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**Management Accounting Systems Usefulness as a
Union of Natural and Rational Perspectives:
Analyses at the Interface of Sales and Procurement**



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Abstract

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Keywords: usefulness, management accounting system, sales and procurement, multiparadigm research, contingency theory, institutional theory

The objective of this dissertation is to clarify the notion of ‘management accounting systems usefulness’ in its organizational context at the interface of sales and procurement. This notion is often used both by academics and practitioners, and intuitively, it is easy to agree on its importance. However, the unclarity of the notion becomes evident as soon as there becomes a need to explicitly state for what it stands for. From an academics’ perspective, conceptual clarity is a prerequisite for any research that aims to develop our current understandings. Practitioners, in turn, benefit from a heightened ability to grasp which of the different accounting systems could be useful for them and to acknowledge why some of the MA systems fail to be adopted.

To clarify the notion of MAS usefulness, the dissertation studies its underpinnings in both theoretical formulations and empirical settings. The review of the earlier formulations highlights the heterogeneity of the literature. Despite the variety of schools and theoretical stances, the dominance of two distinct organizational paradigms, i.e. rational and natural perspectives, has been pointed out by a number of scholars. This dissertation considers these perspectives by leaning on two representative streams of theoretical thought. The rational perspective is approached by relying on the contingency theory literature. The natural perspective, in turn, is studied with the help of an institutional theoretical view. Theoretical conceptualization is validated and refined with the help of qualitative field research. The empirical part of the dissertation comprises of two case studies that focus on MAS usefulness at the interface of sales and procurement. The findings from cases further highlight the possibility and the feasibility of the theoretical argument of the dissertation.

The findings of this dissertation have both academic and practical implications. With theoretical and empirical examination, the study argues and illustrates that MAS usefulness could be better understood as a union of rational and natural perspectives rather than by relying on either of these perspectives alone. Hence, the dissertation contributes to the current MA literature by revitalizing the argument for paradigmatic pluralism. In addition, the dissertation provides an illustration of a research process that can be applied in future research. Although this dissertation focuses on building a conceptual understanding of MAS usefulness, its findings also have practical implications. That is, practitioners should also recognize and admit the importance of the both rational and natural aspects of usefulness when designing, developing and obtaining accounting systems and tools. As such, the theoretical conceptualization of this dissertation provides some very basic terminology to explain why certain kinds of MAS are perceived to be useful and end up being used in organizational settings.

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The idea for this dissertation started to clarify little less than three years ago in EIASM doctoral school held in Brussels. While I was pondering on how to theorize my empirical findings that then appeared to be contradictory, David Cooper guided me to become acquainted with certain pieces of research that highlighted the benefits of pluralistic approach. Without this seemingly small suggestion, this dissertation would probably have ended up to be rather different from what it is now.

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For last four and a half years, I have got an opportunity and privilege to be a member of the Cost Management Center. The work in our research group has meant versatile research and project assignments, but also having good time with brilliant individuals. About the good and open atmosphere in our research group, recognition should be appointed to everyone. From the perspective of this dissertation, I would especially like to thank Teemu Laine and Santiago Velasquez. The discussions with them and the comments received from them have made this dissertation an order of magnitude better than it would have been in other place.

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1. Introduction

This dissertation concerns the usefulness of management accounting systems at the interface of customers' procurement and providers' sales functions. The dissertation begins with an introduction, which divides into three parts. It begins with a brief description of the background of the study, which is presented to highlight both the practical and academic significance of the research. The research objective and more specific research questions are presented in the second part of the introduction. It also specifies the scope and framing of the study. The introduction ends with an outline of the dissertation.

1.1. Motivation

All the time, a number of management accounting systems (MAS) development projects are taking place both in public and private organizations. Some of these projects focus on introducing entirely new systems, while others concentrate on developing old systems to better suit current needs and realities. Unfortunately, while many MAS development projects succeed, some of them also end in failure (Markus and Pfeffer 1983). This is probably rather evident to someone who has been involved in such development projects. These failures and tendencies to accept accounting information and systems are widely studied with the help of the term 'usefulness'. Achieving usefulness can be seen as the general objective of any MAS development project. A system perceived to be useful gains the acceptance of users (Davis 1993). A useless system, on the other hand, faces resistance and is destined to become obsolete (Scapens and Roberts 1993). As a consequence, both the change and stability of accounting systems stem from the ability of the system to answer the needs and requirements of an organization and the actors in it.

Conceptual clarity is unquestionably important for any research that aims to test and develop current understanding of underlying empirical relationships (Bisbe et al. 2007). Although it is easy to agree on the importance of MAS usefulness, the notion itself has remained rather vague (Section 3.1 discusses this in more detail). A variety of closely related terms has been used to describe the ideal features of accounting systems besides usefulness, leading us to question the feasibility of the term MAS usefulness altogether. Furthermore, a number of perspectives have sought to understand the nature of the phenomenon. As a result, MAS usefulness has been conceptualized in a variety of ways, each highlighting somewhat different, and sometimes even contradictory, features of the system. Because of these challenges, our current understanding of MAS usefulness and its features has remained somewhat ambiguous.

This observation propels further examination of the topic. The reasons for this conceptual ambiguity, as such, are however falling beyond the scope of this study.

Academic relevance

There have been various calls in the management accounting (MA) literature encouraging the study of MAS usefulness. Ittner and Larcker (2002) argue that “a primary goal of managerial accounting research should be determining which (and under what circumstances) existing or emerging managerial accounting techniques actually work in practice” (p. 788). This citation, especially the emphasis on accounting techniques that actually work, highlights the need to understand MAS usefulness. Similarly, Malmi and Granlund (2009) debate that at least part of MA research and theorizing should address “what systems or techniques to use, how and in which circumstances” (p. 614). The importance of studying MAS usefulness has also been explicitly stated. In their practice theory inspired paper, Ahrens and Chapman (2007) propose that in general, “the perceived usefulness of management control practices and systems is of paramount importance for researching management control and management accounting” (p. 10). While advocating practice-oriented research, Jönsson and Lukka (2007) note that scholars should “investigate the use and usefulness of management accounting information in managerial action” (p. 393) as management practices are not always consistent with widely recognized “theoretical” suppositions. Recognizing the multitude of requests, the usefulness of MAS seems to be an interesting and relevant topic in the current MA literature.

The interest of the supply management and marketing literatures in the potential offerings of management accounting is still relatively new. Nevertheless, a number of calls have invited further examination of MA practices in these new settings. Much of the discussion linking MA to the supply management literature has revolved around inter-organizational cost management with a strong emphasis in cost reduction (cf. Ellram 1996, Kulmala 2004). Some scholars (e.g., Axelsson et al. 2002, Ramos 2004, Anderson and Dekker 2009) have recognized that modern management accounting can also contribute more broadly by providing novel ways to operate purchasing. On the other hand, the marketing literature has conventionally emphasized the providing companies’ views. In this tradition, customer profitability analysis has been a rare example of cooperation between managerial accounting and marketing (Gleaves et al. 2008, Roslender and Wilson 2008b). More recently, various marketing academics have adopted the so-called relationship marketing perspective emphasizing a customer focus and the importance of sustaining customer relationships (Stone et al. 1996). In consequence, there has also been a growing interest in clarifying the linkages between provider’s offering and value for customers (Ravald and Grönroos 1996). To fulfill these needs, Roslender and Wilson (2008b) suggest introducing customer-focused accounting, which “needs to focus on the customer” and “provide information on value as sought by the customer” (p. 871-872).

Managerial relevance

Management accounting is generally acknowledged as an applied research area. Similar to other applied disciplines, the MA literature should eventually be able to provide new insights of and for practice (cf. Ittner and Larcker 2002). Hence, the practical relevance of the topic is arguably very important. Fortunately, MAS usefulness has clear, significant linkages in practice.

First, accountants and managers appear to have difficulties deciding which of the different accounting systems and methods they should select for their uses (Roslender 1995, Tillema 2005). A better understanding of MAS usefulness could benefit practitioners by explicating MAS development and adoption process. It also appears that some parts of the management literature are in conflict with the needs of practitioners. Whereas the management literature and consultants try to convince organizations to adopt new and complicated methods, managers often prefer traditional and elementary ones. This inconsistency between literature and practice is evident both in the MA (Tillema 2005) and in supply management literatures (Cavinato and Flynn 2006). An improved understanding of MAS usefulness could perhaps stitch up this gap.

Second, many of the developed MA tools and systems fail to be adopted (see e.g., Markus and Pfeffer 1983, Malmi 1997, Hussain et al. 1998). Moreover, systems may be formally established but remain underused as individuals do not perceive them to be useful. Irrespective of the impact that MAS has on the organization, accounting development projects consume a significant amount of resources. This has been underlined in the earlier literature, especially in connection with large-scale development stakes, such as enterprise resource planning system implementation projects (see e.g., Poston and Grabski 2001, Mabert et al. 2003, Umble et al. 2003), but they are naturally present on their respective scales in smaller ventures. In consequence, a great amount of time, money and human effort is spent on creating accounting systems that are obsolete from their inception. Furthermore, systems that could actually be useful are non-existent.

1.2. Research Objective and Questions

As Hempel and Oppenheim (1948) note, often the meaning of concepts seems intuitively clear as far as there is a need to construct explicit definitions of them. This observation is also relevant for the concept of MAS usefulness. In everyday communication, some conceptual ambiguity can usually be dealt with. In scientific enquiry, the importance of conceptual clarity is, however, paramount as these concepts form the basic building blocks of scientific knowledge. That is, the concepts are “meaning-laden classifications” that form the “skeletal framework” of science (Chimezie and Osigweh 1989). The field of organizational studies has been considered especially problematic with regard to conceptual clarity because of the integration of various fields of science that vary greatly on various issues, such as constructs used

and the operational definitions given to them (McKinley et al. 1999). Naturally, these challenges are also present in MA research drawing from these organizational studies.

The objective of this dissertation is *to clarify the notion of 'management accounting systems usefulness' in its organizational context*. In general, the concept of MAS usefulness has been often used, but rarely taken as a focus of research (see e.g. Chenhall and Morris 1986, Mia and Goyal 1991, Pizzini 2006). This dissertation recognizes this gap in the existing MA literature and provides a study of the notion's underpinnings in both theoretical formulations and empirical settings.

