1978), Mintzberg (1979) and Speklé (2001). Bedford/Malmi (2010) deepen our understanding of the way MCS instruments are implicated in the overall setup of organizational configurations. Although control had already been a major topic in earlier studies, Bedford/Malmi are the first to make use of the new frameworks developed by MCS researchers like Malmi/Brown (2008), Simons (1995) and Speklé (2001). What's more, the survey is conceptually superior to Mintzberg (1979) for example, as it makes a clear distinction between business unit strategies and corporate strategies. As such, the diversified form is not included in Bedford's taxonomy. This makes sense, since at least in my opinion, Mintzberg is mistaken when he treats diversified forms as being conceptually similar to an adhocracy or a machine bureaucracy.

Moving on to examine the differences between Bedford/Malmi and Mintzberg, I would like to discuss the machine bureaucracy in more detail. Apparently the **machine bureaucracies of today are more sophisticated or at least different to the ones 35 years ago**. The basic characteristics like the focus on norms and procedures have stayed the same. The machine bureaucracies, however, are much more flexible, adaptive and future-oriented. There are a few reasons that may account for this. First, the introduction of new management control techniques like the Balanced Scorecard, JIT production or Value Based Management, possibly helped machine bureaucracies to

adjust to new environmental realities. **Second**, as a general business trend the champions of old-fashioned machine bureaucracies, **technocrats and strategic planners have lost a lot of organizational power** over the years. Strategic planning was very much in vogue during the 70s and was alleged to have introduced a lot of structural inertia into large companies (Mintzberg 1994). Over the following decades, strategic planning was oftentimes dismantled, making companies more flexible and adaptable. An iconic example of this are the changes that happened to General Electric after Jack Welch took helm and dismantled most of its strategic planning infrastructure.

A **second difference** concerns the relative importance attributed to power groups & politics on the one side and the external environment on the other. Mintzberg posits that the external environment and the dominant power group jointly determine the organizational form of a company. Looking at the antecedents of organizational forms, Bedford/Malmi did not examine power groups at all, but rather internal and external contingencies of organizations. **In a way one could therefore argue that Bedford/Malmi have a deterministic view on configurations, while Mintzberg allows for strategic choice and organizational politics.** We are back to the voluntarism vs. determinism debate and the question if there is an equifinality of organizational structures or not.

Finally, **Bedford's new hybrid configuration represents the most significant departure from Mintzberg "Structure in Fives" model.** First it is new. Second, its control systems are on average more sophisticated and better performing. Third, the **hybrid configuration defies one of the key assumptions central to all earlier contingency and configuration research:** the assumption that there were conflicting strategies and objectives and that one had to specialize on one strategy or objective to be successful. **Hybrid organizations try to effectively balance efficiency and innovation,** which is at odds with traditional concepts of competitive strategy that claim a "mid-

dle of the road" strategy, i.e. a balanced strategy, will lead to poor organizational performance.

Also, and this is crucial: **Bedford/Malmi's hybrid type paper breaks with the assumption of earlier contingency and configuration theorists that there had to be one dominant form of organizational control.** Hybrid configurations combine formal and informal types of MCS instruments. In other words the integration of formal and informal control postulated by management control theorists over the last years (mainly by presenting case studies) is reflected in an empirically-grounded conceptual framework. State-of-the-art organizational theory and management control research have finally merged to form a taxonomy of organizational types comprising all major streams of current thinking.

The **inclusion of strategy** as a parameter as well as the **inclusion of hybrid types** as configurations are the two key reasons which explain why the empirical results of Bedford and Malmi are so different to the disappointing results of Doty/Glick/Huber (1993) evaluation of Mintzberg's typology. Confirming a central thesis of current MCS research, hybrid MCS do seem to play an important role in today's organizational design.

4.5. Six challenges of organization theory

So now that we have examined the most popular positivist theories of organizational design; starting with the most simple and most traditional concept and finishing with one of the most advanced and recent empirical analysis on the subject, it begs the question: Do we presently have a clearer view on management control? Are all the questions answered and all the contradictions solved?

Having reviewed the concepts and the evidence of configuration research, my viewpoint is that we are now even more puzzled than before. We can identify **six challenges** and questions (Figure 21), which must be answered and integrated into a more coherent and comprehensive framework.

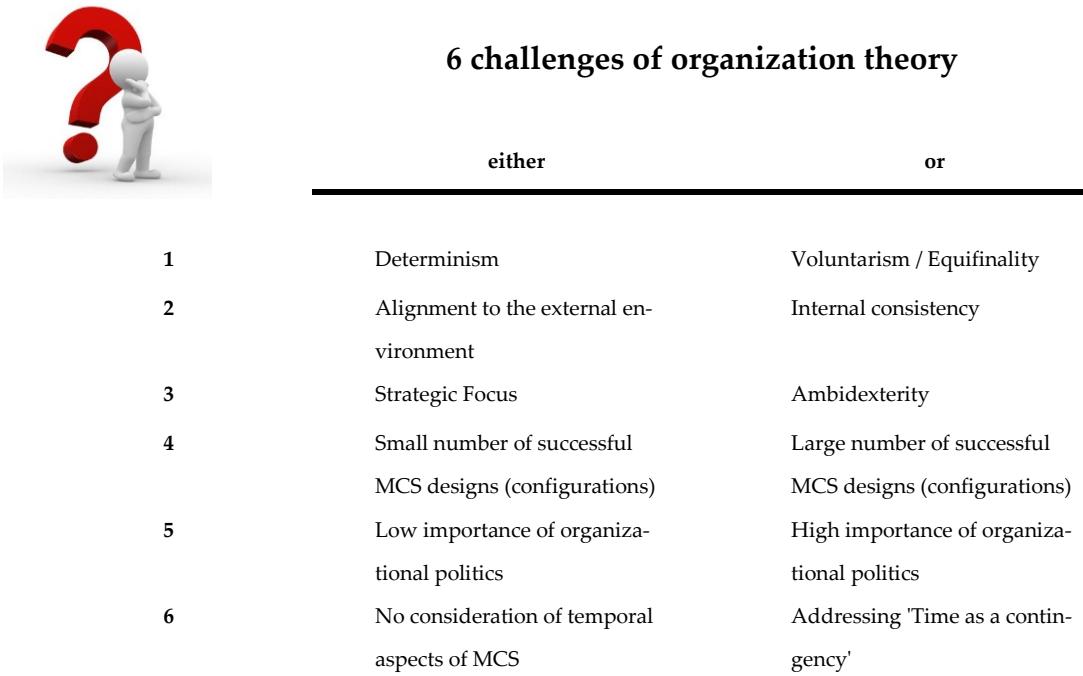


Figure 21. 6 challenges of MCS theory (self)

First. In the discussion on contingency research and strategic choice we were confronted with the question if there was in fact (a) a deterministic one-to-one connection between organizational contingencies and the use and existence of MCS instruments or (b) flexibility by management to choose the control systems they saw fit.

Determinism or voluntarism (equifinality)? The question has presented itself multiple times and we have not, as yet, been able to answer it clearly. Neither has the related **concept of equifinality** been explained in detail.

Second, while contingency theory has traditionally focused on the **external environment**, configuration theory seems to be more concerned with consistency between the **internal elements of an organization** (like between its different MCS instruments, or corporate culture and business strategy). Mintzberg (1979) combines

both perspectives, positing that an organization needed to achieve a consistent "**extended configuration**", i.e. a consistent internal configuration that is in alignment with the external environment. The question remains if both forms of alignment are in fact compatible, and if not which one a company should emphasize.

Third. We are also faced with the additional question of whether an organization should **specialize on fulfilling one organizational need** - which is the traditional view of fit - **or rather, whether it should try to become best-in-class "across the board"**, which is the strategy hybrid organizations are pursuing, and which represents a **concept that goes under the name of "ambidexterity"**. When researchers talk about ambidexterity they are typically talking about **promoting a strong balance between flexibility and efficiency**, or according to the terminology of organizational learning **exploration and exploitation**. **Similar trade-offs exist** between short-term orientation and long-term orientation, profitability and growth, the MCS goals of empowerment and control, and strengthening internal capabilities (resource-based view) v. pursuing external opportunities (market-oriented view). It is important to know under which circumstances ambidexterity should be pursued. And also to improve our knowledge about the means by which to create ambidexterity.

Fourth. According to the study of Burton/Lauridsen/Obel (2002), configuration theory seems to hold in the sense that even a single misfit might destroy the performance of an entire management framework. However, his study gives no indication **in how far there are actually only a small number of efficient types or not**. Donaldson (2001) disputes this assumption of Miller (1981), claiming that there was a "Cartesian" continuum of positions of fit that were in alignment with multivariate organizational contingencies.

Fifth, one of the most important elements of Child's (1992) theory of strategic choice is the concept of a "dominant coalition" which furthers its own interests and values

while taking all relevant organizational decisions. Similarly Mintzberg's (1979) typology implicitly includes the concept of **power struggles** between the different basic parts of an organization. How do power struggles influence organizational design and MCSs? When are they relevant? When are they not supposed to matter?

Sixth. There is a **temporal dimension to MCS**. The MCS of today cannot fully be explained just by looking at the contingencies. To the contrary, just like organizational culture, prevailing organizational structures are always influenced by the contingencies and structures of yesterday. What's more, in so far as a **strategy is forward-looking** and management decides to promote "stretch-targets" current structures may already be a reflection of future needs. Finally, the simple fact that an organization becomes older might have some effects on organizational design and MCS. As a consequence **organizational age** needs to be taken into account as another contingency variable.

Before moving on to the next chapter, **I would like to end on a positive note**. The research of Bedford/Malmi (2010) has shown that even when coming from different directions **research on MCS and research on organizational theory & design are in fact compatible**. Historically both research streams have resorted to similar research concepts, for example configuration theory and contingency theory. Now that MCS has taken a more holistic view, the object of research is almost identical as well. The only small difference that remains is that the purpose of MCS is somehow more circumscribed. MCS are primarily focused on management control, i.e. the implementation of strategy. The promotion of innovation and the simplification of strategic change are only auxiliary purposes that have become relevant tasks only recently (see Simons 1990, Bisbe/Otley 2004). Organizational theory, however, has always been concerned with enabling a firm to be effective across the full range of organizational task (e.g. control, strategy-making, information, ...).

5. Towards a Meta-theory of MCS design

5.1. Introduction

In the last chapter we discerned that different organizational configurations may be equally suitable to drive superior organizational performance. We also established that external contingencies influence organizational design and MCS in predictable ways. **We came across these and other results by examining contingency theory, configuration theory and Child's theory of strategic choice.**

Do these results conflict? If yes, can they be integrated into a better, more comprehensive framework? How and under which circumstances? These are the questions I intend to address in order to solve the challenges identified at the end of the previous chapter. As will be expanded throughout this chapter, it is possible to reconcile contradictions by defining case-specific scenarios built around these topics:

- 1) voluntarism vs. determinism and the **question of equifinality**
- 2) goal-congruence vs. conflicting goals and the **question of ambidexterity**
- 3) uncertainty, alignment of interest and the **question of organizational politics**

A short summary on how this chapter will proceed. I will commence with an **analysis on the relative importance and complementarity of internal and external fit**. This is for two reasons. First, the issue represents one of the questions that came up at the end of the last chapter (challenge #2). Second, and more importantly, it concerns the key topics of equifinality and ambidexterity (challenge #1). As such discussing the question of external vs. internal fit can act as an illustration and introduction to the more comprehensive equifinality framework I will present subsequently. What's more, as we will see in the next chapter, the relative importance of internal and external fit is an important criterion in order to gauge the relevance of inertia in a given environmental context.

The exploration on internal and external fit **begins with a discussion on voluntarism and determinism** (section 5.2). Voluntarism and determinism are two seemingly contradictory concepts. As we have seen, voluntarism is associated with Child's theory of strategic choice (1972), while contingency theory is more closely connected to determinism. Researchers traditionally related voluntarism to the freedom of a manager to modify the processes, structures and strategies concerning his or her own company. Determinism was often related to the external environment: Managers may have some influence on internal processes, but are constrained with respect to the external environment. In the following, I present an **alternative framework of Hrebiniak/Joyce (1985)**, which argues that the impact of management agency was in fact context-dependent.

This proposition is significant for two reasons. **First**, it suggests that there is **no clear answer on the question of whether organizational fit or environmental fit was more important**. Given internal and external contingencies, an organization may either 1) have to adapt to the constraints of its external environment, thereby achieving external fit or 2) may have to focus on developing a coherent internal organization in order to match internal constraints. It may also be forced to do both. In any case, the authors stress that there was no universal rule that either environmental or organizational fit was more important. **Second**, the framework suggests that **some situations are characterized by determinism while others are characterized by voluntarism**. In other words, the theory of strategic choice lends itself to some situations, while structural determinism lends itself to other situations. Again, there is no universal right or wrong; the validity of different organizational theories is context-specific.

After having focused on the question of voluntarism vs. determinism I turn to the **question of goal-congruence vs. conflicting goals. External fit and internal fit can be seen as two goals** management may want to achieve in order to increase organizational performance. **Do they inherently conflict with one another?** This would

either lead to ambiguity, involving sophisticated structures that improve alignment, or to the prioritization of one goal over the other. Or, is the attainment of both goals independent or even complementary? This would greatly simplify the task of designing appropriate organizational structures. As before, there is no universal answer. Even though Miller (1992) provides evidence that a potential conflict exists, most other researchers believe this was not the case. Whatever the answer to the specific question of potential conflicts between external and internal fit; **the existence of conflicting goals has a huge impact on organizational design and MCS** (section 5.3)..

Having illustrated the concepts of equifinality and ambidexterity (section 5.4), and the example of internal and external fit as ways to unify existing organizational theories, I present an **overview on the key properties I believe a comprehensive organizational theory needs to contain**. This leads me to an **analysis of meta-contingent frameworks** currently in existence in particular Gresov/Drazin (1997) and Macintosh/Quattrone (2010). Having proposed an integrative framework to give an answer to the 6 challenges of MCS theory that we identified, I will present **some preliminary case studies that try to understand how the concepts of equifinality and ambidexterity apply to MCS**.

5.2. External versus internal fit

As already mentioned, equifinality is concerned with the relative influence of external deterministic and internal voluntaristic forces on organizational design.

Determinism implies that larger forces outside of managerial control (such as sweeping economic, legal, societal or technological changes) determine a particular phenomenon. Determinism has been influenced by the Bain-Mason paradigm of industrial organization economics as well as by population ecology. Population ecology takes the Darwinian principles of mutation, selection and retention and applies them

to populations of organizations. Perceived environments, i.e. industries, are providing resources and constraints allowing some organizations to survive and some to fail. Just like in industrial economics that assumes perfect competition, no organization is powerful enough to change the basic parameters of its environment (Veliyath/Srinivasan 1995).

Voluntarism (Child 1972) on the other hand assumes that organizations are relatively free to choose their internal arrangements (viz. structures, systems, resource allocations) and strategies, and that organizational performance results from the match between external environmental conditions and internal organizational arrangements. The assumption of "management ownership" goes back to marketing and strategy research and concepts such as the product life cycle, the marketing mix and 4P. Clearly there are strategies that are assumed to be successful and some that are assumed to be deficient.

It is important to point out that the debate on **determinism and voluntarism involves three distinct elements** (Veliyath/Srinivasan 1995, pp. 210-211):

1. the external environment
2. internal organizational parameters (e.g. strategy, structure, MCS)
3. the resulting organizational performance

Typically researchers assume the interrelation to run along the following lines. The external environment of a company is generally taken as a given. Internal organizational parameters however are either seen as 1) easily adaptable by management or 2) fully determined by the properties of the external environment. Depending on this second assumption, the setup and performance of an organization is therefore fully determined (like in structural contingency theory) or contingent on managerial decisions.

As Hrebiniak/Joyce (1985) point out, there are some **serious flaws with this perspective**. **First**, the external environment of an organization might in fact be easy to change (like in new developing industries). Conversely, internal organizational parameters might be difficult to adapt due to reasons like organizational culture, inertia, political resistance to change and so on. **Second**, the above perspective fails to capture potential interactions between organizational and environmental constraints. As an example a company may need to do one thing in order to achieve internal consistency and another in order to adapt to its external environment. In this context a binary view that sees change as either organizationally or environmentally determined would be misleading. **Third**, the perspective sketched out above fails to distinguish between determinism of outcomes and determinism of means. Even if an environment is highly deterministic, precisely controlling the outcomes that are tolerated, management might still have ample flexibility to control and select the means by which it wants to achieve the prescribed outcomes.

The importance of Internal and External constraints

Few researchers understand that **environmental determinism and managerial voluntarism are far from being contradictory**. Hrebiniak/Joyce (1985) are an exception. Addressing the first concern raised above they suggest that a) choice and determinism are "not at opposite ends of a single continuum of effect but in reality represent two independent variables" and b) "the interaction or interdependence of the two must be studied to explain organizational behavior." Hrebiniak/Joyce (1985, p. 337).

Table 9. Scenarios of internal and external constraints (Hrebiniak/Joyce 1985)

Scope of org. features	Applicability of configurations	High organizational constraints	Low organizational constraints
High environmental constraints		Scenario I	Scenario II
Low environmental constraints		Scenario III	Scenario IV

Consequently they distinguish between 4 scenarios:

- high environmental, high organizational constraints (Scenario I)
- high environmental, low organizational constraints (Scenario II)
- low environmental, high organizational constraints (Scenario III)
- low environmental, low organizational constraints (Scenario IV)

Scenario I (high environmental, high organizational constraints) depicts the "**world-view**" of population ecology. Companies either adapt or they are selected out. Because of low exit and entry barriers and commoditized products, companies cannot achieve a sustainable competitive advantage. Conditions are perfectly competitive.

Scenario II (high environmental, low organizational constraints) represents a "**turbulent context for adaptation**". Market forces are strong. However, there is still ample flexibility for companies to pursue different strategies and inhabit different types of niches. Hrebiniaak/Joyce (1985) suggest highly regulated industries as a good example of such an environment. I am not convinced. In my opinion companies that produce commoditized high-tech products, such as the PC industry, are a much better example. Competition is fierce; every producer has to achieve a given level of quality and price. Some standard operating procedures or production technologies are virtually mandatory. However, companies have ample leeway in the way they go about meeting market expectations. Consider the notebook business of Lenovo, Apple and Dell. Products are similar. Market strategies however are different.

Scenario III (low environmental, high organizational constraints) is rather difficult to interpret. The authors suggest it represents a situation in which **organizations are lacking internal capabilities to leverage on the external opportunities provided by the environment**. The root cause of this failure could be a lack of capabilities, inertia, tradition or a single-minded focus on internal consistency.