Although the dissertation seeks to analyze the usefulness of management accounting systems at a rather general level, practical research constraints limit the empirical data gathering. Because of these limitations, the dissertation focuses on *analyzing MAS usefulness at the interface of sales and procurement*. The choice of empirical research setting has been pragmatic. That is, the empirical data stems from case settings in which the researcher had access through ongoing research projects. However, this "access based choice" should not only be seen as an immediate limitation upon the aims of the study, as it can also provide various benefits (cf. Ferreira and Merchant 1992, Marshall 1996). The interface of sales and procurement represents a relatively new and unexplored application area of management accounting systems. In addition, exceptional access to ongoing accounting development projects in this specific context enable insightful opportunities to examine MAS usefulness "in action".

Positing a research question usually involves a set of challenges. The question should be well formulated and sufficiently focused. In addition, a good research question should balance both theoretical and practical points of view (Vaivio 2008). The main question, i.e., "topical question" (Stake 1995), of this study is: What makes management accounting systems to be perceived as useful at the interface of sales and procurement? To answer this research question, the research seeks to review and deductively develop the concept of usefulness. Following from this, the theoretical development is validated and refined with an empirical examination. Acknowledging the aforementioned challenges, the research question is further elaborated by dividing it into more focused sub-questions, i.e., "evolved issues pursued" (Stake 1995).

1. What kind of conceptualization of usefulness would capture the organizational realities connected to management accounting systems design?
 - 1.1. What kinds of perspectives there are on the usefulness of management accounting systems?
 - 1.2. Based on these perspectives, how can the usefulness of management accounting systems be conceptualized?

2. How does the proposed conceptualization of usefulness capture the organizational realities related to management accounting systems design?
 - 2.1. How is management accounting systems usefulness constructed in the context of sales and procurement?
 - 2.2. How does the proposed conceptualization help us to explore and analyze the construction of management accounting systems usefulness?

Question 1 requires the theoretical development of MAS usefulness. It further stipulates that MAS usefulness is not only an individual, but also an organizational (and societal) phenomenon. Various views have already been taken on MAS usefulness in the prevailing MA literature. Question 1.1 calls for an exploration of relevant literature and provides descriptions of the different perspectives. Question 1.2 demands the provision of theoretical conceptualization(s) of MAS usefulness that are built on the identified perspectives. Question 2 leads to an empirical examination of the above-provided theoretical conceptualization. The idea of an empirical examination is to further test and assess the conceptualization of MAS usefulness with the help of empirical cases. Question 2.1 calls for a description of MAS usefulness in empirical settings, and hence, for an illustration of how the conceptualization can be used to build an understanding of real life situations. Question 2.2 further requires a critical evaluation of possible benefits (and disadvantages) that an adoption of the proposed conceptualization could provide for academics and practitioners.

1.3. Outline of the Dissertation

The outline of the dissertation is divided into three parts: an introduction of the topic; the theoretical and empirical analyses, and finally, a delivery of the synthesis of the findings. Figure 1 provides a more detailed overview of the outline of the dissertation.

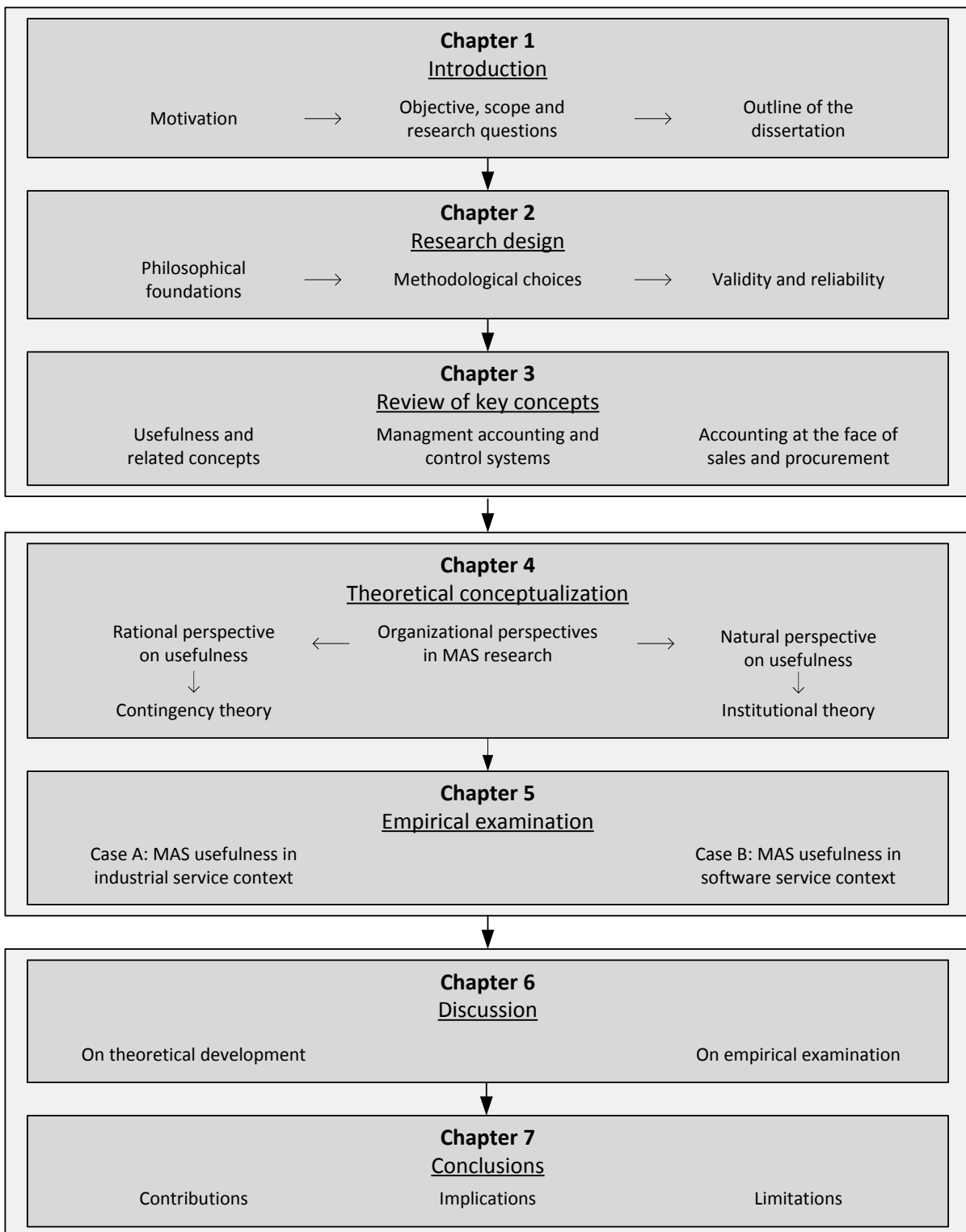


Figure 1. Outline of the dissertation

The dissertation begins with an introductory part, which includes Chapters 1, 2 and 3. Chapter 1 introduces the topic of the dissertation and starts with a background of the study. The introduction continues by framing the study, stating the research objective and questions, and

further narrowing the scope of the study. Chapter 2 introduces the philosophical and methodological choices made. It also reflects these choices with some common approaches and assesses the influence of these choices on the validity and reliability of the study. Chapter 3 enters deeper into the topic by reviewing the related literature and presenting the key concepts of the study.

Chapters 4 and 5 contain the analytical part of the dissertation. In Chapter 4, the conceptualization of MAS usefulness is developed by reviewing and analyzing the existing literature. The theorizing starts by illustrating the variety of theoretical stances and highlighting the dichotomized (rational or natural) nature of prominent MAS research. The dissertation continues with a look at contingency theory, which represents natural perspective; and institutional theory, which represents natural perspective. Finally, Chapter 4 illustrates the problemacy of competing perspectives and argues that usefulness should be seen as a component of these perspectives. In Chapter 5, two cases are used to validate and refine previous theorizing. The cases are also drawn to elaborate the theoretical conceptualization of MAS usefulness.

Chapters 6 and 7 present the synthesis. Chapter 6 discusses the findings of the dissertation in light of the analysis in the previous two chapters. The first part of the chapter highlights the key findings related to the theoretical development of the concept and further considers the potential effects of the findings for MAS research. The second part, in turn, focuses on the empirical findings of the study. It starts by discussing the strengths and weaknesses of the proposed conceptualization from the perspective of empirical analysis. Following this, the empirical findings about the usefulness of MAS are further discussed and reflected with earlier research. Chapter 7 presents the conclusions of the thesis. It starts by highlighting the contributions of the study and assesses both the implications for further research and managerial work. Finally, the limitations of the study are presented.

2. Research Design

This chapter details the research design and its implications for the validity and reliability of the study. The chapter begins by introducing the philosophical foundations of the dissertation. The second section of the chapter introduces the adopted research methodologies, and more specifically, the methods applied to collect and analyze the empirical data. The chapter ends with an assessment of the reliability and validity of the study.

2.1. Philosophical Foundations

As Burrell and Morgan (1979) remark, “all social scientists approach their subject via explicit or implicit assumptions about the nature of the social world and the way in which it may be investigated” (p. 1). Consequently, the differences stemming from different assumptions underlying research have been often discussed in the accounting and organization studies literature. To begin with, a research ‘paradigm’ can be seen as “a general perspective or way of thinking that reflects fundamental beliefs and assumptions about the nature of organizations” (Gioia and Pitre 1990 p. 585). However, further definitions of the term ‘paradigm’ are present in the literature. Although there are some differences in terms of broadness and level of detail in the definitions, the notions seem to share a view that paradigm describes “a set of beliefs” or “a worldview” that relates to scientific enquiry (Guba and Lincoln 1994). As Guba and Lincoln (1994) further note, these beliefs and worldviews are so elementary that they must be accepted by well-argued faith, as there are no definitive ways to validate their truthfulness.

To support our understanding of the differences in the philosophical foundations, various taxonomies are presented. Perhaps the most well-known scheme has been provided by Burrell and Morgan (1979) who identify four types of assumptions about the nature of the social world and the ways it might be investigated. These assumptions relate to the ontology, epistemology, human nature and methodology of an enquiry. As Burrell and Morgan (1979) and Guba and Lincoln (1994) argue, these fundamental questions are associated in such a way that answering one question constrains typically answers to others. However, organizational scholars often adopt slightly narrower taxonomies. Guba and Lincoln (1994) suggest that scientific enquiry can be defined with the use of three central parameters: ontology, epistemology and methodology, and hence, discard the human nature aspect suggested by Burrell and Morgan (1979). Quite often, scholars (see e.g., Hassard 1991, Schultz and Hatch 1996, Scott 2008) focus on two main assumptions: “the nature of organizational phenomena (ontology) and the nature of knowledge about those phenomena (epistemology)” (Gioia and Pitre 1990 p. 585). In the following section, the general choices regarding epistemology and ontology are

discussed in the context of this dissertation. The methodology of the study is presented in the subsequent section.