Finally, **scenario IV** (low environmental, low organizational constraints) represents a **world of "strategic choice"**. Management develops new markets and exploits existing ones in a flexible and unconstrained way. This is a scenario of innovation that lends itself to prospector strategies.

Hrebiniaj/Joyce neither assume environmental nor organizational fit to be more important than the other. Instead, they hypothesize that **depending on the above scenarios an organization might either focus on accommodating internal i.e. organizational constraints, or on adapting to the external environment**. In some sense Hrebiniaj/Joyce present a meta-contingency theory, i.e. one that gives guidance on which theoretical framework to apply to which circumstance.

Compatibility of external and internal fit

For the most part, **configuration theorists have been ignorant on the question if external and internal fit necessarily go together**. In one of the few papers on the topic, Miller (1992, p. 159) concludes, "It is commonly held that organizations must achieve fit both with their external environments and among their elements of structure and process (Burns/Stalker 1961, Lawrence/Lorsch 1967, Thompson 1967). These ends are generally presumed to be compatible."

However, as Miller (1992) explains and demonstrates, **this is not necessarily the case**. **First**, there might be situations in which management makes a **conscious choice** to prefer external adaptation to internal fit or the other way round. **Second**, in some situations, especially **situations of dramatic change**, it might be crucial for organizational survival to focus exclusively on external fit, sacrificing internal complementarity on the way. **Third**, an organization might "**decouple**" **some of its structures and processes**, thereby creating a peripheral buffer zone, very much aligned with external constituencies but only marginally so with the core processes of the organization.

According to its proponents, this mechanism, called "loose-coupling", is useful to enable prompt and economical adaptation to changing environmental circumstances as it allows any effects of change to be isolated and localized. These ideas presented by Miller (1992) are highly abstract, but become more tangible in the context of the **empirical analysis presented in the same paper.**

The starting point of his enquiry is the **hypothesis that under situations of high environmental uncertainty, external and internal fit call for conflicting organizational processes and structures.** Why so? On the one hand, empirical studies of contingency theory suggest that high environmental uncertainty leads to high specialization and high decentralization (structure), and less(!) formal planning (process). Stated differently, a company having to operate in a situation of high environmental uncertainty tends to be more "successful" if it increases specialization and decentralization, and reduces formal planning. On the other hand contingency theorists discovered that specialization, decentralization and formal planning are all positively (!) related to each other. Specialized experts, even though hired to advise on ad hoc decisions in the face of turbulent environments, prefer to take deliberate decisions, and conduct formal planning. Because these are the processes they are good at. This is tricky, so let us reiterate.

Environmental fit: high specialization and decentralization and **less** formal decision processes

Internal fit: high specialization and decentralization and **more** formal decision processes

Companies that achieve good environmental fit (measured by profitability) are thus suspected to show a poor internal fit between structures and processes. Conversely,

well-performing organizations that exhibit internal consistency were hypothesized to be below average in terms of environmental fit.

Testing his hypothesis on a sample of 93 Canadian firms, **Miller's ideas received considerable support**. In fact, "in groups of firms showing the best fit with uncertainty, there was little relationship between structure and process". **Another interesting finding of the study concerns the fact that there were "no consistent differences in the means among high fit and low fit groups."** Why is this significant? Let's expound. As a configuration theorist **one might hypothesize that the preference of an organization towards pursuing external vs. internal fit was a function of an organization's ideal type**. To give an example, one might expect an organization resembling a "well-oiled" machine bureaucracy to place strong emphasis on internal processes. An adhocracy as described by Mintzberg has to keep up with a constantly changing environment. As such, it seems reasonable to expect an adhocracy to be more focused on achieving external fit. Finally, a company that achieves both internal and external fit might be expected to show some specific properties as well. Surprisingly this was not that case. **At least for companies under high external uncertainty, the occurrence of external and internal fit do not seem to be related to specific organizational configurations.**

Earlier we asked ourselves the following question: "*The question remains if both forms of alignment [external fit vs. internal fit] are in fact compatible, and if not which one a company should emphasize.*" (page 175)

So, what have we learned?

1. Compatibility of external fit and internal fit

There is **no final evidence on whether or not there is typically a conflict between internal and external fit**. While a majority of configuration theorists take it for granted that both should be compatible, Miller (1992) demonstrated

that in a static environment of high external uncertainty this was not necessarily the case.

2. The relative importance of external versus internal fit

No universal answer here either. It depends. Hrebiniak/Joyce (1985) developed a typology that defines four different scenarios. They posit that depending on external contingencies and internal resources a company might be more constrained by either one or the other. **In so far as a contingency constrains the flexibility of management it can be regarded as being important for organizational survival.** In other words, there are situations in which a company should be more concerned about achieving organizational (or internal fit) and situation in which a company should be more concerned about adapting to the environment.

5.3. Preliminary findings on organizational challenges

The previous discussion on environmental and organizational fit gave some preliminary answers to the issues raised in the previous chapter.

1. Organizations are faced with one or more (functional) demands or goals (potentially) important to survival and performance.

Examples of organizational goals may be achieving internal and external fit, but also growth, profitability, innovation, efficiency, or any of the other organizational goals discussed in section 3.4.1.3

2. Given a certain situation and depending on external contingencies and organizational resources, each organizational goal (like internal fit or external fit) may be either more or less important to organizational performance and survival.

3. As discussed in the context of determinism vs. voluntarism, organizational goals and external contingencies can put constraints on managerial latitude. These constraints can be either soft or hard. In case constraints are not too stringent, **management may be able to choose between different organizational setups, strategies or control instruments in order to achieve equivalent outcomes** with respect to the attainment of a specific organizational goal.

4. **Organizational goals and/or specific measures taken to meet organizational goals (such as MCS) may be complementary or conflicting.** As seen in the previous section when we looked at the question of whether there is complementarity or conflict between the goals of external and internal fit, **relationships between organizational goals and measures ("conflict" or "harmony") may be subject to external contingencies.** Taken to the extreme, we end up with the configuration approach that claims that 1) each organizational element and contingency are linked to one another in a complex way of circular and indirect causalities and that 2) that there are only a handful of internally consistent ideal types.

In the next section I will introduce a comprehensive framework that captures the contingencies mentioned above. It will also include two additional issues, which are relevant in the context of capturing the reality of organizational design.

5. **Real-life decision makers exhibit significant uncertainty on all the above-mentioned factors.** This is due to **two reasons.** **First**, cognitive limitations and lack of knowledge render it impossible to know and to assess all the relative weightings, interrelationships and possibilities concerning the measures and goals mentioned above. **Second**, organizational design should be as much about the future as about the present. Obviously, forecasting the future is a difficult task. **As a consequence**, decision makers do not know which organi-

zational goals will be most important for the future. Neither do they know exactly to what extent organizational measures will "go-together" in harmony and which will not. Finally, decision makers do not necessarily know about all the potentially successful and equifinal options they already have or may create themselves. Uncertainty is a factor that forces managers not only to consider the present environment but also its past and future. This will be the focus of a subsequent chapter.

6. Organizations are not monolithic. Rather, they are made up of **individuals and groups different to each other both in terms of beliefs and expectations as in terms of interests and preferences**. Quinn/Rohrbough (1983) have shown that a wide range of organizational philosophies and goals may contribute to the "success" of an organization. Even more so if there is widespread uncertainty about what is the optimal way to face an unknown future. Unsurprisingly factions of **conflicting (self-interested) objectives and beliefs** may emerge prioritizing different organizational goals. As a result, **conflict erupts** and as Macintosh/Quattrone (2010) describe, many organizational measures such as MCS may become an instrument of power politics rather than a means to attain some theoretical optimum concerning the abstract notion of organizational performance.

5.4. Equifinality and ambidexterity

5.4.1. *Equifinality*

Before introducing the framework of Gresov/Drazin (1997) we first need to define the notions of equifinality and ambidexterity.

The **notion of equifinality** is closely related to the notion of voluntarism. **Different scholars have used the term in different ways**, meaning there is a certain ambiguity

with respect to the exact meaning of the term. Veliyath (1995, p. 210) who had a deeper look at the way the term "equifinality" was used, identified two different interpretations:

- (1) many alternative different configurations (of external environments, different resource patterns, diverse internal transformation processes, and internal organizational arrangements) may be equally appropriate in pursuing a particular outcome (i.e. profile of effectiveness), or
- (2) that "there is more than one way to succeed in each type of setting"

The first interpretation of equifinality is soft. It merely means that there is no universal solution to achieving a certain outcome like innovation. In that sense there is no conflict between equifinality and contingency theory. **The second interpretation of equifinality is much more challenging.** It means that organizations should be able to adopt various forms of strategy or structure configurations, or both, and still achieve equally high levels of performance, despite common contingencies (Payne 2006). Given this definition equifinality is not compatible with classic contingency theory.

Why this difference? Structural determinism is based on the premises that certain situations require an organization to have certain structural properties. This idea implicitly assumes that there existed one and only one structure that fulfills one and only one organizational function to attain a certain organizational goal. Gresov/Drazin (1997) disagree, introducing the **theory of functional equivalence**. They argue that a) "any particular structure may have many functions, and **any function may be fulfilled by alternative structures and processes.**" b) "**the environment determines the functions an organization must perform, but not its specific structures.**" If this is the case, extremely constraining situations allowing for only one solution can be expected to be the exception rather than the norm.

5.4.2. Ambidexterity

Even though Gresov/Drazin (1997) talk about different forms of equifinality, it is actually equifinality and ambidexterity that form the key concept of their framework. For this reason I would like to give a short introduction on the concept of ambidexterity.

Ambidexterity denotes the **capability of organizations to pursue and to achieve different organizational goals at the same time**. It was the article of March (1991) that has been frequently cited as the catalyst for the current interest in the topic. As a scholar of organizational learning, March differentiates between **two learning modes, exploitation and exploration**. Whereas exploitation is associated with activities such as refinement, efficiency, selection, and implementation, exploration refers to notions such as search, variation, experimentation, and discovery. In other words, while **exploration is about radical innovation** and creating something new, **exploitation is about incremental innovation** and becoming more efficient. **March argues that an organization should not focus on one mode innovation alone**. A one-sided focus on exploitation may enhance short-term performance, but it will also lead to declining long-term competitiveness. A one-sided focus on exploration on the other hand will lead to inefficiency. Too many ideas at the same time, too little focus will lead to inferior cost effectiveness (Levinthal/March 1993).

The different modes of learning that March identifies are reflected in the already mentioned typology of Miles and Snow. Miles and Snow (1980) differentiate between three successful types of organizations, *prospectors*, *analysts* and *defenders*. Defenders focus on exploitation, prospectors on exploration, while analysts engage in ambidexterity. The different modes of learning that March identifies are also reflected in the way Burton/Obel/DeSanctis (2012) define efficiency and effectiveness as the two overarching organizational goals.

Although ambidexterity is mostly seen in the context of organizational learning, its meaning goes well beyond different organizational learning modes. March's argument contributed to **a general shift in organizational thinking from trade-off to paradoxical thinking**. While Porter (1980) posits a company has to focus either on efficiency and cost-leadership **or** on innovation and differentiation, ambidexterity holds that there is not necessarily an either-or. Recent empirical research, such as the one conducted by Wulf/Stubner/Blarr (2010), which found that **performance is rather driven by ambidexterity than one-dimensional fit**, support this hypothesis. As such, the **definition of ambidexterity has been broadened**. Tushman/O'Reilly (1996) for example relate ambidexterity to product markets arguing, "an ambidextrous firm has the capability to **compete in mature markets** (where cost, efficiency, and incremental innovation are critical) and to **develop new markets** and services for emerging markets (where radical innovation, speed, and flexibility are critical)." In keeping with the original meaning of the word "ambidextrous", I **define ambidexterity in a broad sense; as an organization's ability or requirement to pursue two potentially conflicting activities at the same time**.

How is it possible to achieve ambidexterity? Earlier research (Hannan/Freeman 1977, Miller/Friesen 1986) has often claimed that it would be impossible to simultaneously achieve efficient and effective exploration (Raisch/Birkinshaw 2008, p. 377). For that reason management theory has presented organizational choices as discrete contrasting categories forcing organizations to choose one organizational goal or the other. **Current literature focuses on three broad approaches that enable organization to achieve ambidexterity.** Structural solutions, contextual solutions and leadership-based solutions.

Structural solutions are about **assigning different organizational units with different organizational goals**. For example most organizations have an R&D department responsible for radical innovation, and a production department responsible for

achieving incremental innovation. By **creating an organizational separation of tasks an organization can achieve two advantages**. First, separating tasks leads to **specialization, and greater efficiency** (Konlechner 2008). Second, as contingency theory predicts, different tasks require different work environments and ways of working together. For example, exploration is best achieved in an environment of flat hierarchies and loose work processes, while exploitation may benefit from tight input controls. As a matter of fact important control instruments such as incentive systems, corporate culture and performance measurement might also differ. Creating an organizational separation between different task environments thus helps to avoid conflict and confusion. On the flipside and as already discussed, organizational separation such as structural ambidexterity needs to be complemented by integration measures, such as appropriate MCS instruments (Raisch/Birkinshaw 2008).

Contextual solutions to the ambidexterity challenge rely on the judgment and competencies of individual employees, since conflicting tasks of adaptability and alignment or exploration and exploitation are supposed to be carried out within the same unit. In other words, each employee has to work on tasks that require exploitation and on tasks that require exploration. Working together in project teams, individuals are expected to judge for themselves how to best divide their time. Specialization is discouraged, since it would be detrimental to communication. According to Gibson/Birkinshaw (2004), a context "characterized by a combination of stretch, discipline, support, and trust facilitates contextual ambidexterity". MCS are essential to make sure that the delicate balance between conflicting organizational goals is not threatened.

Leadership-based solutions that make the top management team responsible for reconciling and responding to the tensions between the two activities. Leadership plays a critical role in connection with both structural and contextual ambidexterity. However, some researchers conceptualize leadership-based processes as an inde-

pendent way of achieving ambidexterity. What is leadership-based ambidexterity? Floyd and Lane (2000) argue that different hierarchical levels of management are concerned with different organizational goals. Upper management was concerned with exploitation, while middle and lower management experimented with novel solutions to provide new ideas upper management can select from.

Ambidexterity is a relatively new concept. As such, so far, there is limited research on the **contingencies of ambidexterity**. Interesting questions examined include:

- Under which circumstances are strategies of ambidexterity more likely to happen? When are they more successful?
- Which companies (e.g. .old, young, big, small, ...) are most likely to pursue ambidexterity?

As Raisch/Birkinshaw (2008) explains, numerous studies have shown that the **level of dynamism and competitiveness in a business environment is positively related to the number of companies that pursue a strategy of ambidexterity**. In addition, environmental turmoil and tough competition seem to favor contextual ambidexterity rather than structural ambidexterity. Other researchers examined the relationship between an organization's resource endowment and ambidexterity. It turned out that **large, diversified and rich companies perform better when aiming for a strategy of ambidexterity**. Small companies, however, should rather focus on efficiency or effectiveness.

5.5. Integrating organizational theories using a contingency perspective

5.5.1. *The framework of Gresov/Drazin*

Gresov/Drazin (1997) developed a classification of equifinality, which represents the most advanced concept on organizational theory developed so far. As a starting point they asked:

- Under what conditions would we expect equifinality to occur?
- What form might that equifinality take?

Again we have a meta-contingent approach. Gresov/Drazin assume that there are different situations. Some situations lead to equifinality, some do not. Similar to Hrebiniaj/Joyce (1985), two dimensions are distinguished:

- (1) Degree of conflict among the functions of an organization
- (2) Degree of structural flexibility

Degree of conflict among the functions of an organization

Gresov/Drazin take the realistic assumption that "all organizations must perform multiple functions to survive". However, the degree of conflict between these functions may be either low or high, which "creates dramatically varying contexts that influence the organizational designs that emerge" (Gresov/Drazin 1997, p. 408).

A situation of low conflict may emerge in two ways (Gresov/Drazin 1997, p. 408-410). **First**, the functions important to an organization might be consistent with each other. For example an organization that needs to be innovative and client-focused can be expected to easily achieve both aims at the same time. **Second**, one function might be dominant, i.e. be significantly more important than other functions. Let's assume an organization is close to bankruptcy. In this case profitability will be much more important than growth. A **situation of high conflict** may emerge for a multitude of reasons and can be expected to be rather the norm than the exception. A simple example is a publicly listed company and its trade-off between increasing R&D to capture a market opportunity and decreasing R&D in order to meet short-term profitability expectations of equity analysts.

This first dimension identified by Gresov/Drazin relates to the notion of ambidexterity. Ambidexterity only becomes an issue if organizational functions are conflict-

ing. If they do not, organizational design becomes much simpler and management can focus on optimizing on one efficiency criteria. Moreover: Potentially conflicting functions will greatly increase the potential for "political conflict". In the following I will use the terms organizational function and organizational goal synonymously.

Degree of structural flexibility

The second dimension identified by Gresov/Drazin (Gresov/Drazin 1997, p. 410) relates to the degree of structural flexibility or latitude available to organizational designers. More specifically, management may have either a lot of leeway in changing the processes and structures of their organization or few design options to match functional demands. **What are the reasons for limited structural flexibility?** Gresov/Drazin identify two causes, a) **internal factors** like organizational inertia and institutionalization and b) **organizational simplicity** (see also Miller 1993).

I would like to relate to the question of low versus high structural flexibility in a broader way. As was seen before, low structural flexibility is not only due to internal constraints, but rather related to all the internal **and** external constraints we identified when discussing the framework of Hrebinia/Joyce (1985). As such the dimension "Degree of structural flexibility" represents the classical dichotomy between determinism and voluntarism. I would also like to include the ability to fine-tune organizational structures and processes as an element of structural flexibility.

Table 10. A classification of equifinal situations (Gresov/Drazin 1997, p. 409)

	Low Degree of Structural Flexibility	High Degree of Structural Flexibility
Low conflict among organization functions	Ideal Profiles	Tradeoff Equifinality
High conflict among organization functions	Suboptimal Equifinality	Configurational Equifinality

Based on the two dimensions of 'structural flexibility' and 'conflict among organizational functions' Gresov/Drazin (1997) develop four contextual scenarios (see Table 10).

1. Ideal Profiles

Situations of low structural flexibility and low conflict of organizational functions represent situations of **little ambiguity**. The scenario of ideal types is consistent to **traditional contingency theory** and structural determinism. Assuming that managers have certainty about both aims and means, it is **easy to predict what organizations will look like given a certain environmental context**. Moreover, in such a context there should be little scope for political games such as the ones described by Mintzberg (1985). However, it is important to bear in mind that managers and employees have cognitive limitations and self-interest, which means that even in situations that theoretically suggest an "ideal profile", i.e. one optimal organizational configuration, actors may still decide to pursue alternative strategies to the extent that organizational survival is not immediately threatened.