2.1.1. Ontology

Ontology concerns the very basic assumptions about the nature of phenomena under investigation (Burrell and Morgan 1979, Scott 2008). It provides an answer to the question: “what exists?” (Chalmers 2009 p. 77), that is to say, “what is the form and nature of reality, and therefore what is there that can be known about it?” (Guba and Lincoln 1994 p. 108). In accounting and organization studies, two fundamentally opposing types of ontologies—realism and a sort of anti-realism—are often contrasted.

Burrell and Morgan (1979), for instance, make an ontological distinction between ontologically objectivist realism and subjectivist nominalism. Realism assumes that “the social world external to individual cognition is a real world made up of hard, tangible and relatively immutable structures...For the realist, the social world exists independently of an individual’s appreciation of it.” (p. 4) Nominalism, in turn, posits that “the social world external to individual cognition is made up of nothing more than names, concepts and labels which are used to structure reality. The nominalist does not admit to there being any real structure to the world which these concepts are used to describe.” (p. 4)

A more fine-grained typification of ontologies has been proposed by Guba and Lincoln (1994). At the top level, they make the often-followed distinction between realism and relativism (cf. Guba 1992, Nightingale and Cromby 2002, Chalmers 2009). Nonetheless, realism is further divided into three sub-types: naïve realism, critical realism and historical realism. According to Guba and Lincoln (1994), naïve realism assumes the existence of “apprehendable reality”, that is, reality “driven by immutable natural laws and mechanisms” (p. 109). Critical realism also assumes reality to exist but it sees this reality as only “imperfectly apprehendable” because of human limitations and “the fundamentally intractable nature of phenomena” (p. 110). As for other types of realism, historical realism also postulates an existing reality. However, historical realism further acknowledges that our understanding of reality is shaped over time “by a congeries of social, political, cultural, economic, ethnic, and gender factors” (p. 110). In contrast to critical realisms, ontological relativism assumes “multiple socially constructed realities rather than an objective reality” (Guba 1992 p. 18). Hence, the truthfulness of assertions is always assessment-related and it can only be evaluated by the standards of different frameworks (Guba and Lincoln 1994, Chalmers 2009).

2.1.2. Epistemology

Epistemology asserts our understanding of the nature of scientific knowledge (Burrell and Morgan 1979, Scott 2008). In essence, it answers the question: “what can be known?” (Guba and Lincoln 1994 p. 108). Further, it looks at “what is to count as acceptable truth by specifying the criteria and process of assessing truth claims” (Chua 1986 p. 604). Naturally, the an-

swers to these questions are constrained by the ontological assumptions adopted (Guba and Lincoln 1994). Similar to ontological assumptions, epistemological suppositions are often divided to dialectic extremes, namely, positivism and anti-positivism (Wicks and Freeman 1998). This distinction has also been adopted by Burrell and Morgan (1979) who further define that whereas positivistic epistemologies “seek to explain and predict what happens in the social world by searching for regularities and causal relationships between its constituent elements”, anti-positivistic views are “firmly set against the utility of a search for laws or underlying regularities in the world of social affairs” (p. 5).

Using their own terminology, Guba and Lincoln (1994) also make a fundamental distinction between positivists and anti-positivists. They posit that on the positivistic end of the continuum, there are ‘dualist objectivists’ and on the anti-positivistic side, there are ‘transactional subjectivists’. Dualist objectivists assume the investigator and the investigated object to be independent entities. Hence, the object of study can be examined without influencing it or being influenced by it. Transactional subjectivists, in turn, presume the investigator and the investigated object to be intrinsically intertwined. Because of these inevitable connections, the findings are always “value mediated”. Guba and Lincoln (1994) further suggest that between these extremes, there is also a third orientation, which they label ‘modified dualist objectivists’. This epistemological stance accepts the impossibility of maintaining perfect dualism, but still keeps it as a regulatory ideal that should be pursued.

2.1.3. Pluralism

The dissertation adopts a pluralist philosophical stance¹. While the differences between various research paradigms are typically emphasized, the similarities between them are commonly downplayed (Kakkuri-Knuuttila et al. 2008). Pluralists, in turn, acclaim the connections between paradigms and emphasize the importance and benefits of multiparadigm research (Hassard and Kelemen 2002). The multiparadigm approach generally has two benefits (Lewis and Kelemen 2002):

1. It encourages the achievement of greater awareness of theoretical alternatives.
2. It promotes understandings of organizational plurality and paradox.

Hence, the multiparadigm approach can facilitate discussion across the borders of traditional paradigmatic camps. Although paradigmatic pluralism has become increasingly accepted, it has long remained somewhat provocative especially for the advocates of paradigm purism and incommensurability arguments (Gioia and Pitre 1990, Lewis and Grimes 1999, Kelemen and Hassard 2003). Scherer (1998) claims that the pluralistic multiparadigm perspective can provide “an intermediate between relativism and dogmatism” (p. 155). At the same time howev-

¹ As highlighted by Lewis and Kelemen (2002) studies on organizations appear increasingly fragmented. A pluralistic stance provides a flexible view on different research paradigms, thus enabling unbiased and critical consideration of studies drawing from dissimilar and sometimes even opposing foundations.

er, he questions some of the basic tenets on which the perspective is based. As Lewis and Kelemen (2002) put it: “For if all approaches rely on an underlying ideology, ontology, and/or epistemology, then what are the foundations of a multiparadigm perspective?” (p. 252).

Ontology and Epistemology in Pluralism

As the above citation highlights, philosophically pluralistic enquiries are sometimes seen as systems without ontological and epistemological foundations. To respond to this critique, a few authors (e.g., Spender 1998, Lewis and Kelemen 2002, Bowers 2011) have sought to define the underlying ontological and epistemological assumptions in multiparadigm research. To explicate the ontology and epistemology of this dissertation, the definitions of Lewis and Kelemen (2002) are adopted because of their relative clarity. According to them, multiparadigm enquiry holds a “stratified ontology”, which assumes “multiple dimensions of reality” (p. 258). Hence, “reality is at once ‘made’ and ‘in the making’” (p. 258), and both of these entities and related processes should be studied.

Whereas in “monist” epistemologies only one form of knowledge is recognized, in pluralistic enquiries multiple forms of approaches, evidences, and reasoning are admitted (Spender 1998). As Lewis and Kelemen (2002) note, pluralist epistemology presumes that “paradigm lenses help construct alternative representations, exposing different dimensions of organizational life” (p. 259), which especially supports an understanding of more complex phenomena. This supports the recognition of “the plurality and paradoxes of organizational life, as well as the uncertainties of knowledge” (p. 259), and hence, encourages researchers towards greater reflexivity.

Commensurability versus Incommensurability

The commensurability or incommensurability of different paradigms has resulted in major debates. The supporters of incommensurability (cf. Jackson and Carter 1991, Scherer and Steinmann 1999) often draw on the ideas of Kuhn (1966), which have been further advanced by Burrell and Morgan (1979). In their book, Burrell and Morgan (1979) famously suggest the existence of incommensurable paradigm boundaries:

A synthesis [between paradigms] is not possible, since in their pure form [paradigms] are contradictory, being based on at least one set of metatheoretical assumptions. They represent alternatives, in the sense that one can operate in different paradigms sequentially over time, but mutually exclusive, in the sense that one cannot operate in more than one paradigm at any given point in time, since in accepting the assumptions of one, we defy the assumptions of all the others. (p. 25)

Willmott (1993) argues that much of the confusion stems from Burrell and Morgan’s (1979) flawed interpretation of Kuhn (1966). That is, whereas Kuhn (1966) sees that science is “a process of movement in which ‘new’ paradigms emerge” (Willmott 1993 p. 686), Burrell and

Morgan (1979) perceive that sociological thought is “divided into four autonomous and rival ‘ways of seeing’” (Willmott 1993 p. 686). Weaver and Gioia (1994), who support paradigmatic commensurability, also forward a similar interpretation on the roots of incommensurability arguments.

Later, the original fathers of paradigmatic incommensurability have also joined the discussion. Kuhn (1982) addresses the necessity to ease incommensurability interpretations by remarking: “Most or all discussions of incommensurability have depended upon the literally correct but regularly over-interpreted assumption that, if two theories are incommensurable, they must be stated in mutually untranslatable languages” (p. 669-670). Hence, scholars should not be too strict when denying the possibility for comparability and communicability across paradigms (Kuhn 1982, Kakkuri-Knuuttila et al. 2008). Burrell (1999), in turn, notes that the main aim of their book is to argue that organizational sciences are pluralistic by nature, by comparing it with Kuhn’s (1966) proposal on the domination of normal science. Following from this, various scholars have interpreted their work by emphasizing less significant aspects. Overall, the above clarifications can be further seen to reduce the controversiality of the selected philosophical stance.

2.2. Methodology

The term ‘methodology’ is commonly used in the scientific literature in at least two senses (Takala and Lämsä 2001, Mackenzie and Knipe 2006). In its broader connotations, methodology relates to research paradigms in general. Ahrens and Chapman (2006), for example, adapt the terminology of Silverman (1993) and define methodology as “a general approach to studying research topics” (p. 819). Hence, methodology also includes epistemological choices, for instance, a leaning on positivism. Walter’s (2006) definition also encompasses a broad view as it defines methodology as a “paradigm in which our theoretical perspective is placed or developed” (p. 35). In a narrower sense, methodology is a collection of research methods that are used in data gathering and analysis. Somekh and Lewin (2005) define “methodology in its narrowest sense” to be “the collection of methods or rules by which a particular piece of research is undertaken” (p.346-347), but at the same time, they also acknowledge the generality of the broader definition. Mingers (2001) has also adopted the narrow definition. He further notes the two sub-connotations of the term ‘method-ology’, that is, the study of methods and ‘research methodology’, which covers a “whole range of different methods” (Mingers 2001 p. 242). In this dissertation, the narrower, and perhaps more commonly adopted (cf. Mackenzie and Knipe 2006) conception of methodology is followed.