2. Suboptimal Equifinality

This scenario is defined by increased complexity and ambiguity concerning the organizational goals of an organization. Still having only a limited number of design options at its disposal, an organization has to **attempt to satisfy several conflicting demands**, i.e. an organization has to attempt to achieve ambidexterity. However, given low structural flexibility Gresov/Drazin (1997) do not assume such an organization to be able to do so. As a consequence, suboptimal equifinality will lead to **one function being considered most important**, determining the structure of the organization. The demands of the other functions will not be satisfied and **organizational performance will only be**

'**suboptimal**'. In contrast to the scenario of an 'ideal profile', suboptimal equifinality always comes with the **potential for significant organizational conflict**. Different organizational actors have different preferences concerning organizational goals, decisions are necessarily subjective and Management Control Systems may become instruments of claiming legitimacy (Macintosh/Quattrone 2010).

3. Tradeoff equifinality

Tradeoff equifinality is defined by high structural flexibility and a lack of conflicts between organizational goals. In such a situation **functional equivalence** '**true**' equifinality comes into play. For example, in terms of MCS an organization might be equally efficient using formal MCS instruments or informal instruments, and equally efficient, focusing on interactive controls or diagnostic controls. All of these **instruments might act as substitutes**. Different managers have different preferences among equally attractive MCS designs which means that it is difficult to predict which organizational setup management might choose.

4. Configurational equifinality

This situation involves a high degree of structural flexibility and a high degree of conflict between organizational goals. Configurational equifinality is **related to configuration theory** and the works of Mintzberg (1979), Lawrence/Lorsch (1967) and Miles/Snow (1978). Gresov/Drazin (1997) argue that in situations of configurational equifinality a **number of internally consistent organizational options** will be able to satisfy organizational functions reasonably well. However, the authors of the framework also argue that any **solution to the design problem will be necessarily suboptimal** with respect to those functions that are underemphasized. Again, as in the case of suboptimal

equifinality, organizational politics and legitimizing will become important issues.

The framework of Gresov/Drazin constitutes **a significant breakthrough in organizational theory**. Most importantly it is possible to relate the scenarios, which Gresov/Drazin to the organizational theories covered in chapter 4. Doing so enables researchers to work with **one unified theory that encompasses and reconciles the major organizational theories developed during the past**.

Ideal profiles are consistent with *contingency theory*. *Configurational equifinality* is related to *configuration theory* and *trade-off equifinality* to the *theory of strategic choice* and *voluntarism*. Finally, *suboptimal equifinality* is a new concept that has not been covered by MCS research or organizational theory prior to the classification of Gresov/Drazin (see Table 11)

Table 11. Organizational theories to use for MCS design in different scenarios of 'meta-contingencies' (self)

	Low Degree of Structural Flexibility	High Degree of Structural Flexibility
Low conflict among organization functions	Contingency theory (Ideal Profiles)	Theory of strategic choice (Tradeoff Equifinality)
High conflict among organization functions	Contingency theory (Suboptimal Equifinality)	Configuration theory (Configurational Equifinality)

Suboptimal equifinality is a difficult case. Payne (2006, p. 757) points out "While extensive research has examined both the ideal profiles and configurational equifinality situations, research has ignored the other two situations, for the most part." This is unfortunate, given that suboptimal equifinality is supposedly applicable to a larger share of situations than *ideal profiles*. The reason for this neglect is probably the fact that suboptimal equifinality typically shows the same empirical relationships as ideal types. "In other words, a suboptimal equifinality situation may give the outward ap-

pearance that an ideal type exists, but this (pseudo) ideal type is also considered suboptimal because of the inability of organizations to meet all conflicting demands." Payne (2006, p. 758).

In addition to advising on which organizational theory to use in order to analyze optimal MCS design, Gresov/Drazin also help to answer some (conceptual) questions asked at the end of the last chapter (see also Figure 22).

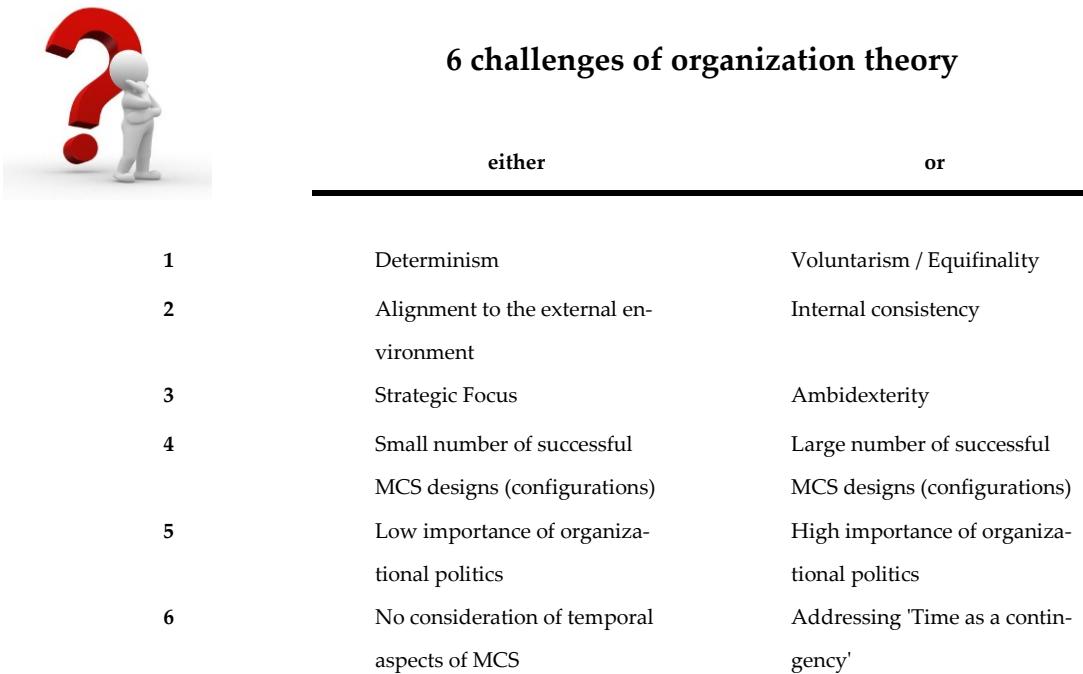


Figure 22. 6 challenges of MCS theory (self)

Challenge #1: Determinism or Voluntarism / Equifinality?

It depends. Voluntarism vs. determinism is a question of context and structural flexibility. Situations of high structural flexibility lead to the existence of multiple equifinal MCS designs.

Challenge #2: Alignment to the external environment or Internal consistency?

Concerning the relative importance and the compatibility of internal and external configurational fit, academics tend to differentiate between **scenarios of internal and**

external constraints (Hrebinak/Joyce 1985). According to Miller (1992) and his theory of punctuated equilibrium, environmental fit seems to be more important in times of rapid environmental change. However, there is no indication that this was generally the case. External fit and internal fit are not necessarily compatible goals as Miller (1992) has shown in his study on a sample of companies that operated in a situation of high external uncertainty. The framework of Gresov/Drazin does not touch upon this topic.

Challenge #3: Strategic focus or Ambidexterity?

The potential superiority of inferiority of ambidexterity as compared to "one-sided strategies" seems to be context dependent. Existing evidence gathered by researchers of organizational ambidexterity show that **larger companies with more sophisticated MCS and larger organizational resources fare better if they pursue a strategy of ambidexterity**. Conversely, small companies should focus on efficiency **or** effectiveness. This finding is in line with the statistics of Bedford/Malmi (2010) that shows hybrid organizations (which are following a strategy of ambidexterity) to be significantly older, larger and more profitable than other configurations. In the case of suboptimal equifinality ambidexterity is theoretically desirable but practically unattainable.

Challenge #4: Small or large number of MCS designs?

The framework of Gresov/Drazin does not make a specific statement on this question. However, we have a **couple of indications that Donaldson (2001) is right when opposing Miller's (1981) affirmative position**. **First**, Miller's argument that natural selection and structural functionalism will lead to a small number of ideal types is by itself not convincing. Even if true, they represent no more than mechanisms by which companies out of configurational fit may get closer to configurational fit. **Second**, Miller's argument of organizational variables being discrete is not convincing either. Growth in sales is typically continuous, incentive schemes may be non-existing,

strong or anything in between, the span of control of an organization may be large, small or medium, and so on. Obviously there is some intuitive appeal to the idea that in the same way competitive strategies should focus either on differentiation or cost-efficiency (Porter 1980), properties of organizational structures and processes should also take on extreme binary values in order to achieve excellence. However, as the phenomenon of ambidexterity shows, this notion is not necessarily true. **Third**, Miller's argument rules out the existence of hybrid types. As the taxonomy of Bedford/Malmi (2010) and a series of case studies has shown, hybrid types do exist.

Challenge #5: Low or high significance of organizational politics

This topic shall be covered in section 5.5.2 on organizational politics.

Challenge #6: Significance of 'time as a contingency'

With respect to challenge #6 that deals with the temporal dimension to MCS and asks in how far the setup of current MCS is dependent on organizational history and future expectation: Gresov/Drazin (1997) do not touch on this topic. However, we will investigate further in chapter 0.

5.5.2. *Organizational politics - An extension to Gresov/Drazin*

Gresov/Drazin (1997) also have something to say on power struggles and the significance of organizational politics (**Challenge #5**) Even though important contingencies like the homogeneity of the workforce are not factored in, it becomes clear that **the existence of conflicting organizational goals increases the likelihood of MCS instruments being used in political ways** (like 'legitimizing' mentioned in Henri (2006)) in order to prioritize one or more organizational goals over the others. Assuming that an organization is large and old enough to sustain different subcultures, there is **ample room for conflict since different subcultures are oftentimes aligned to different organizational goals**. As an example, the three subcultures identified by

Schein (2010), the executive, engineering and operational subculture, have different priorities when it comes to profitability, innovation and employee empowerment.

In this context I aim to present the framework of Macintosh/Quattrone (2010), for two reasons. First, it is similar and at the same time complementary to Gresov/Drazin (1997) since it focuses on organizational aims, goals as well as uncertainty and political conflicts. Second, it sheds some light on the functions MCS instruments can play under different organizational scenarios.

As can be seen from Table 12 **the authors look at means and goals just like Gresov/Drazin (1997)**. Goals can be either clear or unambiguous meaning all goals are known to the management; i.e. there are no organizational players with a hidden agenda and no potential conflict between goals - or they can be ambiguous. Means, for their part, can be either well or not well understood. Obviously this distinction only matters if an organization has some structural flexibility, and/or some managerial flexibility, in the first place.

Table 12. Typology of Macintosh/Quattrone, p.163 (based on Macintosh/Quattrone 2010, p.163)

		Task instrumentality (means)	
		Well understood	Not well understood
Goals (Ends)	Clear and unambiguous	Closed - rational systems (Scenario I)	Open natural systems (Scenario II)
	Ambiguous	Open natural systems (Scenario III)	Open natural systems (Scenario IV)

Again we are confronted with four scenarios. Only one of them the "closed rational system" (Scenario I) is characterized by technocratic certainty. In all the other cases we are confronted with ambiguity, uncertainty and a potential for organizational conflict. **How do the different scenarios affect MCS systems?** The authors argue that the functions and uses of MCS system should be radically different for each of the four scenarios.

Situations of ambiguous goals and a well-understood task instrumentality are particular prone to organizational conflict (Scenario III). Organizational stakeholders may align themselves to different organizational goals. At the same time, each stakeholder knows with absolute certainty which strategy; organizational strategy and work process (means) would be most beneficial to the furthering of one's goals. MCS can take on two functions. MCS may either act as a mechanism to promote dialogue and compromise. Or as a way to legitimize one's opinion (Macintosh/Quattrone 2010, pp.178-181).

A situation of clear goals and unknown task instrumentality represents a situation of benign confusion (Scenario II). All organizational stakeholders are "in the same boat". However, there is uncertainty on how to achieve common organizational goals. In such a context, MCS and accounting instruments may act as facilitators to stimulate organizational learning. An interactive use of MCS instruments as suggested by Simons (1995) might be particularly helpful in order to do so. However, a non-appropriate use of MCS instruments may achieve the opposite by providing premature answers, which camouflage the uncertainty of the situation. It is fair to assume that the psychology and cognition of management has a disproportionate influence in this scenario.

Finally, **situations involving ambiguous ends and uncertain means-end relationships** (Scenario IV) may benefit from MCS, which stimulate and trigger creativity through brainstorming sessions and scenario planning. In reality, however, MCS instruments may be used as a means to rationalize decisions already made rather than as a means to inspire 'idea generation'. As mentioned by Macintosh/Quattrone (2010, p. 181), examples for such situations are task forces established to investigate issues already decided upon by top management, and capital-budgeting proposals put together after management decides a particular project should be pursued.

What is there to learn from Macintosh/Quattrone (2010)? Giving an answer to challenge #5, it educates us about which situations lead to a high significance of organizational politics. More importantly, however, the framework of Macintosh/Quattrone introduces 'ambiguity on task instrumentality' as a third contextual property to be considered. In my opinion, ambiguous task instrumentality has two effects. First, it **temporarily dampens conflicts of interests** since organizational stakeholders or subcultures have less clarity on the means which will further their individual aims the most. Second, ambiguous task-instrumentality **increases the importance of non-traditional functions of MCS**. Because of the existence of uncertainty, MCS cannot be used in the traditional way of implementing management strategy. Instead, MCS has to play a more active role in product innovation and strategy formulation, which is in line with the perspective of Simons (1995) and Bisbe/Otley (2004) on MCS. Introducing ambiguity on task instrumentality as an additional contextual parameter is also important since it can be used to capture cognitive limitations as well. In the end, it does not matter for organization decision-making if uncertainty about which strategy to choose or which MCS instrument to implement is due to real environmental uncertainty about the future or the inability of managers to fully assess and correctly process available evidence.

Adding task uncertainty as a third dimension (z-axis) Figure 21 integrates the findings of Gresov/Drazin (1997) with those of Macintosh/Quattrone (2010). I would like to speculate on the characteristics of the scenarios that emerge. Scenarios A1 and A2 represent 'ideal profiles', whereas B1 and B2 characterize scenarios with tradeoff-equifinality and C1 and C2 scenarios with configurational equifinality. For each of Gresov's types of equifinality we now have 2 scenarios: one with low, and one with high task uncertainty.

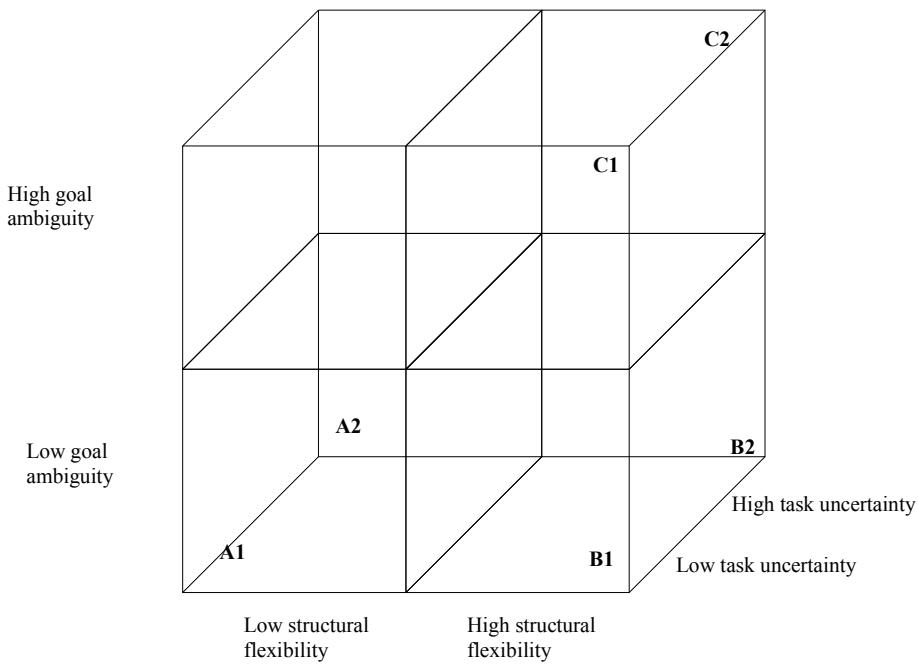


Figure 23. Contingencies of MCS theory (self)

Are there any differences in results? There are. Organizations with low structural flexibility, low (or high) goal ambiguity and high task uncertainty (**A2**) are faced with an uncomfortable situation. They know there is actually only one right way to go (**ideal type**), but they do not know which one it is. Moreover, they may be ignorant about how well they are doing in comparison to what is theoretically achievable. As a result, **achieving clarity about which strategy to follow** becomes paramount and the possibility of using MCS as a means for strategy formulation, tremendously helpful.

A situation that combines **tradeoff-equifinality** with high-task uncertainty (**B2**) is equally challenging to management. Characterizing a situation of 'ultimate freedom', there are just too many ways to go and not enough cues on which decisions to take. However, in contrast to situation A2, there is **no immediate need to reduce task uncertainty** using elaborated MAS instruments. As management knows, there are a lot of different organizational designs, which may lead to a satisfactory performance.

What is more, due to task uncertainty and low goal ambiguity, nobody in the organization has the knowledge or the motivation to seriously challenge management policies. In the end, this situation may lead to haphazard '**garbage-can politics**'.

What about **configurational equifinality** (high structural flexibility, high goal ambiguity), a situation prone to organizational conflict? How does the picture change if we add high task uncertainty into the equation (**C2**)? As noticed before, internal conflict may be temporarily damped. But the underlying conflict will not be resolved. Instead, it is fair to assume that the information function of MCS instruments (mainly MAS instruments) increases in importance. **Information becomes an instrument of power**, as those interest groups possessing the largest amount of information are also in the best position to use their information as a means to legitimize and further their interests.

Our speculation on the potential effects of introducing task uncertainty as another contingency to MCS design yields some interesting results. There is no indication that the level of task uncertainty changes the results seen in Table 11. However, our musings on **situation C2** ((high structural flexibility, high goal ambiguity, high task uncertainty) **run contrary** to recent tendencies in configurational MCS research, which **aim at separating the informational and behavioral functions of MCS instruments** (Zimmermann 2000, 2001; Malmi/Brown 2008). Since a scenario of configurational equifinality might very well show a medium or high level of task uncertainty, it seems imprudent to disregard the role MCS instruments play with respect to providing information for decision support. To the contrary, MCS instruments should be designed in such a way that information is shared equitably so as to build trust, foster cooperation and prevent interest groups from monopolizing and abusing the information function of MAS.