The methodology of a study is influenced by the epistemological and ontological assumptions adopted. Although philosophical foundations do not necessarily dictate the methodological choices, they certainly incline scientists towards certain methodologies (Burrell and Morgan 1979). On the other hand, the connection between philosophical foundations and the methodology adopted should not necessarily be as strict as it often appears to be. Guba and Lincoln

(1994), for instance, argue that the question related to research methods is secondary to the question of paradigm. In consequence, they regard the appropriateness of using both qualitative and quantitative methods with any research paradigm.

Methodologically, this dissertation draws on two primary sources. First, the tentative theoretical conceptualization is deduced by reviewing the extant literature. Second, this conceptualization is empirically validated and refined with the help of qualitative field research. Following this, the adopted methodologies and related methods are introduced in greater detail.

2.2.1. Deductive Theoretical Conceptual Research

Conceptual research has an important role in most, if not all, fields of science (Näsi 1980). There are, however, some differences in terms of the actual importance of the role of conceptual analysis. In everyday communication, it is possible to cope with rather crude and imprecise concepts. In case of scientific communication, however, there is a requirement for the precise use of language (Näsi 1980). In general, the development of an informed conceptual framework has been seen as especially important to all theory building and refining research as it provides “the core explanatory container of any theory” (Lynham 2002 p. 232). Näsi (1980) further argues that without conceptual analysis, science as we know it today, would not be possible. This argument is elaborated by the remark that conceptual analysis “introduces the basic units of scientific reasoning” (p. 17), which are needed to focus and clarify research.

Although, the rigor of the conceptual basis is important, conceptual development has been frequently overlooked both in the management accounting literature (Bisbe et al. 2007, Tessier and Otley 2012) and in organization studies (Whetten 1989, Van Maanen 1995, Colquitt and Zapata-Phelan 2007). According to Wacker (2004), the lack of clear conceptual definitions is at least partly due to the strong emphasis on the measurement of concepts. This tendency has resulted in the muddying of our understanding and weakened ability to develop and test research hypotheses using concepts (Chimezie and Osigweh 1989), or as Denzin (1970) puts it, “a weak concept, definition, or proposition weakens any theory” (p. 43).

Wacker (1998) uses the term ‘analytical conceptual research’ to describe a broad set of research methodologies that “comprises new insights through logically developing relationships between carefully defined concepts into an internally consistent theory” (p. 373). In this dissertation, the analysis relies upon a review of the existing literature, which provide theories that could explain MAS usefulness in its organizational context. The conceptualization of MAS usefulness is formulated by deducing the results of the review. In this vein, a deductive theoretical system is developed by combining one set of propositions with other propositions (Denzin 1970). Hence, the methodology adopted in the first phase of this dissertation can be labeled as deductive theoretical conceptual research.

There does not seem to be an established process to direct the conduction of conceptual research. Nevertheless, a few suggestions illuminating the steps of such a process can be recognized. Näsi (1980) identifies three steps that typically lead to conceptual analysis. The analysis starts by problematizing a certain concept, revealing the complexity of the phenomena and the perspective that is further elaborated. The process continues with explication, necessitating the formulation of clear conceptual definitions. Finally, the researcher needs to put forward arguments to justify the proposed conceptualization and to defend it from possible counter arguments. Takala and Lämsä (2001), in turn, emphasize the importance of flexibility in interpretations while conducting conceptual analysis. In this approach, what Takala and Lämsä (2001) label as ‘interpretive conceptual analysis’, all the three phases suggested by Näsi (1980) are in continuous interaction. Although such approach has their supporters, the first mentioned process, holding more “linear logic”, is preferred in here as it is seen to provide more clear structure for the dissertation.

2.2.2. Qualitative Field Research

Qualitative field research is a widely discussed methodology. However, much of this discussion has been a back and forth quarrel between the advocates of qualitative and quantitative methods. In many of these discussions (see e.g., Howe 1988, Gummesson 1993, Sale et al. 2002), the qualitative method is often (perhaps somewhat misleadingly) equated with hermeneutics/interpretivism, and the quantitative method with positivism. Hunt (1994) notes that tight linking between positivism and quantitative methods is mainly a historical relic. He further cites Phillips (1987) who argues that “a positivist, qua positivist, is not committed to any particular research design. There is nothing in the doctrine of positivism that necessitates a love of statistics or a distaste for case studies.” (p. 96) In the same sense, Prasad and Prasad (2002) highlight that the terms qualitative and interpretive are not strictly synonymous. Furthermore, they maintain that the term ‘qualitative research’, as such, refers to “methodological approaches that rely on nonquantitative (or nonstatistical) modes of data collection and analysis” (p. 6). Hence, qualitative research can be part of both positivistic as well as anti-positivistic studies.

Qualitative field research is employed in this dissertation by utilizing interventionist case research methods. Here, the term ‘qualitative’ is used to refer to the nature of gathered research data and form of its analysis². The research does not have an aim to create or test any hypothesis in a strict hypothetico-deductive sense. In turn, qualitative field research is used to examine and highlight the feasibility of the proposed conceptualization of MAS usefulness in order to capture organizational realities present in the case settings.

² Guba and Lincoln (1994) also suggest that the term ‘qualitative’ should be reserved for a description of certain kinds of methods.

A case study can perhaps best be understood as a frame determining the boundaries of data gathering, but which is not strictly bound to any particular ways of analyzing that data (Eisenhardt 1989, Stoecker 1991, Gerring 2004). This view of case studies emphasizing a focusing aspect is also present in the work of Gerring (2004), who defines a case study as “an intensive study of a single unit for the purpose of understanding a larger class of units” (p. 341). In general, a case study implies a single unit of analysis. Nevertheless, the unit of analysis can also be a more aggregated one (Scapens 1990). That is, case studies are generally used to gain knowledge on individuals, organizations, communities, societies or related phenomena (Stoecker 1991, Yin 1994). Moreover, the focus of the case study does not necessarily need to be a social entity, but also, “an institution, a program, a responsibility, a collection, or a population can be the case” (Stake 1978 p. 7). Typically, case studies are used to understand phenomena that are inherently complex or hidden in such a way that they would not be assessed without profound examination (Gummesson 1993).

Yin (1994) points out that in general, there are at least five different applications of case study research. First, case studies may be applied to explain causal links in complex real-life interventions that are too complex for surveys or experiments. Second, case studies can be applied to describe an intervention and the real-life context in which it occurred. Third, case studies can be applied to illustrate specific topics with a descriptive mode. Fourth, case studies can be applied to shed light on situations in which intervention has no clear set of outcomes. Fifth, case study may be a study of an evaluation study. From the perspective of this dissertation, the last mentioned application of case research perhaps best matches the actual use of cases in the empirical part of the study.

Interventionist Research

During the last decades, the researcher’s role as an actively affecting party has been increasingly acknowledged, especially in the different fields of applied sciences including accounting research (Baard 2010). The term ‘interventionist research’ first appeared as a management accounting terminology less than ten years ago (Jönsson and Lukka 2005). However, various research approaches relying on research interventions, such as action research and constructive research, were already established before that. One common denominator of these interventionist research approaches is their aim to increase and return the pragmatic relevance of research (Suomala and Lyly-Yrjänäinen 2012). This aim for more practical research is the outgrowth from the “relevance is lost” discussion (Johnson and Kaplan 1987), a prominent discussion of the late 1980s. The general concern in the field of management accounting was (and to some extent still is) that management accounting research has not managed to produce theories with relevant managerial implications (Suomala and Lyly-Yrjänäinen 2012), although it is one of the most important features of any applied science (cf. Kasanen et al. 1993, Mattessich 1995, Jönsson 2010).

In management accounting, interventionist research is often linked with participative case research (see e.g., Jönsson and Lukka 2005, Dumay 2010, Suomala and Lyly-Yrjänäinen 2012). As Jönsson and Lukka (2007) note, in interventionist case research: “observation in the participant mode dominates the collection of empirical research materials”, whereas in non-interventionist case research: “focus is typically on formulating, understanding, and explaining management accounting issues on a conceptual level” (p. 375). However, although interventionist research is also closely related to participatory case studies (cf. Yin 1994, Jönsson and Lukka 2005), the use of interventions as an affecting element in the creation of the access of the research setting marks off the interventionist approach (Suomala and Lyly-Yrjänäinen 2008). Conversely, it is also noted (Jönsson and Lukka 2005, 2007, Suomala and Lyly-Yrjänäinen 2012) that interventionists can be associated with other approaches aside from case studies. Hence, interventionist research is seen as a cluster of research approaches where the researcher is more or less deeply involved in the object of study.

Jönsson and Lukka (2005) also note some of the general strengths and weaknesses of interventionist case research. According to them, the major weakness of interventionist case studies is their potentially time-consuming nature. However, the strengths of interventionist case research are also notable. Firstly, interventionist case research involves constructing new realities jointly with people working in the case organization. In consequence, this collaboration provides deeper insights about the organizational realm, more subtle and significant data, and an understanding of subjects’ “theory-in-use” rather than their “espoused theory”. Secondly, as interventionist research takes place *in vivo*, the organization and its members drive research to be inherently relevant. This dissertation builds empirically on two interventionist case studies where researchers have participated in MAS development. Such an approach is selected because it is seen that complex phenomena (such as MAS usefulness) could only be understood by achieving in-depth insights about the organizational realm. It is further argued that without the researcher’s active participation, such access could not have been achieved.

2.2.2.1. Data Collection Methods

In order to validate and refine the proposed conceptualization of MAS usefulness, accounting development projects were examined in two case settings³. Case studies often rely on multiple methods of data collection (see e.g., Yin 1994, Meredith 1998, Scapens 2004) and this dissertation makes no exception. For the present research, empirical data was collected by the researcher in cooperation with and his two colleagues⁴ using three methods: (participant) observations, interviews, and the collection of archival data. The data collection was conducted

³ The case settings and research data are described and discussed in more detail in connection with the empirical examination (Chapter 5) and in later phases of the discussion (Section 6.2).

⁴ The empirical data gathering was conducted by the author and two other researchers: D.Sc. Teemu Laine (both cases) and B.Sc. Lauri Pitkänen (second case). Pitkänen’s master’s thesis was also based on the empirical data from the second case (Pitkänen 2012). I want to acknowledge and address their role in the process, as it has enabled both more extensive and detailed data collection. This dissertation, and the analysis and conclusions in it, however, are products of the author’s independent work.

simultaneously with MAS development processes in the case settings. The opportunity to follow ongoing development processes enabled the collection of highly relevant research data.

Direct observations are often the most important source of case study data (Meredith 1998). Observations made in participative mode were also used in this research as a main data gathering method to examine MAS usefulness in case settings. In general, participant observation refers to a method whereby the researcher spends his/her time with the target as a member of an examined organization, community, or group and participates in its operations on the limits of the researcher's role (Becker 1958). Thus, a researcher is not merely a passive observer, but actively participates with the people in the organization or community under study (Whyte et al. 1989, Yin 1994). Hence, participant observation enables the researcher to collect material and achieve such points of view that would not be possible otherwise. The ability to gain an in-depth insight is essential as MAS usefulness is a very complex and highly ambiguous phenomenon.

Semi-structured interviews were used to deepen the understanding of certain topics related to MAS development. While the researchers prepared some questions for these interviews, the possibility did exist for continuous adaptation (Myers and Newman 2007). When compared with structured interviews, the process is more flexible and there is the possibility to follow up on questions when necessary (cf. Abernethy and Lillis 1995). The questions guiding interviews, i.e., research protocol, have been prepared prior to each interview. The preparation of the protocol greatly enhanced the clarification and prioritization of information needed from the interviews (Harrell and Bradley 2009). The interviews were conducted with both of the case organizations' members and customers. The members of the case organizations were interviewed especially to gain a more detailed understanding of certain topics that needed clarification still after periods of direct observations. The purpose of the customer interviews was, in turn, to include customer perspectives in MAS development processes. Interviews were audio recorded when the interviewees perceived it appropriate. However, in most of the interviews, there were at least two researchers present, thus enabling detailed note taking in any event. While operating in participatory mode, informal discussions with the members of the case organizations were sometimes initiated surprisingly. In an attempt to ensure that what was said did not rely only on memory, the researcher made notes right after participating in these events (on the importance of informal evidence see e.g., Scapens 2004).

Importantly, archival data was gathered to become familiar with the case organizations. In both cases, the principal companies proactively provided data, which they believed the researchers should be aware of. On some occasions, especially when the documents and tools were regarded as confidential, the researchers needed to explicitly request permission for the data. On these occasions, access to data was provided almost without exception.

2.2.2.2. Data Analyzing Methods

Data analysis is often neglected in qualitative case research (Eisenhardt 1989). Hence, the field data and conclusions drawn from it become somewhat separated. Perhaps, a reason for this gap is the scarcity of qualitative literature guiding the analysis phase. This, in turn, probably stems from a fact already identified above, that is, much qualitative research is strongly sympathetic to hermeneutics/interpretivism. Nevertheless, a few suggestions guiding qualitative case study analysis can be found in the literature.

According to Yin (1994), case study analyses generally follow two strategies: a reliance on theoretical propositions and the development of a case description. Yin (1994) further notes that from these methods, the more preferable strategy is to follow the theoretical propositions that led to the case study. However, when theoretical propositions are absent, a descriptive framework for organizing the case study can be developed. In this dissertation, the data analysis contains some elements from both strategies. The dissertation acknowledges the theory on the topic, but does not test specific propositions in the positivist sense. The study also provides two case descriptions, but steers away from pure “descriptive mode” by being theoretically informed.

LeCompte (2000) provides a more detailed, five-step process that supports qualitative data analysis. Although this analytical process clearly draws from the grounded theory tradition (Eisenhardt 1989), some of its basic ideas can be adopted more broadly. LeCompte’s (2000) process starts with “tidying up” data, which includes sorting, arranging, and labeling the files and memoirs collected from the cases. Hence, the initial dataset can be preliminary assessed. The next step involves finding items that are coded and assembled into research results. This phase typically involves repeated readings of the research material. The third step aims to create more stable sets of groups or categories by comparing and contrasting items. That is, a meaningful taxonomy including coded items is created. After (stable) taxonomies are created, the process moves to the study of possible patterns that connect the taxonomies. Finally, after the patterns have been identified, groups of these patterns are further taken together and assembled into structures that build an overall understanding of the problem studied.

The data analysis in this dissertation can be reflected upon LeCompte’s (2000) “ideal” process. As suggested, the data analysis started with the sorting and (re-)labeling of data stemming from workshops and interviews. The second phase of the data analysis, however, did not include the coding of the research data. In turn, taxonomies guiding the data analysis were drawn from the theoretical conceptualization of MAS usefulness. Adopted theoretical perspectives provided labels and descriptions for tables that functioned as analysis platforms. The data analysis continued by reading through the case data and tabularizing findings under theoretically deduced labels. Finally, the tabularized findings were further arranged into meaningful groups that provided the overall understanding of MAS usefulness in case settings. The

research data was analyzed independently by the researcher. However, discussions with two other researchers were held to assure the consistency of interpretations.

2.3. Validity and Reliability

In scientific discussions, validity and reliability are typically viewed as basic criteria for assessing the quality of a study. Patton (2002) remarks that while the credibility of quantitative research depends strongly on instrument construction to ensure that an instrument measures what it should measure, and measurement administration to show that measurement is done in an appropriate manner, in qualitative research, the researcher is the instrument. Hence, the credibility of qualitative methods is highly dependent on the skill and thoroughness of the individual/s conducting the research. In consequence, qualitative case studies have been criticized for lacking rigor and excessively biased, as allegedly, there is no assurance of either their validity or reliability (Stoecker 1991). Aside from offering a critique of case studies, these allegations have more generally questioned the legitimacy of all qualitative research (Maxwell 1992).

Advocates of qualitative methods have provided at least two responses to these claims. A number of researchers (e.g., Lincoln and Guba 1990, Krefting 1991, Stenbacka 2001) have suggested that the traditional (quantitative) criteria of validity and reliability are not relevant to qualitative research (Johnson 1997, Morse et al. 2002, Prasad and Prasad 2002). In consequence, various authors have suggested the adoption of new sets of criteria to ensure the rigorousness of qualitative studies. Creswell and Miller (2000), for instance, recognize Maxwell's (1992) five types of validity, Lather's (1993) four kinds of validity and Schwandt's (1997) four positions on generalization, which all provide different bases to assess qualitative studies. Another group of researchers (e.g., Stoecker 1991, Adcock and Collier 2001, Golafshani 2003) has proposed that the concepts of validity and reliability should be slightly flexed to better fit the evaluation of qualitative studies. To support this strategy, Morse et al. (2002) highlight their concern that introducing parallel terminology and criteria can further marginalize qualitative research from mainstream science, and hence, conforming to established concepts is recommended. In addition, they note that whereas North American scholars have adopted newly developed criteria, their European colleagues have strongly continued the use of validity and reliability in their terminology. The latter strategy is also embraced in this dissertation to assess methodological rigorousness.

Validity in qualitative research can be broadly defined as the "relationship between an account and something outside of that account, whether this something is construed as objective reality, the constructions of actors, or a variety of other possible interpretations" (Maxwell 1992 p. 283). When assessing research validity, terms such as plausibility, credibility, trustworthy, and defensibility are often used to highlight the prevalence of objectivity (Johnson 1997). In this very broad sense, validation can be seen to refer "to the ways through which the credibility of a piece of research is developed and legitimized in front of relevant audiences"

(Lukka and Modell 2010 p. 463). Various types of validity can be introduced and drawn to assess the rigorousness of complex field studies. Here, the validity of the selected methodology is discussed with the help of two elementary types: internal and external validity. These were first invoked by Campbell and Stanley (1966), and later applied by a number of researchers (Cook et al. 1979, Stoecker 1991). In addition, the question of research reliability is answered.

2.3.1. Internal Validity

Internal validity, i.e., solidity, refers to the degree to which it can be concluded that an observed relationship is causal (cf. Campbell and Stanley 1966, Cook et al. 1979, Johnson 1997). Whereas studies based on large sample sizes often rely on statistical reasoning, statistical interpretation is not typically invoked in case studies, and more elementary forms of scientific logic are followed. The validity of conclusions does not depend on the representativeness of the case but “upon the cogency of the theoretical reasoning” (Mitchell 1983 p. 207). Hence, internal validity relates more generally to the researcher’s ability to provide “a plausible causal argument, logical reasoning that is powerful and compelling enough to defend the research conclusions” (Gibbert et al. 2008 p. 1466). Nonetheless, internal validity is “the basic minimum” without which research becomes uninterpretable (Campbell and Stanley 1966 p. 5).

Different types of triangulation are generally seen as ways to increase the scientific rigor of case studies (Stoecker 1991, Golafshani 2003, Gibbert et al. 2008). Traditionally, triangulation means the use of multiple methods to study the research object. However, triangulation can also be used in a broader sense. Denzin (1970) identifies four types of triangulation: data triangulation, investigator triangulation, methodological triangulation and theory triangulation. According to Janesick (1994), the types of triangulation can be further defined as:

1. Data triangulation: the use of a variety of data sources in a study.
2. Investigator triangulation: the use of several different researchers or evaluators.
3. Methodological triangulation: the use of multiple methods to study a single problem.
4. Theory triangulation: the use of multiple perspectives to interpret a single set of data.

Janesick (1994) has further suggested the prevalence of a fifth type, which she labels interdisciplinary triangulation, and which has also been called paradigmatic triangulation. To some extent, this study employs triangulation at all the above-mentioned levels. As mentioned, the research data has been gathered from two case settings with the help of various data collection methods. The role of investigator triangulation, in turn, has been relatively small because of the independent nature of the doctoral dissertation process. Although there have only been a few discussions with other researchers related to the themes of this thesis, the discussions have provided important support to structure the empirical cases. Methodological triangulation is another aspect that could have been taken into account more strongly. However, performing triangulation at all possible levels would have made the study unnecessarily compli-

cated. In later sections, the study sheds more light on triangulation at theoretical and paradigmatic levels.

The broad conception of internal validity also covers descriptive and interpretive types of validity identified by Johnson (1997) that lead us to further discuss the validity of a selected research methodology. Descriptive validity refers “to accuracy in reporting the facts” (Johnson 1997 p. 285) on which explanations on empirical relationships are also built. Gibbert (2008) advises that researchers should assure the accuracy of their analysis by formulating a clear research framework. Silverman (2000), in turn, proposes the use of a simple tabulation to improve data analysis. Reflecting on the earlier description of data analysis, both of these recommendations can be closely followed, as the theoretical conceptualization provides a solid framework for empirical analysis. Consequently, empirical analysis is supported with data tabulations. Interpretive validity, in turn, refers “to the degree to which the research participants’ viewpoints, thoughts, feelings, intentions, and experiences are accurately understood...and portrayed in the research report” (Johnson 1997 p. 285). Sometimes, interpretive validity may be assured by checking the case study data with the help of so-called “member checks”. Morse et al. (2002), on the other hand, maintains that after the findings have been synthesized, decontextualized, and abstracted, individuals are not necessarily able to recognize themselves or their own experiences. During the empirical field research, the researchers were able to constantly reflect their interpretations on actual occurrences. Although the final analyses for this dissertation were independently conducted by the author, the discussions with the two other researchers supported the interpretive validity of the analysis.