5.6. Management Control Systems and advanced organizational theory

5.6.1. "*Operation of MC practices as a package*" - Sandelin (2008)

Over the last pages we learned a lot about modern organizational theories such as **equifinality** and **ambidexterity**. In the chapter before we saw that some of the most sophisticated real-world organizations exhibit **Hybrid MCS configurations** (Bedford/Malmi 2010). Instead of relying on a dominant category of MCS instrument - like the ideal types postulated by Mintzberg (1979) - these organizations combine MCS instruments from different categories (like administrative controls or cultural controls) in a balanced but mutually reinforcing way. It has also been discussed that **MCS are not only defined by existing MCS instruments**, but also by the usage, the toughness and interrelationship between MCS instruments and the complementarity to organizational culture, organizational structure and organizational strategy. This section will present four recent case studies on modern MCS systems. Each of these case studies will illustrate one or more of the topics mentioned above.

The first case study rests on a **small growth company in the telecom sector**. Using the taxonomy of MCS instruments developed by Merchant/Van der Stede (2007) the **author examines how cultural, personnel, action and result controls interact to form an internally consistent control system**. This analysis was conducted at two **different points of time**, one in the late 1990s before the crash of the Internet bubble, and one in the early 2000s after the company had witnessed a financial crises and major restructuring. Notwithstanding the passing of time, both situations presented similar contingencies to the case company. However, the MCS used by the case company in the early 2000s did show significant differences to those, which had been used in the late 1990s. This represents a **potential case of equifinality** as discussed by Gresov/Drazin (1997). The author describes his approach as follows: "This study goes further and adopts a **holistic approach to management control** and seeks to increase our understanding of the **simultaneous operation of multiple control prac-**

tices at the firm level and addresses the different, potentially equifinal, control configurations that they form" (Sandelin 2008, p. 325). The analysis is based on an iterative process, which involved the realization of 22 semi-structured interviews and the recording of 34 hours on tape.

During the first time frame (1998 to 2000), the case company resembled an informal start-up company. The focus was on growth and technological leadership, while the business strategy was to compete with the lowest price. MOBITEL - which is the codename of the company - was backed by a venture-capital company and issued significant equity shares to each of its employees. As a result **employee commitment was extremely high** and employees were working long hours without having been asked to do so. Action orientation, high commitment and flexibility formed the key criteria that prospects had to exhibit in order to be recruited as new employees. Personal supervision was the most important form of action control. In contrast, financial planning and activity scheduling were untypical for the firm. Management and employees did not take results controls, such as budgeting and cost, too seriously. **In sum, the MCS between 1998 and 2000 was dominated by an "ownership culture"** complemented by consistent personnel (recruiting) and action controls. Financial controls, however, were separated from other control elements in order to maintain the focus on technological advancement.

During the second time frame (2002-2004), and after the company had witnessed a financial crisis, the case company's MCS had changed completely. It was now focused on results controls and financial accountability. Soon after the appointment of a new CEO, financial control systems such as budgets, monthly performance evaluation, budget-variance analysis and liquidity management had been introduced. Tight action controls and hierarchies became more important than ever. On the other hand, the ownership culture that was so dominant before had vanished giving way to new employees with academic education and a favor for process thinking.

It is surprising to see the contrast between the MCS of the first time frame and the MCS in place during the second time frame. The first MCS represents a rather simple configuration whereas the second a results-based machine bureaucracy. Given the similar situation the firm was in over both periods of time Sandelin (2008, p. 339) concludes: "Hence it is argued that informal cultural, personnel and action controls, if they are internally consistent and hence functional, form a substitute for the need to adopt more formal control systems." This is seen as proof to the argument "about the functionality of a **formal control system being dependent on the coherence and strength of the linkages between system elements.**" As to what concerns the issue of equifinality, the author argues that contingencies were similar, functional demands conflicting and structural flexibility high. Therefore, he concludes, **the cases seem to represent configurational equifinality.**

The case study of Sandelin is a good illustration of how MCS instruments interact with each other in order to form consistent MCS packages. It is also informative in so far as it shows that an informal control system might be just as functional as a sophisticated control system based on formal financial controls. **The analysis concerning the topic of equifinality, however, is not entirely convincing to me.** As the author admits, one might argue that there were in fact significant differences between the strategy pursued by the case company before and after 2000. However, the author dismisses this reservation arguing that the **case company was consistently following a competitive strategy of cost leadership. This is true, but only tells half the story.** It is true that the case company was consistently following a competitive strategy of cost leadership. In terms of organizational learning, however, it changed direction. Instead of exploration, Mobitel now focuses on exploitation. And instead of following a prospector strategy, it follows an analyzer strategy (Miles/Snow 1978).

5.6.2. "Interfaces of control" - Alvesson / Kärreman's (2004)

Alvesson/Kärreman's (2004) case study on a the Nordic branch of a highly respected Global management consulting company serves as an **excellent illustration of how MCS instruments can influence each other**. Even though this organization - codenamed **GLOBAL**, operates in a special context that may not be generalized, it can still be seen as a successful organization that may act as a benchmark to other companies. Alvesson/Kärreman (2004) distinguish between technocratic controls, which are basically equivalent to results and action controls, and socio-cultural controls, which are cultural and personal controls. **They question the predominant "either-or-orientation" in the literature.** With respect to typological research they state "... different control forms may be linked to, and supporting and sustaining each other, rather than subdued and marginalized by a dominant form." (p. 424) As a negative example of a framework that does not take due consideration of informal means of control they even point to Mintzberg's (1979) "Structure in Fives" model and its five coordination mechanisms arguing that they "... concern objective, external control forms and hardly anything on the significance of the whole sphere of culture and ideology." (p. 425)

In order to "**study the plurality versus domination of a single mode of organizational control**" the authors conducted interviews, studied organizational documents and observed a variety of organizational gatherings. The focus of the research was on hierarchies, work processes, output measurement and the human resources management system.

The system can be summarized as follows: There is a **strict hierarchy between partners and team members**. Partners are responsible for the acquisition of new projects, client relations and the strategic leadership of the company. Normal consultants work as team members on the ground. Each employee is evaluated against peers in regular intervals. Work ethic is extremely high, deadlines are sacred. There is a so-

phisticated system of time management. While technically impeccable, this system is undermined by the fact that consultants typically work excessive amounts of overtime, which they do not book on the budgeting software. As a result, the validity of cost controls and resource management is severely undermined.

The most intriguing aspect of Global is the way it uses formal control systems as a means to exert cultural control. More specifically, the human resources system is designed in such a way that selection and socialization of employees can be most effective. Alvesson and Kärreman put it this way:

"Technocratic forms of control work efficiently as hammering out vehicles for messages that find a receptive audience in the selves gradually formed by the control, delivery and feedback cultures of Global" (p. 442)

Let's explain: **The firm is understood to be a career company.** Almost everybody working at Global is ambitious and competitive. Self-worth is based on consistently outperforming other people. Values held high, include meritocracy, money, formal status, and a certain corporate elite identity. Promotion can be swift, however people in the company are under constant performance evaluation. Since the evaluation system is sophisticated and trusted, **employees attach their self worth and identity to the relative ranking they receive in their performance appraisals.** What's more, positive performance appraisals are not only the sole way to climb up the steep hierarchical ladder, they are also the only way to stay within the company, as there is a strict up-or-out principle in operation which stipulates that an employee gets sacked if he does not get a promotion within a certain period of time. Even though employees have good outside opportunities, nobody wants to lose face and status by getting asked to look for employment elsewhere.

We see how the formal control system, i.e. the performance evaluation and compensation system creates a competitive and status-oriented identity, which in turn

makes the evaluation and compensation system effective. Different types of MCS instruments complement each other.

5.6.3. "Loose coupling theory of MCS" - Brown/Malmi/Booth (2008)

A second highly insightful case study on a hybrid organization, i.e. an organization not dominated by a single class of MCS, was conducted by Brown/Malmi/Booth (2008). Their **research question was to find out how the elements within a MCS package relate to each other and organizational activities**. Alvesson/Kärreman (2004) showed how using different types of MCS instruments (technocratic and socio-cultural) could be complementary. Doing so they illustrated how a hybrid form could be helpful to attain **one** organization goal. As I will explain, Brown/Malmi/Booth unveiled further evidence to support this possibility. **What's more, they also found evidence on how a differentiated hybrid system could be instrumental to simultaneously pursue competing organizational objectives, i.e. how to reach ambidexterity.**

Brown/Malmi/Booth analyzed the MCS system used within a subunit of a US based **multinational manufacturer of household products** - unfortunately also nicknamed **GLOBAL**. The grouping examined represents the Australian unit of the MNC's consumer products division. In order to **conceptualize the interrelationships between MCS instruments**, Brown/Malmi/Booth reviewed existing literature on the topic. They realized that "none of the studies was aimed to conceptualize what these relations were or explicitly analyze how they impacted each other or performance".

Table 13. Criteria for distinctiveness and responsiveness in a MCS context; Brown/Malmi/Booth 2008, p. 30

Distinctiveness	
Focus	Planning Cybernetic Administrative Socio-ideological Reward and compensation
Use	Ex ante / ex post Nature of activities
Components	Differences between
Responsiveness	
Dependence	Magnitude of change i.e. % of total inputs
Directness	Immediacy of relationship
Strength	% unit of change in A produces % unit of change in B

As a result they started from scratch using the **interdisciplinary concept of loose coupling** (Weick 1976), originally developed in the context of institutional theory. The concept of loose coupling defines the interrelationship between two control systems or activities by using two variables, distinctiveness and responsiveness. **Distinctiveness** can be translated with similarity. **Responsiveness** measures the impact changes of one activity may have on a second activity. Responsiveness can be characterized by measuring the dependence (the amount of exchange between the elements), the directness (direct vs. mediated through other elements), and the strength (intensity and probability of impact) that exist within a relationship. Based on the value of distinctiveness and responsiveness (high or low), we get a **typology of coupling relationships, namely decoupled, tightly coupled, and loosely coupled systems**. In order to gauge the level of distinctiveness and responsiveness in a MCS context, the authors suggest to use the criteria laid out in Table 13.

At the core of Brown/Malmi/Booth's study is an analysis of existing MCS instruments and their interrelationships. Looking at these instruments two observations can be made:

- **All(!) the different MCS instruments the classification of Malmi/Brown (2008) mention are actually employed.** In fact, this abundance of instruments created such a complexity within the case company that even senior management did not know about the full extent of MCS.
- **Only a few MCS instruments really mattered.** Budgeting, long-term planning and the value statement were particularly important for the case company.

Both points testify that the MCS at the case firm is not cost-efficient. But we are actually not looking at one MCS. **What seems to be one MCS is actually a system made up of two independent subsystems each dominated by one key MCS instrument.** The first is budgeting, which is short-term oriented, the second is the long term planning process of the case company (called OGSM). All the other MCS instruments are complementary and subordinated to either one of these two competing MCS instruments. There is one important exception: the value statement that helps people to arbitrate in case of a conflict between short-term and long-term goals.

Two important insights can be drawn from this:

1. as already seen in the case study of Alvesson/Kärreman (2004), interrelationships between formal (budgeting, long-range planning) and cultural controls can be instrumental to foster organizational performance
2. **two competing goals like short-term and long-term profit orientation can be simultaneously pursued within a firm by operating two separate non-aligned MCS subsystems**

This second point needs further elaboration. Brown/Malmi/Booth are drawing on some older theories by Meyer/Rowan (1977) and Covalevski/Dirsmith (1983), which suggest, **incompatible objectives decoupling of MCS subsystems could be helpful to ensure legitimacy and avoid conflict.** There are other solutions. One solution

would be a power struggle between adherents of one objective and adherents of the other objective. Another solution would be to create an overarching framework like a Balanced scorecard in order to reconcile conflicting goals.

5.6.4. "'Continuous' budgeting" - Frow/Marginson/Odgen (2010)

Frow and his co-authors present a different way to achieve ambidexterity. The authors conducted a **case study at a large multinational document technology and services company.** Confronted with ongoing technological change, high levels of uncertainty, and fierce competition, this company had **a need for both, strong internal controls and flexibility and adaptation.**

The MCS system of **ASTORIA**, the code name of the case company studied by Frow/Marginson/Odgen (2010), can be regarded as being highly sophisticated. In contrast to the company presented in Brown/Malmi/Booth (2008), **MCS instruments are very much aligned to each other and mutually reinforcing using an integrated performance management system**, called the "performance excellence process". The "performance excellence process" provides a methodology for 1) top level strategy-formulation and 2) a way to cascade down the corporate ladder towards budgets and individual performance excellence plans, i.e. individual performance reviews. **Just like a balanced scorecard the "performance excellence process" tries to encompass accountability and innovation, strategy and operational excellence.** Astoria achieves these seemingly incompatible dimensions, by using its cybernetic control tools interactively and diagnostically. However, while cybernetic elements may seem to dominate, administrative and cultural controls play a significant role as well. Astorias "quality tools" stipulate a certain way of problem solving, communicating, and dealing with clients.

Astoria and the company studied by Alvesson/Kärreman show interesting differences when it comes to the implementation of cultural controls. For the latter, cultural controls (or in the terms of the authors "socio-ideological") aimed at influencing both values and practices. At Astoria however, the explicit focus was on practices. Hofstede et al. (1990) argued that (normal) organizations had a much larger impact on practices than on values. According to what the authors discovered – which having worked for a Global management consultancy myself I can confirm – the consulting company of Alvesson/Kärreman represents a noteworthy exception to this rule. I believe it is the higher homogeneity of Global's workforce which accounts for this dissimilarity. Frow's case also shows an **interesting difference to the case company of Brown/Malmi/Booth (2008)**. Conflicting goals are not resolved using decoupled MCS subsystems, but rather through the design and implementation of an integrated system, the "performance excellence process", that covers both long-term strategic goals (the "vital few") as well as short-term financial targets (i.e. budgets).

5.6.5. Comparing the case studies with MCS theory

All four case studies presented had a different focus. Alvesson/Kärreman focused on how broad categories of cultural controls complement each other to form a coherent MCS. Brown/Malmi/Booth focused on the prominence and interactions of specific MCS. Frow looked at the different uses of MCS and how different uses of one integrated and seemingly monolithic MCS can help to achieve conflicting goals. Finally, the first case study by Sandelin applied the concept of equifinality to research on management control systems.

Studying the above **case studies** was helpful in three ways. It **helped** to ...

1. ... **understand the complexity of the "hybrid types"** identified by Bedford/Malmi (2010). Evidently, there is not only one but multiple ways to successfully blend different categories of MCS instruments.

2. ... understand how **each of the properties of MCS described earlier plays an important role in existing organizations**. Each of the three case studies focused on different elements of an MCS (type of MCS instrument, use of MCS instrument, characteristics of MCS instruments, interconnectedness of MCS instruments, relationship to wider organizational attributes like organizational objectives, organizational structure or organizational culture). It was discerned that understanding an MCS basically means analyzing these design choices.
3. ... understand what equifinality and ambidexterity may look like in a real-life context.

Having said that, all studies focus on the internal workings of the respective Management Control Systems. For this reason, the studies present only limited information on the external environment. Nevertheless, I would like to use the information presented on **MOBITEL as a means to analyze** how **Gresov/Drazin's meta-theory and the refinement I developed** compare to organization reality. Applying MCS theories to the case studies provides the following benefits:

1. By estimating structural flexibility, goal ambiguity and uncertainty I will be able to develop predictions on the importance of ambidexterity, the type of equifinality, the importance of politics, and the significance of cultural and informational controls. Going through this process provides a neat **illustration of the first steps towards designing an optimal MCS system**.
2. Comparing theoretical predictions to reality can be seen as a way to **sanity check the meta-frameworks**. If there are large discrepancies, some of the hypothesis and assumptions taken are probably wrong.
3. Assuming that predictions and reality are close to each other, the predictions of the frameworks can be used as tools to **interpret the case study results** in a new light.

With respect to the 3 dimensions presented in my framework, I **assume the following values - crude guesstimates** based on my overall impression having read the case study. Goal ambiguity is low to medium, since –albeit muted – innovation remains the key driver. Structural flexibility is high as has been proven by the swift changes management was able to carry out during the second period of observation. Assuming that Mobitel has at least some market power in its niche and some competitive advantages due to differentiated products, I would assume uncertainty to be medium (having been high during the first period of observation). Key performance indicators have been understood and will not change erratically (see Figure 24).

What are the predictions? The combination described is consistent to trade-off equifinality under medium uncertainty. Trade-off equifinality is related to the theory of strategic choice, understood as a situation that gives managers large latitude to act upon their preferences. Since there is no goal ambiguity, internal conflicts should be low. Concerning the impact of uncertainty, I would interpret a medium level as a balance between long-range planning and short-term ad-hoc decision-making. Interactive controls that lead to a better understanding of ongoing trends should play some limited role.

At first sight, the predictions seem to match organizational reality rather well. Indeed, management did change MCS dramatically, indicating that management has in fact a lot of leeway to change the organization as they wish. Internal conflicts are insignificant (but for some turmoil during the period of transition). There is no detailed information on the strategic planning or market intelligence of the company.

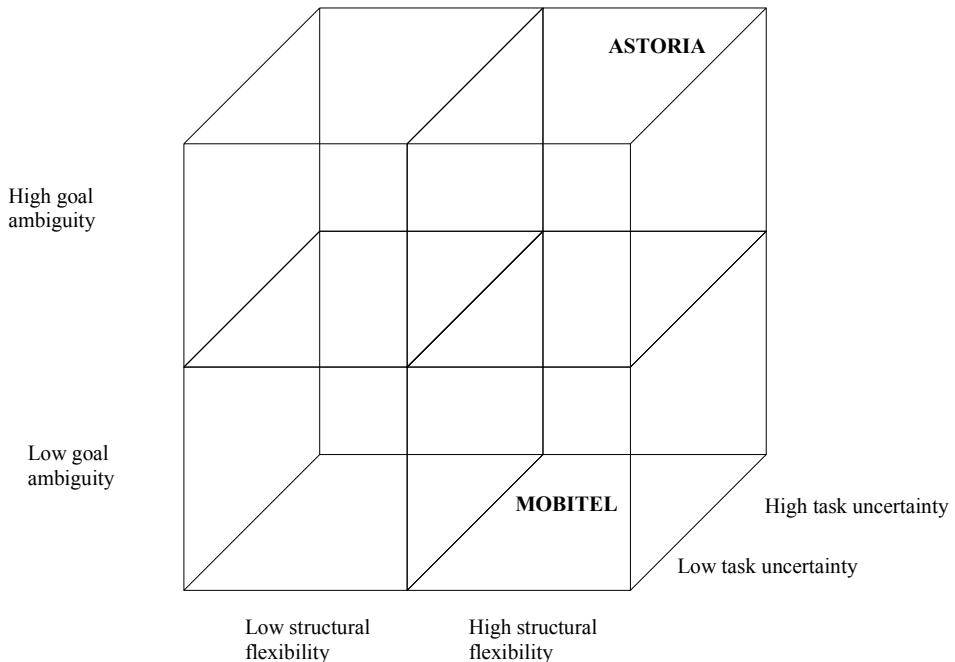


Figure 24. Estimate on the relative position of two case companies with respect to 3 key dimensions (self)

How does our preceding discussion help to design or understand a MCS? It may not be obvious, but knowing that "Strategic-choice theory" is the relevant theory to apply to this context actually saves a lot of work. It means that the focus of analysis needs to be on the manager. The environment allows for a variety of MCS designs and so do internal capabilities. What matters is what makes the manager 'tick', and if he or she is able to devise and implement a coherent strategy and MCS design avoiding the misfits described by Burton/Lauridsen/Obel (2002), (see section 4.4.5.1 "Evidence on configurational theory in general") or one of the dysfunctional personality based configurations of Kets de Vries/Miller (1986), (see section 4.4.4.4).

6. Time as a contingency

6.1. Introduction

What is invisible, available to each person in the world and yet extremely valuable? Time! Time not only plays an important role in everyday life, it is also an important topic with respect to organizational theory. Why?

Up to this point we have examined organizational design and MCS from a static, as opposed to a dynamic perspective. What is the difference? The difference between a static and dynamic perspective on organizational theory is akin to the difference between a picture and a film. Sure, it is possible to take pictures that capture expressive moments full of meaning. Sure, pictures (or books) can be appropriate means of communicating significant amounts of information. However, there are some things a photo simply cannot do, such as record the first time a baby utters a word or a child rides a bicycle. In the same way, **a static perspective on organizational theory is not capable of documenting processes of change, transition and implementation.** Neither is it possible to explain how organizational fit is supposed to be attained without involving theories of organizational change. **Changing from a static perspective of stability to a dynamic perspective of change,** however, enables organizational theorists to create new models on research topics, which try to explain how organizations develop over time.

How does the possibility to better understand organizational change relate to the goals of this thesis? As already mentioned, the aim of this thesis is three-fold.

- **First,** provide a comprehensive overview on the design options (typologies) and interrelationships of the MCS instruments, which are part of or closely related to Holistic Management Control Systems.

- **Second**, identify, explain, evaluate and if possible integrate organizational theories on the relationship between environmental contingencies and organizational characteristics. Relate the identified principles to a select number of key-contingencies (environmental hostility, internal resources, goal-conflict, means-end-uncertainty) in order to determine performance, managerial latitude, and political conflict as the key drivers of equifinality and MCS design.
- **Third**, apply and discuss the organizational theories discussed above using empirical studies of MCS theory.

As such, organizational change theory is not related to the research goals of this thesis. For the most part, organizational change theory is concerned with process-related topics such as the origins of change (e.g. top-down, vs. bottom-up), the typical intensity of change (e.g. gradual vs. revolutionary) and the causes of change (for a good overview on organizational change theory see Demers 2007). As interesting as a detailed understanding of organizational processes may be; **this thesis does not pose questions related to "how", but "what".** For this reason, I will not dive into organizational change theory but rather focus on the challenging task of reconciling and identifying the contradictions and complementarities that exist between the various competing theoretical concepts.

Having said this, I have successfully **identified three research streams and topics** related to the relationship between "time" and MCS contents (rather than change processes of MCS). Being grounded on contingency and configuration theory, these research streams provide valuable insights on specific aspects of organizational design adding the aspect of "time" to the already discussed concepts of organizational theory in a complementary way. These research streams concern ...

- the contingency factor of organizational age
- the impact of past and future contingencies on present organizational design and MCS

- the predictions of organizational life cycle theory concerning organizational configurations and MCS sophistication

This chapter proceeds as follows: It starts with a discussion on the **relationship between the age and other aspects of an organization**. Being regarded as a contingency factor, organizational age is a parameter that changes automatically due to the passage of time. As we will see, this is a poorly researched topic with conflicting points of view. Next, I will provide examples on how not only present but also **past and future contingencies may have an impact on existing MCS**. Finally, I will introduce the reader to the concept of organizational life cycles. The core idea of **organizational life cycle theory** is the belief that a large part of the changes that occur in organizations over the course of their existence reflect a predictable pattern of developmental stages. As I intend to explain, some of these changes concern properties of MCS. In order to link the body of life-cycle research to the insights we gained earlier, I will conclude by reflecting on the validity of the configurational theory of organizational life cycles in general and the extent to which there is conflict or alignment to the concepts we discussed earlier, such as equifinality and ambidexterity in particular.

6.2. The contingency factor of organizational age

The **relationship between organizational age and organizational design can be conceptualized in two different ways**. First it is possible to assume a contingency perspective and to treat **organizational age as yet another contingency** that influences the structure of an organization. Alternatively one may consider organizational age to be as a **key contingency, which (in conjunction with organizational size) determines organizational configurations as a whole**. This second option consistent with configurational theory lies at the heart of organizational life-cycle theory, to be discussed in section 6.4.

What does contingency theory have to say on the relationship between organizational age and organizational design in general and MCS in particular?

Unfortunately there is limited evidence on this topic. As Tillema (2002, pp. 3-4) who developed some theories in her dissertation on this question sums up "... based on overviews of contingencies that did receive attention in the management accounting [...], we can conclude that the influence of the contingency of company age has not received substantial attention in the management accounting literature".

Still today, a coherent research stream on the topic has yet to be established. Notwithstanding this deplorable fact, a handful of scholars have speculated on specific consequences organizational age brings about.

A first contention on organizational age concerns organizational learning and the sophistication of MCS. Inspired by the theory of organizational learning curves Davila (2005, p. 227) suggests "Age acts through the learning that accrues from experience in a way similar to the mechanisms that govern the learning curve." As a consequence they are convinced that "even if the company is not growing, **learning about management can be translated into improved MCS.**" The preferred mechanisms to do so are allegedly action controls that provide employees with guidelines on how to carry out specific tasks. At the same time that action controls gain in importance, the **formalization of MCS increases** (Davila 2005).

Being the main proponents of organizational life cycle theory Miller/Friesen are at odds with the perspective taken by Davila (2005). They content that age and size have to be seen in conjunction. Therefore, "**Firms that do not grow and diversify, but simply get older, are unlikely to move between phases.** Age alone does not confer greater environmental or administrative complexity and, so, would probably not

cause major evolutionary trends in structure or strategy" (Miller/Friesen 1984, p. 1177).

Another, third view, is held by Baker und Cullen (1993). Inspired by the concept of "inertia" central to population ecology, and "punctuated equilibrium", a theory of organizational change, both authors assume a **negative correlation between organizational age and flexibility as one aspect of organizational effectiveness**. Increasing institutionalization, established relationships between organizational stakeholders, and a culture of traditionalism may " inhibit reactions to changing size, resulting in a decreased propensity for structural change."

To sum up: Existing research suggests that older companies become more efficient, but less flexible.

6.3. The role of past and future contingencies

6.3.1. *A study on the potential impact of anticipated change*

As Wolf (2000, p 110-111) concludes in his comprehensive work on organizational design and configuration theory, **most scholars fail to account for the significance of future developments and "legacies" from the past on organizational design and MCS.**

Two examples. The management of a large corporation may expect the economy of its home country to "fall off a cliff" as soon as presidential elections have taken place (like now, at the end of the year 2012). In such a scenario, would it be wise for a CEO, confident in his predictive abilities to make sizable capital investments just because doing so was in line with the *current* state of the economy? Obviously not. **Another example.** Reflecting developments of the past, managers may be confronted with constraining organizational characteristics such as inertia, organizational culture and

organizational age. Would it make sense to implement a new compensation scheme at odds with prevailing organizational culture, just because the existing culture does not reflect current organizational values but traditions established in the past? Not at all. Creating an inconsistency between organizational culture and a new compensation scheme would result in an ineffective implementation and a decline in performance.

In the following I would like to present and discuss a study that analyzed the significance of past and future events on the attributes of existing organizational configurations. As we will discover, inertia is the key factor responsible for the existence or non-existence of such effects. For this reason, I will conclude this section with an explanation on the meaning of inertia and a presentation of the factors that either create or increase inertia.

Pant (1998) aims to extend the literature on strategy-environment fit by **examining when and why firms deviate from fit**. Drawing on existing literature Pant (1998) identified **three reasons research scholars had discovered earlier**. The three reasons identified represented an exception and a deliberate choice of market players not to imitate superior practices of market leaders motivated by the "incentives [that] come in the form of improved future performances":

1. **Barriers of entry** erected by market leaders in order to increase the costs competitors would have to face when imitating superior strategies.
2. **Lack of organizational resources** which reduce the capability of would-be imitators to achieve the same level of fit and performance as industry leaders no matter if barriers of entry existed or not.
3. **Conflicting demands of different environmental elements.** Referring to Gresov (1989), the author explains that multiple contingencies may turn a fitting strategy into a rather unattractive option.

Surprisingly the **constraints mentioned by Pant (1998)** are fully in line with the contingencies we identified earlier as being the **key criteria which determine the type of equifinality relevant to a given organization**. Not taking into account the concept of ambidexterity, **conflicting (functional) demands** were identified as one of the three key factors that inhibit companies to reach an "ideal type" configuration of superior performance. Likewise, a **low degree of functional flexibility** was identified as a second factor that may result in sub-optimal organizational performance. As also explained in the last chapter; determinism, i.e. low structural flexibility, can be broken further down into the two aspects of **high environmental** and **high organizational constraints**. Again, we observe a striking similarity between the concept of Pant (1998) and the taxonomy of Hrebiniak/Joyce (1985) explained earlier. Why? Barriers of entry is just one of the factors that can lead to environmental constraints, just as a lack of organizational resources is but one of the factors potentially responsible for high organizational constraints.

On the flipside, the arguments of Pant (1998) exhibit a **number of potential shortcomings**. **First**, the author refers to organizational strategy rather than organizational design as the "key mediating variable" which translates environmental contingencies into organizational performance. I don't think this represents a methodological problem. Instead I contend that the logic for the approach, taken by Pant (1997), would stay intact if one substituted strategy for MCS or organizational structure as the dependent variable. **Second**, the author is contradicting himself when he admits, "firms deviate from fitting strategies because they have no choice" while at the same time claiming that organizational strategies "represented the deliberate choice of market players". I assume this to be an error of terminology, which does not invalidate his other hypothesis. **Third**, it does not become clear as to for what reason the performance indications of the constraints identified by Pant (1998) only relate to the future and not the present. Again, a mistake, though not invalidating his other claims.

Fourth, the author is assuming a one-size-fits-all ideal-type strategy. As per our discussion on equifinality and ambidexterity this assumption is feasible in situations that, first, do not exhibit conflicting environmental demands and, second, do not exhibit functionally equivalent solutions to achieve equivalent levels of strategic fit. This shortcoming is more serious, as it fails to account for trade-off equifinality.

The **major innovation of Pant's analysis** concerns the hypothesis and empirical findings on implications of **anticipated environmental changes not only on future but also on current strategies**. Due to the occurrence of **inertia** and **first-mover advantages**, organizations may benefit from **establishing fit to an anticipated rather than an existing environment**.

What is the line of thought behind this proposition? The **root cause** behind the above-mentioned phenomenon lies in the **existence of organizational inertia**. Inertial forces in organizations show resistance to the adaptation of both strategies and structures (Miller 1992). Inertia is often attributed to dysfunctional structures and attitudes such as inflexible work-processes or cultures of excessive risk-aversion and traditionalism. In reality, however, inertia is simply a **result of strategy, internal processes and structures being tightly aligned to each other**. Configurational fit of this kind favors efficiency, exploitation as a learning mode and an environmental context of stability. As a disadvantage, tightly aligned configurations such as the "machine bureaucracies" of Mintzberg (1979) require a significant amount of time and energy to adapt to new environmental situations that necessitate a different set-up of internal work processes.

Assuming first-mover advantages, reliable expectations on future states of the environment, organizational inertia, and changing environmental contingencies, some organizations may have an advantage to stay temporarily out of environmental fit. Why is that? The explanations of Pant suggest that a changing environmental

situation leads to the following competitive dynamics. **First, existing competitive advantages** based on having been the first to adapt to a then new environment, are crumbling. **Second, a rush ensues to become the first organization to achieve strategic fit with the new environment.** Those organizations which are - either by chance or because of a good business sense and a conscious act of strategic positioning - already exhibiting strategies similar to the new ideal-type strategy consistent with new environmental contingencies, stand the highest chances of succeeding in this struggle. **Third, the first organization to (re-) gain strategic fit captures the first mover advantage of being able to erect barriers of entry against "latecomers", i.e. against all those other organizations which are needing more time to adapt.** Interestingly, because of their "vested interest" to maintain the status quo, **firms whose strategies were closest to ideal to begin with, i.e. existing market leaders, would try to maintain their existing strategy** until the moment some other firm implemented a strategy more suited to a changing environment. In a changing environment, **existing market leaders are therefore at a disadvantage.** This is what could be called the "**liability of success**".

Table 14. Contingency matrix of deviation from fit (adapted from Pant 1998, p. 290)

		Anticipated future (New environment)	
		Fit	Unfit
Present (existing envi- ronment)	Fit	I, Maintain stable position of competitive advantage	II, Adapt to new environment in case benefits outweighs the costs
	Unfit	No changes needed	
	Unfit	III, Maintain a strategy of innovation (given sufficient certainty around the future)	IV, Adapt to the present or anticipated environment (based on comparing relative benefits and costs)

Changing environments force an organization to make a choice. Should it aim at achieving fit with the existing or the anticipated environment? The preferable course of action depends on the existing strategy and the degree ...

1. ... to which it is in line (fit) with the existing environment

2. ... to which it is in line (fit) with the anticipated environment

A 2 x 2 contingency matrix adapted from Pant (1998), (Table 14), illustrates how organizations are well advised to follow different courses of action based on the scenario which applies most readily to their situation.

Let me just **explain one scenario in order to illustrate the meaning of** Table 14. Scenario II in the upper right corner shows an organization that currently employs a strategy in fit with prevailing environmental contingencies. However, the environment is expected to change in such a way that the existing strategy appears to become unsuitable. **What should such an organization do?** It could either hold on to its established ways in order to "exploit" the current situation of fit as long as possible. This would represent a defender strategy (Miles/Snow 1978). Or it could take a proactive stance adapting its existing strategy along with its internal structures and processes towards a better fit with the anticipated environment. Given uncertainty about the future environment it is not possible to predict with certainty which strategy will turn out to be more successful. Instead, **the organization has to make a strategic choice based on:**

1. the estimated probability that the environment will actually change
2. the cash flows for each of the four potential situations
3. the direct and indirect costs of transition, related to the amount of time needed for implementation and the direct costs of reorganization

Having laid out his concept of a time-contingent form of fit **Pant (1998) conducts an empirical survey** which analyzes information on roughly a third of the total number of US American savings & loan associations. During the **early 1980s the US American savings & loan industry** underwent a dramatic change. Deregulation allowed savings & loan associations (SLA) to decide which products to offer and which prices to charge. Since deregulation had come about as the outcome of a transparent politi-

cal process, **banks had been aware of the possibility of change soon enough to initiate (or not) anticipatory changes to their strategy**. They thus had to make a choice about whether to align strategy with an expected "laissez-faire" environment or whether to stay aligned to the highly regulated context of the past. First-mover advantage and inertia are not explicitly discussed, but apparently Pant assumes that both phenomena would be sufficiently relevant to the SLA industry.

In order to measure past and present fit Pant identified the **product mix** (representing strategy) of the **best performing** (representing optimal fit) bank for each **region** (representing environment) included in the study. Regions, measured as "Standard Metropolitan Statistical Areas", were chosen as the key environmental contingency due to the fact that even after deregulation, SLAs continued to compete locally. Quoting earlier studies by Benston (1985) and Garcia et al. (1983), Pant concludes, "that product distributions have been identified as key indicators of SLA performances". As a result Pant conceptualizes strategy solely in terms of a companies' product mix, i.e. the percentages in total assets held by each of the different product classes (like mortgages, commercial loans, consumer loans, ...). Other strategic choices such as the pricing of interest premia and commissions were apparently seen as less important components of strategy.

The results of the analysis not only confirm Pant's hypothesis but also add a couple of additional insights. First, for all the years examined there was a positive relation between "deviations from present fit" and performance. In other words, being a poor performer increased the probability of becoming a future market leader. Is this outcome due to visionary companies, which had been successful at anticipating and implementing the winning strategies of the future? Surprisingly this is not the case. Pant points out "**results do not indicate that firms needed to predict the shape of new environments accurately** in order to perform better." As practitioners know and as literature suggests, companies and business analysts are not accurate when fore-

casting the future anyway. The advantages of having been a poor performer rather suggest that a "liability of success" actually does exist. Successful companies do seem to hold on to established ways of doing things, no matter if this is because they do not want to give up existing competitive advantages such as entry barriers or due to other reasons such as organizational culture or organizational processes which are more tightly integrated i.e. more efficient but less flexible than those of competitors.

A second outcome is probably related to these speculations. Pant also identified a liability of size, i.e. size was strongly and negatively associated with performance. This is in line with existing research cited by Pant, such as Starbuck/Nystrom (1981). Historically, large companies tended to be less flexible than smaller ones. If this is still the case, now that an increasing number of large organizations are adopting hybrid configurations trying to achieve ambidexterity, i.e. efficiency and flexibility, is a question to be examined.

6.3.2. A discussion on the empirical results of Pant (1998)

The organizational properties of size, success and inertia are certainly correlated. Without knowing any details on the US-American SLA market of the late 70s and early 80s, I expect a significant correlation to exist between success and size. Pant agrees, suggesting "large firms have become large because they have encountered success in the past" (p. 298). But what about the first finding, the relationship between success and inertia? Controlling for size, are successful companies really less flexible than unsuccessful ones?

Pant (1998) fails to take account of an important issue that suggests an alternative interpretation of his empirical results. I would conceptualize the asset mix of a specific bank as a portfolio decision, which is the result of the way management thinks about marketing and asset allocation. In terms of strategy it might be true that SLA

performance is most strongly correlated to decisions on marketing and asset allocation. Deregulation, however, has a wide impact on all the environmental dimensions identified above, simultaneously increasing environmental unpredictability, environmental complexity, and environmental hostility. As such, **deregulation will have a profound effect on contingencies that goes far beyond changing the optimal way of conducting marketing and asset allocation.** It is therefore advisable not only to analyze how the optimal way of conducting functional strategy changes. **It is important to ask how deregulation might change other organizational dimensions of a potentially more fundamental nature.**

What am I insinuating? **In contrast to Pant, I suggest a reversed causality between inertia and success.** The initial situation of Pant's empirical analysis suggests that inertia had lead to success, as opposed to the other way round. This is because **deregulation changes the relative importance of competing values, namely flexibility and efficiency, exploration and exploitation.** As a result the significance of inertia and inefficiency also changes. More specifically, **prior to deregulation**, successful companies did not have to worry about environmental unpredictability. As a result inertia did not matter too much, allowing organizations to focus on efficiency. Assuming that few companies actually achieve ambidexterity, successful companies were therefore efficient but inflexible, while the opposite applied to (at least some) low-performers. In the **course of deregulation**, however, environmental unpredictability increased significantly, flexibility became much more important as a key success factor, and efficiency became less important.