Maxwell’s (1992) position concludes the discussion on internal validity rather well: “Validity is not an inherent property of a particular method, but pertains to the data, accounts, or conclusions reached by using that method in a particular context for a particular purpose” (p. 284). In this study, overall validity is sought and assessed according to this idea.

2.3.2. External Validity

External validity, i.e., generalizability, refers to the possibility of generalizing research findings to new populations (cf. Campbell and Stanley 1966, Maxwell 1992, Johnson 1997). A typical claim, which is held especially by the advocates of natural sciences, argues that it is impossible to generalize from a case study (Flyvbjerg 2006, Ruddin 2006). One set of answers to this criticism has questioned whether it is even the purpose of the case study to provide generalizable findings in the traditional sense (Ruddin 2006). Stake (1978), for instance, argues that case studies rely on “naturalistic generalizations” that develop as an individual’s product of experience. Furthermore, as the individuals recognize similarities between cases, they become able to connect earlier knowledge to new settings. From this perspective, generalization is a form of knowledge transferability (Ruddin 2006).

Flyvbjerg (2006) argues that the claim that case studies are un-generalizable is a misunderstanding. With the help of well-known examples, in particular, Galileo's rejection of Aristotle's law of gravity, he argues that many generalizations have been successfully made from cases. He further suggests that the case study is especially suitable for making generalizations with the help of 'falsification', which provides one of the most rigorous tests against which a scientific proposition can be subjected. That is, "if just one observation does not fit with the proposition, it is considered not valid generally and must therefore be either revised or rejected" (Flyvbjerg 2006 p. 228). In a similar vein, Scapens (1990) portrays case studies as a branch of experimental theory testing and development. Nonetheless, it is also recognized that the studies with large random samples are not without value, and that the choice of method should primarily depend on the problem at hand (Flyvbjerg 2006). Especially, in Northern American research tradition emphasizing statistical generalization, case studies are often considered (only) as the predecessors of the "more quantitative and generalizable approaches" (Berry and Otley 2004, see also Scapens 1990, Modell 2005).

2.3.3. Reliability

In quantitative studies based on large datasets, reliability is typically understood as the absence of random error enabling the replication of a study (Shenton 2004, Gibbert et al. 2008). Validity, in turn, is understood as an error that takes a consistent direction or form (Adcock and Collier 2001). Qualitative researchers often focus on phenomena that, by nature, change (Shenton 2004). Qualitative studies typically also rely on the researcher's description and interpretation of the studied phenomena (Silverman 2000), which makes the quantitative view on reliability of research problematic. As Golafshani (2003) remarks, whereas reliability relates in quantitative studies to the purpose of explaining, in qualitative studies, the purpose of generating understanding is emphasized.

In qualitative research, reliability and validity are typically seen as independent, nevertheless, strongly interrelated criteria. In general, reliability is often simply seen as dependent on the validity of a study (Adcock and Collier 2001). As Lincoln and Guba (1985, cited here as in Golafshani 2003) argue: "Since there can be no validity without reliability, a demonstration of the former [validity] is sufficient to establish the latter [reliability]" (p. 601-602). Hence, if the validation of the research is seen to be sufficient, the study can also be appropriately seen as reliable. Maxwell (1992), in turn, suggests that in qualitative studies, reliability could be understood as a particular type of threat to validity. That is, if different observers or methods produce fundamentally different findings on the same events and situations, the reliability of research should be questioned. This condition is a bit more challenging to response on. It appears evitable that two qualitative case studies based on different methodological choices, drawing from different empirical settings and made by different researchers will provide somewhat different findings. However, at a more general level, the conclusions might be able "to talk each other" (Lukka and Mouritsen 2002), converge, and be seen as relatively reliable.

3. Key Concepts

In this chapter, the key concepts of the study are introduced in three sections. The chapter begins by reviewing the concept of usefulness together with some other closely related notions. Following from this, the chapter provides a description of the different concepts of management accounting and control systems in organizational settings. At the end of the chapter, the contextual venue of the dissertation is defined by reviewing certain closely related areas of research that have shown interest in accounting and accounting systems at the interface of sales and procurement.

3.1. Usefulness and Related Concepts

Generally, the aim of MAS development and its developers is (or at least should be) to provide an endeavored kind of system. The prevailing literature offering insights on MAS change processes has used a variety of notions such as ‘usefulness’, ‘sophistication’ and ‘quality’ to characterize the aspired features of the MAS system. All of these notions have positive nuance, which stems from the teleological assumption that the outcomes are worthy of desire. A useful system gains the acceptance users (Davis 1993), a sophisticated information system provides users with information to make sophisticated decisions, and a high quality information system makes high quality information available to users (DeLone and McLean 1992). Regardless of the notion, a commonly adopted extension to the above-mentioned chain of thought is that endeavored systems producing aspired outcomes enhance managerial decision-making, and thereby lead to improved organizational performance (Pizzini 2006).

Chenhall (2003) notes that the outcomes of management control systems may be divided into individual and organizational categories, and that there is an indirect connection between these outcomes. From an individual perspective, if users find MAS suitable for their needs, the use of the system is more likely, and if so, individuals could better approach their tasks with enhanced knowledge. From an organizational perspective, an individual can better achieve organizational goals when he or she makes better decisions. So far, the literature has not provided compelling evidence to prove that such links actually exist (Chenhall 2003, Pizzini 2006). However, it is relatively easy to hypothesize that exceptions will prevail. For instance, users might be forced to use a system that they perceive to be inadequate; better information does not necessarily lead to improved decisions; and individual and organizational objectives may not be in unison. Nevertheless, although the link between MAS design and organizational performance may be complicated, the adoption and use of these systems remain an interesting area of study (Chenhall 2003).

What follows is a more detailed review of the notions of ‘usefulness’, ‘sophistication’ and ‘quality’. To begin with, the notions are studied from the perspective of common linguistic definitions. Following this, the review is broadened to illustrate how the notions have been used in different branches of the accounting literature. Finally, the suitability of the usefulness notion is assessed by closely contrasting it with the other two related concepts in light of the purpose of the dissertation.

3.1.1. Usefulness

Defining the concept of usefulness is somewhat tricky to tackle without being tautological. The Oxford English dictionary (OED, 2011) defines ‘use’ as the act of putting something to work, or employing or applying a thing, for any beneficial or productive purpose. The term ‘useful’ is the adjective form and refer to things, actions, and practices that are capable of being put to good use, or suitable for use; advantageous, profitable, or beneficial are described as ‘useful’. In turn, ‘usefulness’ is the noun form and relates to a sense of the advantage, good, or benefit following from utilization, employment, or application of something.

Usefulness and Management Accounting

The notion of ‘usefulness’ is commonly adopted in the accounting literature. Sometimes, when the subjective nature of usefulness is underlined, the prefix ‘perceived’ is added. In the MA literature, the usefulness of accounting systems is often studied with the help of contingency theoretical formulations. These studies have, for instance, examined to what extent accounting system development procedures have been perceived to be useful from managers’ point of view (e.g., Larcker 1981, Gordon and Narayanan 1984, Chenhall and Morris 1986). One of the widely recognized pieces of contingency research is a paper by Chenhall and Morris (1986). This paper presents a framework (Figure 2) that has been widely drawn on to study the usefulness of management accounting systems (see e.g., Mia and Goyal 1991, Ittner et al. 2003, Pizzini 2006).

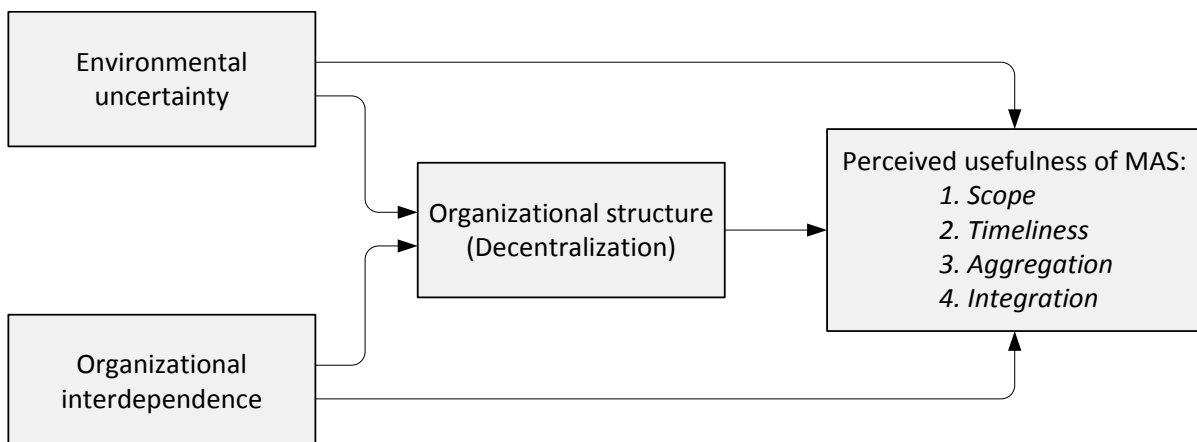


Figure 2. A framework of MAS usefulness (adapted from Chenhall and Morris 1986)

With the help of their framework (Figure 2), Chenhall and Morris (1986) suggest that the perceived usefulness of MAS design is captured by MAS characteristics, such as the scope, timeliness, aggregation and integration of information provided by the accounting system. To further operationalize the dimensions of perceived usefulness, they divide general information characteristics into more specific sub characteristics. According to Chenhall and Morris (1986), the scope of information (1) produced by an accounting system becomes wider if it includes external information in addition to internal information, nonfinancial information in addition to financial information and future oriented information in addition to realization based information. Both the frequency and the speed of reporting, in turn, affect the timeliness of accounting information (2). The aggregation of accounting information (3) is positively affected by aggregating information by time periods, functional areas of organization, and by the help of analytical models. Finally, precise targets and reporting strengthen the integrative nature of accounting information (4).