In how far is my perspective different to the perspective of Pant? To put it very simply, my hypothesis states, that the new environmental situation is a situation that former laggards are just better able to deal with from the very beginning. Pant's hypothesis posits that former laggards and market leaders both have to adapt. Former

winners are however less able to do so, since they exhibit a high level of organizational inertia.

Whatever the reality in this specific case may be, it becomes clear that inertia is a key term that needs to be better understood. This is what I want to do in the next section.

6.3.3. *The role of inertia*

Inertia denotes the resistance or inability of an organization to change. Understanding the causes, consequences and contingencies of inertia will provide us with the capability to estimate the degree to which analyzing organizational design necessitates looking at an organization's future and/or history.

Inertia plays an important role in population ecology as well as in the concept of punctuated equilibrium. Both, **population ecology** and the **concept of punctuated equilibrium** are highly relevant to configuration theory. **Population ecology** claims that on average organizations exhibit significant inertia. Consequently they do not have the capabilities to adapt sufficiently fast to changing environments. Hence, with the passage of time only those organizations survive which are consistent to the contingencies of the new environment. According to Miller (1981) population ecology supports configurational theory since the selection mechanisms of population ecology favored organizations that show internal fit. The **concept of a punctuated equilibrium** has been used to predict the pattern of change configurations show over time. Conceptualizing the dynamic development of configurations as the result of a **struggle between forces in support of change and forces in support of stability**, changing external contingencies are expected to create a need for change, whereas tight configurational fit between organizational elements is assumed to drive stability. Inertia is seen as the desire of organizational actors to maintain internal fit. This preference for stability is expected to be overcome when the disadvantages from en-

vironmental misfit clearly outweigh the advantages that come a result of internal fit. (Miller/Friesen 1980, Miller 1982, Tushman/Newman/Romanelli 1996).

The most popular **definition of inertia** sees inertia as the “**inability for organizations to change as rapidly as the environment**” (Pfeffer 1997, p. 163). Highlighting that **inertia is a relative concept** that compares the speed of environmental changes to the speed of organizational transformation, Hannan/Freeman (1984, p. 151) **decompose inertia into three dimensions** not necessarily correlated to one another:

1. **The temporal pattern of changes in key environments.** Are changes large or slow, regular or irregular, rapid or slow? As Miller (1982), a proponent of punctuated equilibrium theory points out; irregular, large and swift changes present a problem to most companies.
2. **The speed of learning mechanisms.** This factor can be assessed by evaluating "How long it takes to obtain, process, and evaluate information on key environments?" Sophisticated management accounting instruments, which also cover non-financial performance measures and broad scope information, have shown to improve market intelligence and organizational learning. To the contrary, a culture focused on internal processes rather than the organizational environment that prioritizes efficiency over innovation will have a negative impact on the speed of organizational learning.
3. **The responsiveness of the structure to designed changes.** This is the dimension that intuitively comes to mind when people think about inertia for the first time. However, it **only captures the "static" part of inertia**. Just looking at the responsiveness of the structure, certain companies from the semiconductor industry seem to show a low level of inertia. Comparing this level of responsiveness to the dramatic turbulence of the relevant task environment however, reveals that these companies actually exhibit high levels of relative inertia (Hannan/Freeman 1984).

As concerning the **consequences of inertia**, most researchers agree that it **increases the difficulty to implement continuous change**. Instead inertial organizations, be they large, old or heavily integrated, are thought to avoid change up to a point where environmental misfit becomes unbearable. According to the change theory of punctuated equilibrium, organizations at this point **embark on revolutionary transformation**. In turbulent environments, inertial forces are clearly a liability (Siggelkow 2001, S. 839). In a stable environment, however, inertia is used as a way to **communicate accountability and reliability**, two factors that according to population ecology increase stakeholder commitment and help organizations acquire external resources. **To conclude:** Flexible companies are superior if the external environment is turbulent and if environmental misfit bears severe consequences for corporate performance. In stable situations that demand for accountability and reliability, however, inertia can be seen as an advantage. Accountability is particularly important for industries that involve substantial risk (medical care, aviation) or that are based on prestige (higher education, branded products), (Hannan/Freeman 1984, 153).

How does inertia arise? Scholars have identified different ways. **First**, as suggested by Pant (1998), **previous success** might indeed lead to inertia and a liability of success. Weick and Quinn (1999, p. 369) explain this process in the following manner: "Successful organizations discard practices, people, and structures regarded as peripheral to success and grow more inattentive to signals that suggest the need for change, more insular and sluggish in adaptation, and more immoderate in their processes, tending toward extremes of risk-taking or conservatism." **Second**, following the reasoning of configurational theory, **high interdependence between organizational systems** leads to a tight internal fit and a strong inertia to alter individual elements of the systems. **Third**, a whole range of **social, cultural and psychological reasons** has been identified as potential reasons for the creation of inertia. Radical change may threaten legitimacy (Hannan/Freeman 1984, p. 149), management may

shy away from the uncertainty that comes with environmental change (Miller 1982, p.131), it can take significant time to form political coalitions that support change, and organizational culture might be opposed to changing established ideology, values and practices. Dent (1991) provides an example of the latter case, in a case study that examines how a change in accounting practices and business strategy was successful in changing the organizational culture of an established British railroad company. Finally, economic reasons like barriers to entry and exit, and sunk costs in plant equipment and personnel, encourage organizations to disregard economic changes they interpret as being only short-term in nature.

Would this list of reasons help outsiders such as researchers of organizational theory make an educated guess on the level of inertia in a given organization? Judging in terms of how each of the suggested mechanisms above applies to a certain company may prove to be difficult. Not only is it unclear which of the mechanism is more and which is less important. Some dimensions like uncertainty avoidance and organizational politics are especially difficult to estimate and quantify even for an organizational insider. It might therefore be more promising to look at some **broader contingencies**, which have been identified as being related to different levels of organizational inertia.

Many researchers agree that inertia is related to **time and age**. "As long as the organization does not change its strategic orientation, inertia builds up over time through ongoing social and structural processes." Sastry (1997, p. 247). Consistent with the conclusions of configuration theory on internal fit, Hannan/Freeman (1984, p. 162) see high **organizational complexity** as another contingency that increases inertia. More specifically, "Complex systems have slow response times not because they are slower than simpler systems in detecting environmental threats and opportunities but because the process of adjustment takes longer." Being associated to complexity and time, **size is a third contingency** that is positively related to inertia. Obviously

coordination is a tougher and more time-consuming task if it involves large groups rather than individuals or small groups of people. Finally, a complex external environment and political fragmentation lead to a diversity of interests and unknown mean-end relationships. Both organizational issues give rise to inertia. Clearly, pressing environmental challenges cannot be resolved, if organizational stakeholders cannot agree on what they want to achieve. Likewise, unclarity on strategy inhibits key actors to implement change in a purposeful way.

Two additional interrelationships are worth mentioning. **First, reorganization is expected to break inertia.** Obviously as new ways of doing things are implemented, employees have to give up on traditionalism. However the accumulated experience that came along with following established work processes over an extended period of time is also lost. In this sense, a reorganized company is similar to a newly created company.

Second, there is widespread agreement that **for a given company the level of inertia differs between its different organizational subsystems.** More specifically, the idea is that **organizations have a core, which is more difficult to modify than more peripheral parts of its structure.** We have already discussed the framework of culture presented by Schein (1985). Schein argued that "deeper" levels of culture, related to ideology or shared values, are more difficult to change than cultural artifacts like dress code or the unwritten rules that govern business meetings. Hannan/Freeman (1984, p. 156) propose a similar idea when they suggest that an organization could be characterized by (1) its stated goals (2) "forms of authority", (which I would interpret as MCS) (3) technology and (4) its marketing strategy. As one proceeds up the ladder the probability of change is expected to increase while structural inertia is expected to decrease.

The most comprehensive and recent **conceptualization on different layers of organizational core-ness** I am aware of was developed by Dauber/ Fink/Yolles (2012). The authors distinguish between **operations, structure, strategy and culture**. Through its operations, an organization interacts with its environment. Should the environment change, operations can adapt to the degree that existing organizational structures (in this case lines of responsibility as well as processes, such as MCS instruments, information systems, accounting instruments,...) are appropriate. If change is more significant organizational structures need to adapt. For example compensations schemes might need to be revised. If an organization continues to struggle, management has to evaluate if it is pursuing the right strategy. Finally some changes in strategy might only prove to be effective if basic underlying assumptions that make up the core of organizational culture are revised. In the same way that changes of the organizational environment are cascading down to the most fundamental values of the organization, changes in organizational culture may translate into specific changes in strategy, structure and operations.

What is relevant to our discussion on inertia is the fact that some parts of an organization like organizational culture can be expected to be relatively inflexible no matter how large or small, or how old or young a company is. **Rather than being a pervasive feature that applies to all aspects of an organization, inertia might be specific to specific couplings** between culture, strategy, structure, operations and environment.

To sum up, inertia is a phenomenon that develops as an organization becomes more mature and grows larger. There are a number of causes that can lead to inertia. Some of them represent unavoidable down sides that come along with efficiency-increasing processes such as the accumulation of experience, or increasing complexity brought about by a tighter integration of organizational systems. Other causes are related to the human factor, such as political fragmentation or the cognitive inability

to identify frame-breaking change. Evaluating these possible causes and contingencies helps to estimate the level of inertia effective in a specific organization, which is then informative about the degree to which past contingencies have an effect on current organizational features and MCS. Put more simply, established large, complex companies are slow to change, which means that MCS do not change as fast as environmental contingencies either. As a result MCS are as much a representation of the past as they are of the present.

6.4. Organizational life cycle theory

6.4.1. *Introduction*

Organizational life cycle theory represents a third **approach, which links the nature and development of organizational attributes to the passage of time**. The underlying idea is taken from biology. Using the metaphor of organic universal laws of growth, stagnation and decline are assumed to govern the development of an organization from its initiation to its termination. **Change occurs in predictable patterns that can be characterized by developmental stages**. According to Quinn und Cameron (1983, p. 33) "these stages are (1) sequential in nature, (2) occur as a hierarchical progression that is not easily reversed, and (3) involve a broad range of organizational activities and structures." Organizational life-cycle theories assume the **characteristics of the environment and a multitude of organizational characteristics** such as structure, strategy, control systems, decision-making styles and critical development areas to **change as developmental stages progress**. Independent contextual factors, such as the hostility of the industry an organization is operating in, are assumed to have only a limited influence on the development of an organization.

Organizational life-cycle theory is related but not identical to the concept of a **product life cycle**. Alike organizational life cycle theory, product life cycle theory assumes

a development over time characterized by birth, growth, stagnation and decline. The idea of a product life cycle, however, is not about organizational characteristics, but rather, about the way sales of a certain commercial product develop over time, given the development in production costs, product variety and sophistication, as well as changes in competition and consumer groups. The difference between the product and the organizational life cycle not only concerns the objects of examination (the development of product sales vs. the development of an organization), but also the contingencies deemed to be most relevant. Whereas the literature on the product life cycle is mostly concerned with changes in the marketplace, organizational life cycle theory looks foremost at how internal organizational features such as organization structure, strategy and decision-making processes change over time.

The work of **Chandler (1962)** which is about the way companies change from a functional to a divisional structure, can be interpreted as reflecting ideas akin to life cycle theory (Miller/Friesen 1984, p. 1161). As Jawahar/McLaughlin (2001, p. 404) note "Chandler introduced stages to a life cycle model in which he noted that as stages changed, so did firms' strategies and structures." Over the years, a multitude of life-cycle theories were put forward by authors, with each author suggesting a different amount of stages, names for the stages and organizational dimensions being involved. Concerning the development and synthesis of life-cycle theory two contributions of the 80's are particularly significant.

Quinn and Cameron (1983) made an effort to synthesize the existing literature on organization life cycles. Identifying nine models from diverse literatures, they embarked on identifying the different factors that explained change for each of the nine models. The comparison of models allowed them to create a framework integrating nine perspectives into what they call a "**summary model**". Highlighting that "all nine [models] suggest progress through similar life cycle stages" Quinn and Cameron identified four stages that feature up consistently. An **entrepreneurial stage** of early

innovation, niche formation and creativity, followed by a **collectivity stage** of rapid growth, high commitment and informal communication, and a **formalization and control stage** of institutionalization and conservatism. Finally, some organizations are assumed to enter an "**elaboration of structure**" stage, which goes along with organizational renewal, diversification and decentralization. Concerning the development of an organization through the stages over time, the authors conclude **existing literature does not support the simple idea of ALL organizations progressing through the stages in an ordered and predictable way**. Faced with environmental turbulence, organizations frequently revert to earlier stages. What's more, the progression through the stages can either occur in rapid sequence or be slow in developing.

The second major contribution to organizational life cycle theory came from Miller/Friesen (1984) who used empirical rather than typological means to define a model of organizational life theory, which has become the de-facto standard model also employed for MCS research (Moores/Yuen 2001). Before examining how life cycle theory was applied to MCS research it is necessary to introduce the framework developed by Miller/Friesen (1984).

6.4.2. The life-cycle theory of Miller / Friesen

6.4.2.1. Conceptual approach and results

Observing, "the overwhelming proportion of this literature is conceptual rather than empirical", Miller/Friesen embark on an empirical and longitudinal survey on organizational change, using a research approach closely aligned to other papers they wrote at around the same time. Seen as a whole, these **publications form a research stream that shares the following assumptions:**

1. Organizational, environmental and strategic variables cluster together in predictive types or **configurations called Gestalts**. Given a partial description of

an organization makes it possible to accurately predict the Gestalt and many of an organization's other features.

2. To understand how strategies, structures etc. interrelate, **one has to take a dynamic and historic perspective**. It is not enough to do cross-sectional research. Instead, researchers should study the historical evolution of organizational attributes using longitudinal analysis.
3. The **structure of adaptive changes over time can be explained using configurational theory**. Two streams of research are mentioned in order to back up this claim. First, existing life-cycle theory, which shows that firms pass through several stages of development in a fixed sequence, with each stage being related to a complex set, i.e. a configuration of structural parameters. Second, research conducted earlier by Miller/Friesen (1980) showed a **relatively small number of "types of transition" or adaptive scenarios accounted for the majority of organizational changes**. These adaptive scenarios, like "Maturation" or "Entrepreneurial revitalization", are configurational, since they represented "packages of change" involving a large number of organizational properties.

Miller/Friesen (1984) gathered **information on 54 variables of strategy, structure, environment and decision-making processes over 161 periods of history concerning 36 firms**. Relevant companies were identified looking at existing companies. As a result, companies that failed over the last 20 years were not included in the sample. Consequently, the sample exhibits the weakness of survivorship bias. Having gathered all necessary data, hypotheses were developed 1) reflecting how existing life cycle models could integrate into a "summary model" (also taking into account Quinn/Cameron 1983), p. 2) based on three themes the authors assume to be central to changes over the organizational life-cycle.

Concerning the integration of existing life cycle models into a "summary model" the authors argue, "**Five crude life stages seemed implicit in the conceptual literature.**" These are: the birth phase, the growth phase, the maturity phase, the revival phase and the decline phase.

In addition and as mentioned, Miller/Friesen assume **three themes to be central to the differences between the various life cycle stages:** **First**, over the initial four life cycle phases, the situation of the firm changes in a way that increases the complexity of its administrative task. The environment becomes more heterogeneous and competitive, the size of the organization increases, subcultures develop and so on. **Second**, in order to cope with the challenges of increased environmental complexity, organizations have to develop increasingly sophisticated and complex systems. **Third** organizations are assumed to alternate between innovative and conservative phases. Innovative phases being related to the renewal or establishment of organizational competences (e.g. birth, growth and revival), and conservative phases being related to a focus on efficiency and the exploitation of organizational competencies (maturity and decline), (Miller/Friesen 1984, pp. 1163–1164).

The findings of Miller/Friesen (1984) are consistent to the hypothesis above:

1. **Aspects of the organization and its environment are in line with the predictions of conceptual literature.** As Miller and Friesen conclude "there is something of a 'gestalt' or configural nature to the phases of the life cycle" (Miller/Friesen 1984, p. 1176).
2. **Changes seem to come in packages,** confirming the earlier findings of Miller/Friesen (1980).
3. Each of the phases is in many ways unique and differences between the phases are large. Again, we have **proof of integral interdependencies operating between the variables of strategy, structure and situation.**

4. Evaluating the second and third finding in combination suggests another phenomenon: "**Quantum change**", which assumes changes are not happening in a gradual but rather a revolutionary way. Continuous change is held back due to inertial forces up to a point where pressure becomes strong enough to reach a tipping point. At this moment transformation takes place.

A last insight of the empirical analysis relates to the **sequence by which organizations undergo different life-cycle stages**. In contrast to the predictions of the conceptual literature, there is **no deterministic way** that leads a company from birth stage to decline. Even though a large number of cases exhibit the standard sequence, a lot of organizations follow transitional paths, which involve jumps ahead or reversals to earlier stages of the organizational life cycle (Miller/Friesen 1984, p. 1176).

6.4.2.2. Details on the 5 Life - Cycle Stages of Miller/Friesen (1984)

In the following, I intend to describe the five life-cycle stages presented in Miller/Friesen (1984), also shown in Table 15. Doing so, I will not only finalize the description of Miller and Friesen's research paper started above, I will also prepare the reader for a subsequent discussion on Moores/Yuen (2001), which uses the life-cycle model of Miller and Friesen and is hitherto the only publication analyzing MCS in a life-cycle context.

Birth phase. During the first stage of the life-cycle, firms are developing distinctive competencies in a niche that shields them from competition. Product and service innovation are crucial in doing so. Since companies in this stage operate in a specialized niche, competition is low and so is the heterogeneity of markets. Control in these small firms is simple and centralized. Formal accounting and information systems are not yet in place or just starting to become established. The founder who takes bold proactive steps in order to beat the established competition dominates the firm. Companies in the birth phase seem to resemble the simple companies we have seen in Mintzberg (1979) and Bedford/Malmi (2010).

Growth phase. Having established itself in the market, a company moves from the birth to the growth stage. The company is now older and bigger, both in absolute terms and in relative to competitors. Management is no longer carried out by the owner-founder, but by top and middle management. As a consequence, control is much less centralized and less intuitive. Given the larger size of the company a functional hierarchy has been adopted. Sophisticated control and information systems are implemented in order to integrate different parts of the organization and in order to have a better understanding of a more fragmented and heterogeneous market place. Growth is strong, since the organization is leveraging on its core competencies to penetrate its competitive market more deeply.