While several contingency studies rely on the above-mentioned framework of MAS usefulness, it has also garnered some criticism. Gul (1991) notes that Chenhall and Morris' (1986) study is based on the (flawed) premise that useful MAS information should be available, or available MAS information should be useful, before it can have a meaningful relationship with performance. Gul and Chia (1994), in turn, propose (one step further) that it is the availability of the individual information characteristics of MAS that generally impact on performance. In a somewhat similar vein, Chong (1996) remarks (once again, a step further) that linking the perceived usefulness of MAS information characteristics of managerial performance is problematic because it is "the extent of use" of MAS information characteristics that may affect managerial performance.

The problematic nature of the relationship between the accounting system and an organization's performance has been brought up, for example, by Chenhall (2003). In his review article on MAS contingency research, Chenhall (2003) highlights that connecting notions such as 'use', 'usefulness', 'benefits' and 'satisfaction' with organizational performance is problematic. A certain system might not be regarded as useful, and the satisfaction towards the system might be low, but at the same time, organizational performance might be high. This can occur because of many other formal or informal information sources, or perhaps because of pure luck. Hence, it should not be assumed that the usefulness of accounting information leads directly to enhanced organizational performance. However, Chenhall (2003) encourages scholars to continue research on usefulness as these studies can provide insights on the extent of adoption and use of management control systems.

Pizzini's (2006) findings are similar to those of Chenhall (2003). By investigating associations between cost-system design, managers' beliefs about the relevance and usefulness of cost data, and actual financial performance, Pizzini (2006) (only) discovers an indirect relationship between MAS usefulness and company performance. Consequently, she states that "Even if more functional systems produce "better" cost data, such data may not necessarily

lead to improved organizational performance. In fact, more informative cost data can hinder performance.” (p. 186) In Pizzini’s (2006) study, the relevance of cost data is measured by comparing managers’ beliefs about the need for cost information with the information supplied by the cost system. The usefulness of cost-system information is measured with a single question asking respondents to rate the extent to which users rely on cost-system data to make decisions. Hence, the paper’s definition of usefulness parallels strongly with the actual use of MAS. However, as Pizzini (2006) also recognizes, this definition might be problematic, as individuals may be forced to use MAS even though they do not find them useful. As Chenhall (2003) points out, care is required when interpreting studies that have outcome variables related to the characteristics of management control systems, such as the use and usefulness of the systems.

In addition to contingency research, the notion of usefulness has also been studied in more behaviorally focused MA literature. For instance, Jeremias (2001) has studied the perceived usefulness of accounting (costing) systems with the help of cognitive dissonance theory. According to Jeremias, a part of cognitive dissonance theory proposes that people attempt to appear reasonable for themselves and to others. Cognitive dissonance occurs whenever one simultaneously holds two inconsistent ideas, beliefs or opinions. As this inconsistency makes people uncomfortable, they strive to reduce conflict by changing either one of cognition. In practice, people have an intrinsic need to assure that the purchases they make are the result of good decisions (Zeleny 1982). What is interesting in Jeremias’ (2001) study is the suggestion that there are also significant cognitive dissonance effects on the judgment of the usefulness of accounting systems. This means that once acquired, MAS is usually seen in a positive light, at least from the viewpoint of decision-makers. Cognitive dissonance also affects the willingness of people to change from one accounting system to another.

On a conceptual level, Markus and Pfeffer (1983) suggest that accounting and control systems have (at least) three common uses. Fundamentally, the uses of accounting information are related to the acquisition or exercise of power. First, accounting and control systems are related to intraorganizational power because they collect and manipulate information used in decision-making. Second, they are used to change the performance of individuals and the outcomes of organizational processes. Third, they are used to enhance the legitimacy of individual and group activities, regardless of the substantive impacts on individual or organizational performance. Noteworthy, this perspective on usefulness differs from that suggested by Chenhall and Morris (1986).

Usefulness and Financial Accounting

The usefulness of accounting information has also been studied in the field of financial accounting (FA). The literature on financial reporting and financial ratios often assesses the notion of usefulness in terms of a report’s or ratio’s predictive power (Kennedy 1975, Lev and Zarowin 1999). Thus diverging from the MA perspective, FA studies often treat usefulness as

something inherent to accounting information, instead of whether that information is perceived as useful by users. A few examples of this kind of research are Kennedy (1975) and Lev and Zarowin (1999). Kennedy's (1975) paper assesses the usefulness of four ratios (equity to debt, current ratio, quick ratio, inventory turnover ratio) and the sum of total assets. In this study, financial numbers are seen as useful if they assist decision-makers in making better choices in a test setting. Quite similarly, Lev and Zarowin's (1999) paper assess the usefulness of financial reporting information (earnings, cash flow and book value statements) for investors, and the information is seen as useful if it helps investors to make better choices, and unuseful (useless) if it does not.

However, a few financial accounting studies have also recognized the importance of users' point of view. Pankoff and Virgil (1970) study the usefulness of FA information in a laboratory test setting and justify taking user's perspectives into account because "within the past decade, there has been a tendency to look to the user of financial statements for criteria to judge usefulness" (p. 1). Interestingly, the study operationalizes usefulness by measuring it with five complementary measures related to different phases of the decision-making process. It starts by gathering data about subjects' demand for various information items as inputs to their decision-making. However, as the authors acknowledge that demand ignores how the information is used and how it contributes to decision-making, they provide four additional ways to measure the usefulness of acquired information that are, in turn, more closely related to predictive and directive power. As for a comment on Pankoff and Virgil's (1970) paper, Greenball (1970) also advances a few more general remarks. He states that there are many valid ways to assess the usefulness of information. He also notes that too often in the accounting literature, there appears to be only one correct way to assess the usefulness of information.

A more recent example in the FA literature on the usefulness of FA information is a paper by Kober et al. (2010). In this paper, the authors remark that the usefulness of accounting information is often regarded as encompassing several qualitative characteristics. To study the qualitative nature of accounting information from the perspective of public sector information users, Kober et al. (2010) use the conceptual framework defined by the Australian Accounting Standards Board, which highlights four qualitative characteristics (relevance, reliability, understandability and comparability) that make accounting information useful. These qualities have been highlighted also in the International Accounting Standards Committee (1989) framework. However, recently International Accounting Standards Board (IASB 2010) has defined relevance and faithful representation (instead of reliability) as two fundamental qualitative characteristics of accounting information. Comparability, verifiability, timeliness and understandability, in turn, are seen as enhancing characteristics. In addition, IASB (2010) identifies the presence of various other qualities but does not include in their standard list of characteristics. Overall, the discussion on usefulness of accounting information seems to be still lively in the FA literature.

3.1.2. Sophistication

Etymologically, the word ‘sophist’ originates from the Greek language, meaning to become wise or learned (Oxford English Dictionary 2011). To be more exact, according to OED (2011), in ancient Greece, a sophist was one who was specially engaged in the pursuit or communication of knowledge. A ‘sophist’ is a wise or learned man who is distinguished for learning. Following etymological bases and linguistic reasoning, sophistry has also been defined as the use or practice of specious reasoning as an art or dialectic exercise. ‘Sophistication’, the use or employment of sophistry, is further defined as the process of investing with specious fallacies or of misleading by means of these. In other words, leaning on the above OED (2011) definitions, sophistication is assumed when someone wise or learned possesses or utilizes skills and intelligence to engage specious reasoning or dialectic exercise.

Sophistication and Cost Accounting

The concept of sophistication is especially used within the cost accounting system literature where the use of the concept is strongly related to the mechanistic view, which studies technological systems that are strongly independent of human decision-makers. The cost accounting or costing system literature typically describes cost systems as either sophisticated or non-sophisticated based on the characteristics of the cost system. Brierley (2008) addresses that the cost accounting system is typically perceived as sophisticated when a company uses activity-based costing (ABC), and therefore, when a company uses other kinds of costing systems, they are perceived as unsophisticated.

Drury and Tayles (2001) propose that the level of cost accounting system sophistication is based on the level of assigning indirect costs to cost objectives, “the probable accuracy of recorded costs” (p. 38). They further establish measures of sophistication by proposing that sophistication can be measured by the use of different cost pools and cost drivers. Those costing systems with more than ten cost pools and five or more different cost drivers are classed as sophisticated, and the rest are classed as lowly sophisticated or unsophisticated. In other words, the more detailed a system is, the more sophisticated it is. The underlying premise is that a more detailed system gathers reality more accurately. Furthermore, this accuracy means sophistication.

Overall, the previous cost accounting literature has conceptualized sophistication quite narrowly by interpreting its definition in terms of the assignment of indirect overhead costs to product costs (Brierley 2008). This conceptualization also fits quite loosely with the literal definitions of sophistication based on the etymological roots of the notion. Instead, the use of the notion of sophistication has been strongly metaphorical in the cost accounting literature. The metaphorical interpretation may, however, cause some problems. Brierley (2008) demonstrates such interpretational problems with an empirical study based on 55 interviews on cost system sophistication. In these interviews, the interviewees were asked how they defined the

sophistication of a product costing system. When analyzing the interviews, Brierley found 16 different definitions. The three most popular definitions were (1) the assignment of indirect overhead costs to product costs, (2) the inclusion of all costs in product costs, and (3) the understandability of product costs by non-accountants. The first of these definitions relates to the calculation of product costs, which includes the treatment of indirect overhead costs. The other two relate to the use of product costs and the combination of their calculation and use. Thus, Brierley suggests that the term 'sophistication' is not precise enough to define the issue of product costing, and hence, it should not be used.

Sophistication and Management Accounting in General

In the broader context of the MAS literature, there are few examples of the use of the concept of sophistication. However, sophistication is often closely connected with the structural choices of MAS, and hence, the sophistication of the system is highly independent of users' perceptions.

One of the earliest studies in the field of MA using the concept of sophistication is Khandwalla (1972), who conducted a questionnaire based research to study the relationships between different types of competition and the usage of a number of sophisticated controls. The study recognizes four different types of competition, namely, price, product, marketing, and overall competition. As for sophisticated controls, the study examines such control items as standard costing, incremental costing and flexible budgeting. Based on an analysis of 40 correlations, Khandwalla (1972) finds that the use of sophisticated management controls tends to rise fairly strongly as product competition intensifies, and rises modestly when market competition intensifies. The effect of price competition is found to be essentially zero in the use of management controls. However, Khandwalla (1972) further concludes that any particular form of competition, or competition in general, is the principal phenomenon explaining the use of these controls, but that there are also many other factors affecting them.