Table 15. Description of Miller/Friesen's (1984) Life-Cycle Stages (Moores/Yuen 2001, p. 356)

Organizational characteristics across life-cycle stages					
Characteristics	Birth	Growth	Maturity	Revival	Decline
<i>Strategy^a</i>					
Mission	Selective build	Aggressive build	Hold/harvest	Aggressive build	Hold/divest
Level of service/product innovation	Considerable	Incremental	Low	Substantial	Low
Scope of product/market	Narrow	Broad	Consolidated	Diversified	Consolidated
<i>Structure^b</i>					
Structuring of activities	Informal and undifferentiated	Moderately formal and differentiated	Formal and moderately differentiated	Formal and highly differentiated	Very formal and moderately differentiated
Concentration of authority	Highly decentralized	Decentralized	Moderately decentralized	Decentralized for divisional decisions but highly centralized for overall strategy making	Moderately decentralized
<i>Leadership style^c</i>					
Initiation of structure	High	Medium	Medium	High	Medium
Consideration	Low	High	Medium	Medium	Low
<i>Decision-making style^d</i>					
Decisive	Decisive	Integrative	Hierarchical	Flexible	Decisive
Amount of information used	Minimum	Maximum	Maximum	Minimum	Minimum
Degree of focus in use of data	Single solution	Multiple solutions	Single solution	Multiple solutions	Single solution

^a A pattern in a stream of decisions (Mintzberg, 1978).

^b Any formalized, routine, standardized, and officially sanctioned process, through which the organization is administered (Hall, 1972).

^c The instrumental or task aspects and the socio-emotional aspects of managerial behavior (Hopwood, 1973) (e.g. Fleishman, 1957; Stogdill, 1963).

^d Cognitive make-up of decision-makers (Dermer, 1973) (e.g. Driver and Mock, 1975).

Maturity phase. When growth rates decline the market saturates and competition intensifies. Having already developed an established and proven product line, the rate of innovation declines. Increasing cost competition motivates companies to focus

on efficiency and economies of scale. Diagnostic control systems, such as budgets, formal cost controls and performance measures gain in prominence as they are used to control operating efficiency and profit margins. Decision-making is centralized and has a short-term rather than a long-term focus.

Revival phase. New market opportunities, leadership or financial difficulties may lead a mature company to change direction and move to the revival phase, characterized by a high level of innovation and dynamism. Leveraging on existing core competencies, organizations diversify by entering new markets. Doing so, they change their organizational structure to a divisional form. Chandler (1962) who claimed that structure (e.g. divisionalization) follows from strategy (e.g. diversification) described this process. In terms of MCS, interactive control systems and lateral control mechanisms gain in importance. The first are used to scan the market and identify changing market conditions, while the latter is necessary to direct semi-independent divisions in a harmonious manner, which allows for synergies to be captured.

Decline phase. Finally due to environmental circumstances like a declining market or due to internal reasons, organizations may enter a period of crises. Miller/Friesen identify a couple of similarities between companies who see themselves in such a situation. The profile they come up with shows organizations that are basically dysfunctional; failed organizations, which appear to be doomed. Companies dealing with a challenging environment in a successful way are not addressed. The category is therefore rather problematic. In contrast to the other stages of the life-cycle, it describes a path to failure rather than a prescriptive configuration that allows organization to achieve adequate performance given environmental contingencies. Having said this, what are the typical characteristics of declining organizations? The level of innovation is low and since plagued by a legacy of poor performance, companies have to conserve resources. Because of low innovation, the product line becomes antiquated, which forces companies to lower prices, further deteriorating financial per-

formance. Decision-making is centralized and extremely conservative. Control and information systems are inadequate. To sum up: An ignorance of markets, the absence of a clear-product-market strategy and a lack of strategic planning all contribute to the performance difficulties of declining companies.

6.4.2.3. *The Genesis of Configuration (Miller 1987)*

Having illustrated the various configurations that go along with different stages of the organizational life-cycle, **a couple of profound questions come to mind:**

- What is the relationship between the configurations identified by **life-cycle theory** and the **configurations proposed by Mintzberg (1979) or Bedford/Malmi (2010)**? Are these configurations contradicting? Do they match, for example in such a way that each of Mintzberg's ideal types corresponds to one of the life-cycle stages?
- Second, why does life-cycle theory consider **age and size** to be as important as it does? In which way does age and size constitute a "super-contingency", which determines the way all other contingencies identified by organizational theorists interact with the organizational setup?
- Finally, what is the relationship between **ambidexterity and equifinality** and **life-cycle theory**? Are both theoretical concepts captured or ignored by life-cycle theory?

Miller (1987) provides an interesting perspective on the first two questions. **He identifies four organizational "imperatives"**, which are both part of configurations (as organizational dimensions) as well as causing configurations (as contingencies): **Environment (including technology), Structure, Leadership and Strategy**. Each one of these imperatives influences the other imperatives and each one has the potential to generate organizational configurations.

What does that mean? The explanation provided by Miller is not very articulate, but the general idea is as follows. Earlier we mentioned how configuration theory influenced a multitude of academic fields. As seen, each of these fields applied configuration theory to create configurations that were defined by different values taken on by its "key parameter" of interest. For example, strategy research created configurations concerning different competitive strategies, such as Porter (1980). Organizational theory with its traditional focus on organizational (i.e. hierarchical) structure, centralization and diversification gave rise to configurations such as Mintzberg (1979). Finally, contingency studies that took a holistic view such as Burns/Stalker and concepts inspired by transaction economics such as Spekklé (2001) center on the environment and attributes of work processes and technology.

Each of the above configurations is holistic in the sense that it makes predictions on structure, strategy, the environment, and sometimes also the leadership-style. However, the **key contingency**, being the contingency which defines the differences between the types, and which the other variables align to is different for each of the configurations mentioned above. If a variable takes on the role of a key contingency, which dominates a configuration it can be called the "**imperative**" of the configuration.

Taking Miller's view that configurations are dominated by one "imperative", the question becomes "What are the conditions that render a certain contingency to become dominant?" More specifically: What are the circumstances ...

- ... that force a firm to focus on its environment?
- ... that entices management to give top priority to the implementation of a given competitive strategy?
- ... that can lead to the personality of management dominating the organization?

- ... that favor organizations that have their strategy, leadership style, etc. aligned to organizational structure?

Taking together the (then) existing research on organizational theory, organizational structure, contingency theory, management theory, leadership theory and so on, the following key parameters of Table 16 emerge.

Miller (1987) suggests that the relative importance of the different contingencies would change over time. For new companies in their **birth stage**, leadership is important. The **role of the founder is crucial** and dominates the character of the company whereas strategic, environmental or structural imperatives pale in comparison.

Table 16. The four organizational imperatives (based on Miller 1987, p.687)

Imperative	Conditions of applicability	Life-Cycle Stage
Environment	Uncertain and dynamic context	Growth
	Much competition	
	Small size	
Structure	Barriers to entry	Maturity
	Stable environment	
	Large size	
Leadership	Slack resources	Birth stage
	Regulatory protection	
	Centralized power & ownership	
Strategy	Small size	Potentially: Revival
	Commitment to strategy	Revival
	Turnaround	

When the company becomes larger and enters the **growth stage**, alignment with respect to environmental forces has to be achieved. While competition has intensified, the company is still small and internal processes are not sufficiently developed to face competition from a position of strength. The company, therefore, has to adapt to the environment, which means that organic (Burns/Stalker 1961) and adaptive types

(Miller and Friesen 1984) are favorable, **configurations that center on the relations between the environment and the company**, and the way organizations adapt to the environment. Miller (1987, p.687) suggests that the "responsive adaptation to the environment" would be "quick and incremental", similar to the change paradigm of contingency theory.

As companies grow further and enter a **maturity stage** characterized by increased price competition, firms try to ensure a seamless interaction of processes in order to capitalize on economies of scale. Creating **efficient structures becomes vital**. Depending on the dynamism of the industry, configurations of structure might be geared towards stability (e.g. machine bureaucracy) or dynamism (e.g. adhocracy).

Finally, as organizations become even bigger, more diversified and institutionalized, a period of crises may occur. In the **revival stage** firms look for strategies that help them to combine the efficiency of having stable and complementary structures with the need for flexibility that diversification brings about. Strategic change can be related to the content of change and the initiators and supporters of change. Depending on whether the content of change or the leaders driving change are more important, one can assume the revival stage to be dominated by a **strategic or a leadership-based imperative**.

Here we have a super-theory which links the ideas of contingency and configurational theory to life-cycle theory. How does it relate to the key concepts we developed over the last chapters on organizational theory? **Age and size** are the key levers that bring about changes that result in different theories, and different contingencies becoming relevant. Not explicitly stated in the paper, Miller typically assumes **inertia** to be highly important as well, since inertia and pressure for change are the two key antagonists in the process by which organizations change from one configuration and probably also one life-cycle stage to another. This process of change is called

punctuated equilibrium theory and has already been mentioned in section section 6.3. Concerning the concepts of ambidexterity and equifinality: Both concepts are not mentioned explicitly. However, to me, **ambidexterity** seems to be linked to the revival stage. Why? First, the organizational goals of the revival stage are about achieving flexibility and efficiency, which is clearly in line with ambidexterity. Second, we have seen from Bedford/Malmi (2010) that those organizations which are most closely related to ambidexterity, namely organizations of a hybrid control configuration, are typically larger, older and more sophisticated than organizations that exhibit a different control configuration. All these criteria also hold for organizations of the revival stage as defined and explored by Miller and Friesen (1984). To conclude, the idea presented in Miller (1987) appears to be promising. Unfortunately, there are no studies I know of, which have taken the suggestions of Miller (1987) under closer scrutiny. It would be particularly interesting to investigate the relationship between life-cycle concepts of organizational theory and equifinality.

6.4.3. Life cycle theory and MCS

Having looked at the broader predictions and concepts of life-cycle theory, let us now focus on Management Control Systems. Combining the insights of Miller/Friesen (1984) and Quinn/Cameron (1983), a **couple of statements concerning the development of MCS over time** can already be made. In the **birth phase** of an organization, sophisticated MCS are more or less non-existent. Instead, the owner-manager uses his/her business intuition and personal influence to control the implementation of strategy. The **growth phase** sees the **implementation of formal control systems**. More importantly, as Quinn/Cameron (1983) point out, the growth phase (which they call the collectivity stage) is characterized by high commitment and informal communication, in other words informal cultural control. The first case study examined in Sandelin (2008) seems to represent an organization, which aptly fits this kind of description. The **maturity stage** represents established traditional companies, which rely on the **diagnostic use of formal cybernetic control systems**, such as

budgets, cost controls and performance measures. In this sense, MCS of mature companies are most closely aligned to the traditional understanding of management control established by Anthony (1965). Delegation and differentiation increase as well. Interactive control systems gain in relevance as companies move to the **revival stage**. Being faced with a highly competitive differentiated environment, market scanning and innovation become as important for success as efficiency and cost control. Reflecting a combination of formal and informal control systems, it is therefore not much of a stretch to assume that MCS will be most closely aligned to the **hybrid type** described by Bedford/Malmi (2010). Concerning the **decline stage**, none of the ideal types described before can be expected to apply. The decline stage represents a time in the life of organizations defined by dysfunctional organizational systems and low performance. As such, it acts as a catch-all stage, capturing failing organizations, those unable to achieve a fit between organizational systems, environmental contingencies, age and size as the key contingencies of life-cycle theory.

Overall, the results of Miller/Friesen (1984) suggest the life-cycle stage is an important contingency to which management control and management accounting systems have to be matched. Different life-cycle stages necessitate different uses and different types of MCS instruments. For example, failure to account for the changes of the life-cycle in budgetary policies has been found to result in inefficiencies of resource allocation. However, as Kallunki/Silvola (2008, p. 63) point out citing Auzair/Langfield-Smith (2005) "**life-cycle stage has not been linked to most of the management control dimension**". As a consequence the body on the link between life-cycle stages and MCS is rather limited.

Two streams of research can be singled out. First, **research on the emergence of MCS** frequently links to early stages of the organizational life-cycle (Strauss/Nevries/Weber 2011, Davila/Forster/Li 2009, Cardinal/Sitkin/Long 2004, Sandino 2007, Granlund/Taipaleenaki 2005, Davila 2005). Second, another stream of

research asks **how MCS, more specifically MAS develop over the entire range of life-cycle stages** (Moores/Yuen 2001, Tillema 2002, Auzair/Langfield-Smith 2005, Kalunki/Silvolu 2008, Silvolu 2008).

Research on the emergence of MCS covers a couple of different topics. First, it asks **what MCS of young companies look like.** The descriptions and explanations are rather stereotypical in terms of content; similar to the explanations I gave earlier on simple configuration and birth stage. Second, it asks **why and how MCS change when going from birth to growth and then maturity stage.** As Straus/Nevries/Weber (2011) summarize, a set of factors is thought to entice an organization to change from a MCS dominated by informal instruments and culture to a MCS dominated by formal control instruments. The factors and motivations given are size, age, need for transparency (to stakeholders like venture capitalists or new employees), mechanism to diffuse power, better management of international operations, signaling of control and legitimacy. Finally, and most interestingly, scholars look at the **sequencing of creating the first MCS subsystems.** The questions are: Which control instruments are established first? What are the drivers of their introduction? Davila/Foster (2007) uncover and Straus/Nevries/Weber (2011) confirm that the two systems introduced initially, are systems of financial planning and human resources planning. Straus/Nevries/Weber (2011) attribute this to resource dependency theory and the vital needs of founders to secure capital and human resources.

Concerning the second research stream, the key question here is how the sophistication of formal MCS instruments changes from stage to stage. While there is widespread agreement that the sophistication of MAS increases from life-stage to life-stage, **researchers argue about what exactly happens during the transition from growth to maturity stage.** While most researchers - such as Miller/Friesen (1983) - argue that sophistication would rise, other researchers such as Moores/Yuen (2001)

present **contradicting evidence**, which shows that during the growth stage, MAS instruments were in fact more sophisticated and formal than during the maturity stage (see Figure 25). Why is that? **The ambiguity concerning the transition between the two stages might have something to do with 1) how formality of MCS is defined 2) three factors competing with one another.**

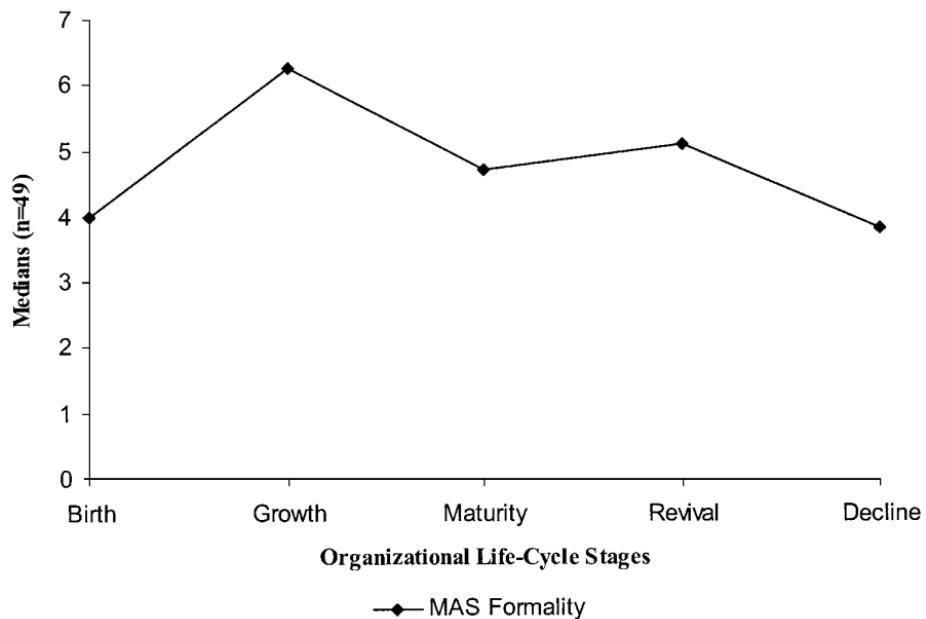


Figure 25. Development of MCS formality across the OLC, (Moores/Yuen 2001, p. 374)

What does formality of MCS mean? First, MCS can be understood in a broad way, including informal controls or in a narrow way including management accounting. Second, formality can refer to sophistication and qualities representing the variables of Chenhall/Morris such as integration, timeliness, and so on. Alternatively, formality can refer to tightness and objectivity.

Now three factors come into play. On the one hand, researchers agree that companies during the maturity stage are becoming much more formal and management accounting instruments much tighter. Conversely, informal MCS instruments are

used to a lower degree. On the other hand, environmental uncertainty decreases. This would suggest that the environmental demands on MCS decrease, which could allow the aggregate MCS to become less complex and sophisticated. So, defining formality as objectivity, tightness and a preference for formal control systems and MCS as only including management accounting, then formality does in fact increase from growth to maturity stage. Defining MCS in a broader and formality in a more qualitative way, however, lends credibility to the opposing idea that formality of MCS might decrease. Finally, a third factor is certainly relevant as well. As a company moves from growth to maturity it automatically becomes older. According to Tillemans (2002), an organization is progressively learning and adapting, which means that MCS can be expected to become more formal and sophisticated. In the end, if formality of the maturity stage is higher than the formality of the growth stage, is as much a question of context as it is a question of terminology.

In terms of comprehensiveness both research streams are rather unsatisfactory. While the scope of the first stream of research is limited in the sense that it only looks at the early stages of organizational development, the second stream of research is limited in so far as it only looks at formal MCS instruments, i.e. cybernetic management accounting. Cultural and administrative control instruments that could act as a substitute to formal management accounting are not being accounted for. A **notable exception is Auzair (2010)**, who focuses on how service companies change their mix between more or less bureaucratic MCS instruments over the different life-cycle stages. In order to better define "more or less bureaucratic", the author refers to MCS taxonomies, like Ouchi (1979) and Merchant/van der Stede (2007) that have already been presented earlier in this thesis. The author also stresses that "studying MCS as a package" was an important research agenda. Concerning the results of his research Auzair (2010) discovered that older and more cost-oriented companies (old mass-service companies) tend to have more bureaucratic MCS. Young professional service

companies represent the other extreme since they exhibit MCS, which are not bureaucratic at all.

6.5. Synthesis

The chapter started off by explaining the difference between a content-focused perspective on time and a process-focused on time. Not interested in change processes, we asked in how far different points in time, such as a change in organizational age may affect the properties of Management Control Systems.

We identified three research topics relevant to our question:

- the contingency factor of organizational age
- the impact of past & future contingencies on organizational design and MCS
- the predictions of organizational life cycle theory concerning organizational configurations and MCS sophistication

The very few studies on organizational age as a contingency I could identify, argue that older organizations are on average more efficient, more formalized, but less flexible. Does organization life cycle theory come to the same conclusions? Roughly speaking, yes, formalization increases throughout the life of an organization, while older companies reaching the maturity stage have in fact become rather inflexible and bureaucratized. But organizational life cycle theory is about more than just MCS. Organizational life cycle theory posits that the size and age of an organization are key contingencies that determine an organization's configuration, comprising organizational strategy, environment, structure, leadership style and control systems. Miller (1987) provides a theoretical explanation for this hypothesis, arguing that the challenges and key contingencies ("imperatives") that shape organizational design change during the lifetime of an organization. Young organizations simply have to face other challenges than older larger and more mature organizations. Looking at

the empirical evidence there is agreement, that while many do, organizations do not necessarily follow the life-cycle stages prescribed by theory in sequence.

Turning to the second research topic, "the impact of past & future contingencies on organizational design and MCS", we discussed a concept and empirical analysis by Pant (1998) on developments in the US American Savings & Loan Associations industry during the early 1990s. What appeared to be a case of organizations predicting and adapting their strategies to the future turned out to be an illustration of organizational inertia and the downsides it entailed in times of environmental change. This led us to the phenomenon of organizational inertia and the fact that many companies are more aligned to their past than their present. How does inertia and Organizational Life Cycle Theory relate to the equifinality model of Gresov/Drazin (1997)?

Inertia is one of the reasons that may cause low structural flexibility. As a result, organizations exhibiting a high level of inertia can be expected to be applicable to suboptimal equifinality or ideal type profiles. In terms of organizational theories, contingency theory is the most appropriate paradigm to use when evaluating organizations with a high level of inertia. Obviously inertia causes companies to change very little from one point of time to the other. As a result, one can confidently assume past MCS designs to persist into the future.

As to what concerns the stages of organizational life cycle theory, it appears difficult to see how the information about a company being in a certain life cycle stage may alter its profile concerning equifinality and goal ambiguity. OLC-theory is a grand theory that leaves very little room for management agency or goal ambiguity. Strictly speaking, OLC-theory is only consistent to ideal type configurations.

7. Conclusion

7.1. Research results

Having completed our journey through the world of Management Control Systems I intend to use this chapter to **sum up the insights** we have gained along the way. Furthermore, I would like to use the opportunity to elaborate on some interrelationships between MCS components and organizational theories that have hitherto gone unnoticed. Finally it is my intention to develop some research ideas.

The aim of this study was to inform the reader on the most important and relevant issues when **aiming for a well-performing MCS design**. All too often it seems as though we make decisions without "the full picture" and without having a full understanding about all the options, advantages and disadvantages related to them. As a result, **this thesis took the perspective of a (systems) architect** who needs to know about what he is expected to build, the design options at his disposal, and the basic rules that help him decide which of the design options to select. **All information necessary to design a 'construction plan' (of a MCS) can be found within this dissertation.**

Defining MCS

In **chapter 2** "Perspectives on Management Accounting & MCS", which takes on the task **of defining the meaning of MCS**, I explain how the notion of management control has developed and how the definitions of MCS differ in terms of meaning. The **key differences** lie in the comprehensiveness in terms of **means** (one or multiple MCS instruments), the comprehensiveness in terms of **goals** (one or more purposes of the MCS), and the **complexity** of the concept, which increases by incorporating different levels of analysis, interconnectedness of MCS instruments, or organizational politics. I create a three-dimensional taxonomy as a way to illustrate the key differ-

ences between existing perspectives on MCS and other related research streams such as organizational theory. In rough terms, some perspectives take a narrow view (MAS), some a wide view (organizational design) and some a focused one (**Management Control Systems as a package**). The latter perspective is the one I decide to align with, given its focus on behavioral control as the traditional "home turf" of control theory. This decision, however, means that decision-support systems (not regarded as instruments relevant to the Management Control Systems as a package framework) are not within the scope of my 'area of expertise' anymore. Neither are MCS instruments mainly intended for purposes of strategy formulation. Let's keep this in mind and see if over the course of this thesis, my approach on MCS turned out to be the most appropriate.

MCS Design Choices

Inspired by the writings of other researchers (e.g. Bedford/Malmi 2010) following a "Management Control Systems as a package" approach, I continue with **chapter 3** by outlining all the **design choices relevant to the employment of an MCS instrument**. First, one has to select which type of MCS instrument to implement, second, one has to decide on the properties of the instrument, i.e. shall it be sophisticated, shall it be backed up with high-powered reward structures, and so on; and finally, third, one has to decide on how to integrate the new MCS instrument with existing MCS instruments. This last design option, on which there is only one publication, is probably the most fascinating and complex one, discussed in more detail in **chapter 5**. Having considered the design options, I turn to the **other elements of my contingency framework** also introduced in 3.1. In later chapters we examine existing evidence on the relationship between some of the contingency factors (such as the environment) and the types and properties of MCS instruments. In order to do so, it is necessary to have an idea about the most important notions and typologies related to each of these contingency factors. **Chapter 3** introduces the reader to organizational **structure**, organizational **culture** and organizational **strategy**. **Management control shares**

a slightly complicated relationship with these organizational dimensions. Organizational structure is a term as ambiguous as MCS. It can either be a synonym for all the institutions and routinized processes within a company, which means it covers basically everything. Or it can be understood as administrative controls, hierarchies, lines of report and unit groupings. Using this second now more common understanding, some instruments of organizational structure have control functions as well, qualifying as MCS instruments. However, not all instruments of organizational structure are necessarily MCS instruments. The same kind of relationship is true for organizational culture. As with respect to **organizational goals**, MCS theory traditionally assumes a one-way relationship of MCS instruments being used to control for the attainment and implementation of organizational goals. More recently however, MCS are additionally expected to foster innovation and strategy formulation as well, transforming an exploitative arrangement into an equitable relationship.

At this point it would have been fitting to **present a case study** to show how brick, stones, mortar and timber combine in order to form a house, or less figuratively speaking, how diverse MCS instruments interact with one another, organizational culture, structure, strategy and the environment to form a well-oiled machine of organizational control.

Organizational theories

Instead of presenting such a case example I move forward towards **chapter 4**. Having learned about the building blocks of MCS and the properties (that) contingencies relevant to the design of MCS (such as the external environment) may take on, **we are now ready to know which rules to employ to combine our "building blocks"** in the best way possible. Alas, there is not only one such set of rules, one **organizational theory**, but multiple conflicting ones. Assuming the same situation and the same MCS, one organizational theory may expect the MCS to be highly effective, while the other may predict the MCS to be utterly dysfunctional. This need not be so, but con-

tradiction with respect to the interpretation of MCS effectiveness cannot be ruled out. For this reason I take great care not only to summarize what each of the three organizational theories I consider relevant has to say with respect to the interrelationships between an MCS and its environment. I also go to great lengths to make the assumptions behind the organizational theories transparent.

I present the three organizational theories I consider the most relevant: contingency theory, strategic-choice theory and configuration theory. **Contingency theory** is the oldest theory. Traditionally it assumed bivariate deterministic relationships – sometimes measured using simple correlations – to exist between an independent variable and a dependent variable. The simplest example of a case that lends itself to contingency theory is a light switch. If it is pressed, the light bulb illuminates, if it is not pressed it doesn't. This is the entire 'contingency rule'. There are no third factors. Likewise, the light bulb has no will of its own, sometimes switching on, sometimes, not. Nowadays strategy is also considered a contingency, and many empirical studies work on a comprehensive multivariate basis. However, back in the 1970s, the rigidity of deterministic contingency theory provoked the creation of alternative theories, **strategic choice** and **configuration theory**.

Strategic choice adds two aspects to contingency theory, the so called "**management agency**", i.e. in simple terms, the power of managers to take whatever decision they like even if the decision is stupid; and the potential for **organizational politics** and power struggles. It is not necessarily management or the CEO that has the last word, but an ominous **dominant coalition** representing the most important organizational members. **Is strategic choice theory superior to contingency theory?** Should we use strategic choice theory when determining if MCS instrument A or B is better suited to improve MCS effectiveness? Not necessarily. Strategic choice theory can give rise to subjectivism and faulty assumptions, it is only applicable if management has room to maneuver and it takes much more effort to conduct research on a large scale.

Configuration theory is a second theory that sees itself in opposition to contingency theory. In contrast to it, configuration theory always involves at least a couple of variables. These **variables are assumed to be highly correlated** and connected to one another. Moreover, configuration theory traditionally assumed there were only a small number of solutions, i.e. successful configurations to each configurational analysis. This allows for the creation of intricate stories, which convincingly explain, why a certain configuration, is only consistent if it is the way as prescribed. Two other differences to contingency theory appear noteworthy. First, configuration theory is oftentimes used in an **internal context** relating the sub-components of a MCS to each other in a consistent way, while contingency theory is mostly concerned with the external environment or production technology. Second, some configuration theories assume that managers can choose to apply any of the configurations they wish. Contingency theory however asks the manager to follow one ideal solution. Again our imaginary architect asks himself the question: "What 'rulebook', what organizational theory is superior, which one should I use?"

For purposes of illustration I want to resort to the construction example by relating a short story for purposes of illustration. Let's assume our architect has recently bought a plot of land in the neighborhood of Frankfurt and now wants to receive some advice on what kind of property to build. So he invites three professors, each of them being an ardent supporter of one of our three theories to visit him on his land and give him advice. The professor of contingency theory arrives and spends a lot of time measuring the wind and the strength of the ground. In the end – there is a lot of wind, but the ground is not very solid – he suggests building a grotesque house with a massive roof and tiny walls. The architect doesn't like the proposal even though the professor tells him this is the only way to go. Hence, the architect declines and asks the second professor, an arty type and a supporter of strategic choice. The second professor who knows the architect is wealthy says: Do whatever you like, you have the money, use it, it is your choice. But in the end you or your wife will decide independently of me, so why should I even bother to give you advice? Slightly irritated he turns to the third professor advocating

configuration theory. He seems to be well prepared having a booklet in his hand depicting a group of houses in great detail. "So which of your houses would you recommend?" asks the architect. "All of them, you will like all of them. They are all carefully balanced to offer a maximum of comfort and elegance." Alas, there are only 4 properties on display: one houseboat, one igloo, one Egyptian pyramid and one doghouse! Unnerved the architect is just about to go home, when the second professor, representing strategic choice, comes back and says, "I have just talked to my colleague. I really don't understand why you are not buying the houseboat. It would be so easy for you to build a canal to the Main."

I made up this story, because I think there is no better or more entertaining way to illustrate the deficiencies associated with the "caricature" versions of the three organizational theories. Taking assumptions and maladapted research methodology to the extreme, none of the three theories appears to be reliable in their ability to give sensible advice on how to design MCS. So what should be done?

I identify three ways to deal with the problem:

1. Compare what all three perspectives have to say and synthesize subjectively.
2. Identify the assumptions that are specific to one of the theories. Disprove it or find out about the contingencies that give validity to the assumption.
3. Build a new and improved model based on either one of the theories while taking account of all the contingencies that might become relevant.

The alternatives are ranked in order of increasing effort and reliability of results.

Alternative #1, looking at all three perspectives and assuming the 'intersection' of its statements to represent the truth, is a heuristic that might work in some instances. However, it does not represent a reliable way of making decisions. Alternative #3 is not feasible since it necessitates redoing empirical research. In order to gain clarity on MCS theory **I have therefore decided to pursue approach #2.** Having compiled a **list of unsolved 'challenges'** to be seen in Figure 21. 6 challenges of MCS theory

(self)p.174) I dedicate most of **chapter 5** on identifying contingencies that give rise to (#1) equifinality, (#3) ambidexterity, and (#5) organizational politics, three organizational phenomena that contingency theory typically is not able to represent, leading to model **under-specification**.

At the beginning of **chapter 5**, a short introduction and overview on the chapter is given. The first topics to be tackled are the dichotomies between external and internal fit, determinism and voluntarism. I present a typology of Hrebeniak/Joice (1985) that goes beyond the stereotypical cliché of internal voluntarism vs. external determinism. Hrebeniak/Joice argue that an organization might be constrained a) with respect to developing its organization b) with respect to shaping its task environment. Both constraints do not need to be related. In other words there are 4 different scenarios showing diverse situations of determinism and voluntarism and no easy answer to the question as to when to assume determinism and when to assume voluntarism and equifinality. It is fair to presume that a company more powerful in terms of resources also has more leeway when it comes to organizational design, i.e. a higher likelihood of equifinality. However, we are not able to gain more clarity on the topic.

Next, we explore the concepts of equifinality and ambidexterity, learning that ambidexterity is more relevant to large, diversified and rich companies. Finally, we arrive at the core of **chapter 5**, the typology of Gresov/Drazin (1997). Gresov/Drazin classify organizations along two dimensions, the degree of structural flexibility and the level of conflict among organizational functions. These two dimensions can be seen as synonyms to equifinality and ambidexterity. Each of the ensuing four quadrants is expected to relate to a different organizational theory. While Gresov/Drazin are silent on our third phenomenon of interest, the issue of organizational politics, I find another framework (Macintosh/Quattrone 2010) that explores the way organizational politics are affected by 'uncertainty concerning the means', or 'uncertainty concerning the goals' of an organization. Putting together all three dimensions (ambidexterity,

equifinality and organizational politics) we arrive at a three dimensional model that relates the three input dimensions to different organizational theories.

Have we made any progress towards our original goal?

Identify the assumptions that are specific to one of the theories. Disprove it or find out about the contingencies that give validity to the assumption.

Not too much. We found out that increasing economic power may lead to equifinality and that large, diversified and rich companies are more likely to pursue a strategy of ambidexterity. Moreover, we learned that goal ambiguity might lead to increased organizational conflict. Finally Gresov/Drazin's confirmed our thoughts that ambidexterity was to be analyzed taking a perspective of configuration theory.

This leaves us with the need to follow an approach suggested by Gresov/Drazin (1997, p. 418). "Our classification scheme of equifinal situations implies that a researcher first needs to determine what form of equifinality is likely to be encountered. Next, that researcher needs to design statistical tests appropriate for the kind of equifinality being studied". The authors continue by writing about different ways of finding out which kind of equifinality was relevant to a certain organization. Gresov/Drazin (1997, pp. 418-420).

Contingency theory and configuration theory on MCS

What if we ignore our conceptual issues for a moment? **What does existing contingency and configuration theory actually have to say about MCS design?** Using the survey of Chenhall (2007) it is possible to get a quick summary on the current body of knowledge concerning contingency-based research on MCS. Unfortunately, the amount of information is rather disappointing. There are no studies on the interrelationship of MCS instruments. Neither is there any information on the impact of organizational culture. Having said this, it would certainly be possible to fill in some of

the cells in Table 7, which is intended to show the sensitivities of MCS design parameter with respect to changes in contingency factors (Table 7, p. 33). Concerning the validity of configuration theory it is disappointing to read that Mintzberg (1979) cannot be validated by empirical analysis. However, the taxonomy of Bedford/Malmi (2010) provides some interesting information, especially on hybrid control types. Finally, the case studies presented in section 5.6, offer fascinating insights into how existing companies use MCS to achieve ambidexterity.

Time as a contingency

Finally, this dissertation explored to which degree different points in time, such as a change in organizational age may affect the properties of Management Control Systems. We identified three research topics relevant to our question:

- the contingency factor of organizational age
- the impact of past & future contingencies on organizational design and MCS and the impact of inertia
- the predictions of organizational life cycle theory concerning organizational configurations and MCS sophistication

Out of these three topics, the impact of inertia and organizational life cycle theory warrant further analysis. While inertia is a commonplace phenomenon relevant to a majority of organizations, OLC theory may not be as significant as it claims to be. Being a configurational theory, OLC theory assumes organizational characteristics such as organizational strategy, structure or culture to be complementary to each other being neatly aligned around a common configurational theme. Now, OLC theory goes one step further by expecting organizations to develop in an orderly and predictable way as well. As Wolf (2000) pointed out, this level of predictability is rather unrealistic.

7.2. Final remarks

What are the limitations, what are the applications of this study? While I aimed to be as comprehensive and inter-disciplinary as possible, I failed to include evidence on management control provided by some related fields of research such as human resources or organizational development. I have a clear focus on international publications, most of them written by US American, British, Scandinavian or Australian authors. In contrast, **I did not touch on the German 'Controlling' literature**, which shares a similar focus as MCS.

Many of my findings are preliminary, as I have only been able to find few publications on topics such as 'Taxonomies of MCS control', 'The interrelationship of MCS instruments', 'MCS and organizational culture', 'OLC and changes to the MCS', to name a few. Part of the reason is the **timeliness of my research topics**. None of the case studies presented in section 5.6, are older than ten years, all but one are no older than five years. Similarly, ambidexterity and equifinality are concepts that have only recently become popular. For this reason I have unfortunately not been able to work out the contingencies leading to both phenomena as clear-cut as I would have liked. Finally, it would have been illustrative and refreshing to have a case study - 1) to run in parallel complementing to my conceptual 'musings' and 2) to give empirical evidence on how concepts translate into reality.

Going forward, I suggest for other scholars of MCS theory to **elaborate on a comprehensive case study**; reflecting all the design options presented in chapter 3, employing the three organizational theories presented in chapter 4, checking for the relevance of ambidexterity and equifinality as presented in chapter 5. Although this aim already represents a monumental task, including a dynamic perspective (only partly covered by this dissertation), it would make the effort even more worthwhile. As a second suggestion I would like to propose proponents of multi-contingency theory

(such as Donaldson or Klaas), to elaborate a multi-contingency perspective on MCS control similar to the configuration perspective of Bedford/Malmi (2010). Methodologies might only differ in nuances. However, I consider it important to have a second perspective on this highly important research approach.

To conclude. I commenced the dissertation with the argument that MCS are – among other things – important to ensure proper implementation in cases such as new business ventures or M&A transactions. Later on we saw that some MCS researchers argued for a wider **scope of MCS objectives**, including strategy formulation and product innovation. The growing popularity of ambidexterity, at least as an academic concept – points in the same direction. In chapter 2, I aligned myself with the MCS definition of Malmi/Brown (2008), being comprehensive on the means encompassing MCS, while being focused concerning the goals of MCS. Part of my reasoning was the concern that using MCS in order to promote multiple objectives would lead to goal ambiguity and eventually to organizational conflict. Arguing along these lines in section 5.5.2, I was surprised that the ambidextrous cases I evaluated do not show any heightened levels of organizational unrest. This brings me back to the question as to what concept and what use of MCS (as discussed in chapter 2) a practitioner and a researcher should internalize? Getting clarity on this question is another task MCS researchers should put on their agenda.

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