Tillema (2005) has also analyzed the concept of sophistication in the literature review of her contingency theoretical paper. She highlights how the earlier MA contingency literature aimed to explain the relationship between the different contextual configurations and the elements of MAS sophistication. The findings of the review are shown in Figure 3.

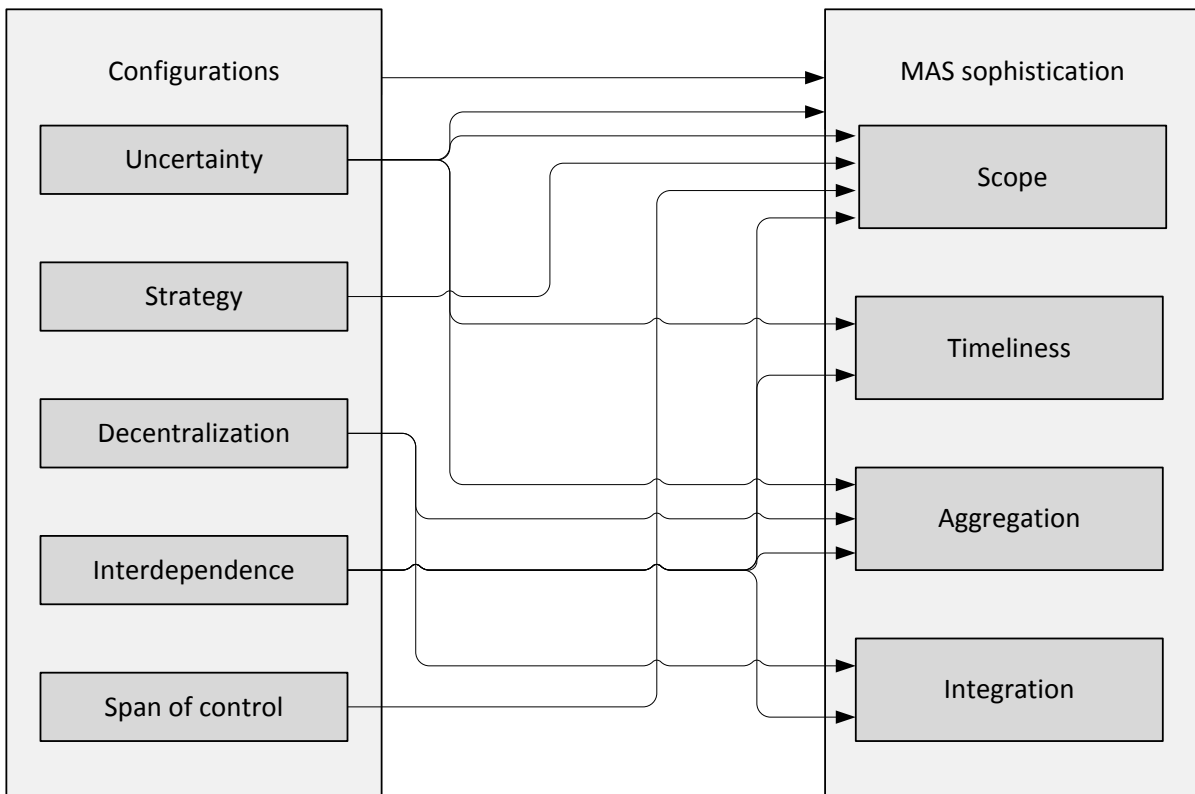


Figure 3. A framework of MAS sophistication (adapted from Tillema 2005)

The contextual configurations presented on the left side of Figure 3 are mainly comparable with the more general contextual variables used in the MA literature (see Chenhall 2003). However, in spite of their strong presence in related discussions, contingency factors are recognized to represent only a small subset of the factors that may be significant in explaining MAS sophistication (cf. Tillema 2005). On the right side of Figure 3, the elements of MAS sophistication are illustrated. Here, with the elements of MAS sophistication, Tillema (2005) strongly equates earlier literature on MAS usefulness with the term ‘sophistication’. In fact, it is possible to note that the elements of MAS sophistication in Figure 3 are exactly the same as those “general characteristics of useful information” presented in Figure 2 by Chenhall and Morris (1986).

One interesting finding in Tillema’s (2005) literature review is the recognition of large number of the previous studies on MAS sophistication focusing on the relationship between uncertainty and the scope of accounting information. Following the definition of Chenhall and Morris (1986), scope refers to the focus, quantification and time horizon of MAS. This perspective, which concentrates on the “complexity” of an accounting system, was also observed to prevail in the literature on cost accounting systems. On the other hand, clarifying the concept of sophistication based on Tillema’s (2005) review is problematic, as a number of articles included in the review (e.g., Chenhall and Morris 1986, Mia 1993, Mia and Chenhall 1994) have studied management accounting systems purely with the help of the concept of useful-

ness. Thus, based on this review, an examination of conceptual nuances is not feasible. However, the review has also been able to illustrate more generally that contingency research in MA has concentrated strongly on the relationship between environmental uncertainty and the scope of the accounting system.

After the literature review, Tillema's (2005) paper, which also focuses on the scope dimension, continues with the study of two cases. With the help of case findings, she observes that a number of contingency factors influence the scope of accounting instruments. Interestingly, she further observes that some of these factors are related to the institutional context of these instruments. This "institutional context" comprises the parties outside the organization, or subunit under attention, that exert formal or informal pressure on the organization or subunit to use MAS of a certain kind (Tillema 2005).

3.1.3. Quality

The term 'quality' is used very broadly and has multiple connotations. Consequently, the Oxford English Dictionary (2011) presents 16 meanings of the concept. These definitions stretch from ones describing the person's rank or position in a society, to those that describe the technical nature of something. In general, with reference to a thing, OED (2011) defines quality as the nature, kind, or character of something, in its original meaning. Later, the concept of quality is also used to define the degree of excellence possessed by a thing or the standard or nature of something as measured against other things of a similar kind. Nowadays, the later definitions of quality seem to dominate the use of the concept. In common language, quality refers to something good or luxurious. For example, a German premium car might be a quality car, or a luxurious French bag might be a quality bag.

In the academic and practitioner literature, the concept of quality is, in turn, often defined as the nature of something as measured against other things. In their literature review, Reeves and Bednar (1994) identify four definitions of quality, namely, excellence, value, conformance to specifications and meeting and/or exceeding expectations. The first definition, quality is excellence, is in accordance with the first of the later OED (2011) definitions. The three other definitions, value, conformance to specifications and meeting and/or exceeding expectations, in turn, include the element of something as measured against other things.

The three comparative definitions of quality have been employed throughout the development of production techniques. When production methods were still relatively rudimentary, quality was seen as value (Reeves and Bednar 1994). In this period, the market was also the mirror of quality. The higher the quality of a commodity, the higher was its market price. As the development of production techniques went further, and an achievement of a "good enough" level was no longer a challenge, the view on quality changed towards conformance to specifications. Quality as conformance to specifications is closely connected with industrialization and the birth of mass production that required products to fulfill given specifications (Reeves and

Bednar 1994). While production was no longer the dominant bottleneck, the properties and features of products became the main competitive drivers. At the same time, the viewpoint changed from the earlier manufacturing-centered perspective, and quality was predominantly defined from the standpoint of a customer, or even larger interest groups, as “conformance to requirements” (Crosby 1979) or “fit for use” (Juran and Gryna 1993).

Quality and Management Accounting

The notion of quality is scarcely used in the MA literature. It is even rarer to find the notion used in connection with accounting information systems. One of the rare examples making this reference in the MA literature is Johnson and Kaplan (1987). They suggest that in case of vertical integration “Communication difficulties that lower the quality of information about opportunities for gain within the firm are analogous to conditions that make prices (i.e., measures of alternative opportunities) less than perfect in product and capital markets” (p. 88). Perhaps also in this case, the use of the term quality has not been a deliberate choice, and it is more likely a consequence of the choices made in the earlier literature on market efficiency (e.g., Figlewski 1978, Merton 1987). Typically, if the concept of quality is used in the MA literature, it is used in contexts such as quality of managing the production processes (Birnberg et al. 1983) and how MAS enhance decision quality (Chenhall 2003). In these examples, the concept of quality is connected to managerial work and to the “goodness” of choices made. Hence, the quality of MA information has a somewhat stronger connection with the “end product” than with the accounting system itself.

Quality and Financial Accounting

However, in the branch of financial accounting, studies often examine the quality of accounting (financial reporting). Often, these studies mention taking the perspective of stock market investors (Soderstrom and Sun 2007). However, research usually ends up being strongly focused on particular calculations. Although quality is a relatively widely used concept in financial accounting, there are many alternative definitions and measures of accounting quality (Schipper and Vincent 2003). In general, accounting quality is recognized as a multi-dimensional entity (Wysocki 2008). What is noteworthy in this branch of the literature is the high level of measuring constructs.

Quite analogous to the characteristics of useful information and the elements of MAS sophistication, the quality of accounting is typically operationalized in FA studies with the help of attributes of accounting quality. For example, in their analysis of accounting quality in US cross listed and non-cross listed companies, Lang et al. (2003) view earnings through three attributes: earnings management, timely recognition of losses and association of stock prices and returns with accounting data. Differences in earnings management between cross listed and non-cross listed companies are further measured with two meters: the variability of net incomes and earnings smoothing. Differences in the timeliness of loss recognition are, in turn,

measured by observing whether there is an increased incidence of extreme negative earnings outcomes for cross-listed companies. Finally, the association of stock prices and returns with accounting data is examined. Lang et al. do this with the help of two sets of analyses. First, they investigate the relation by regressing the price on earnings per share and book value per share. Second, they regress earnings per share on returns separately for good news and bad news companies. Eventually, the accounting information is perceived to be of higher quality if it is characterized by less evidence of earnings management, more timely recognition of bad news, and a higher association with share price. The same set of metrics has been used by Barth et al. (2008) who study whether the application of the International Accounting Standards (IAS) is associated with higher accounting quality.

In a paper by Francis et al. (2004), the quality of accounting information has also been studied with a rather similar but slightly wider assembly of “earnings attributes”. In this study, the authors find six attributes of accounting quality, namely, accrual quality, persistence, predictability, smoothness, value relevance, and timeliness and conservatism of accounting information. Accrual quality, the extent to which accruals map into cash flow realizations, is measured by following time-series analyses (Dechow and Dichev 2002) that map the current accruals into last-period, current-period, and next-period cash flows. Persistence, the earnings sustainability, is measured as the slope coefficient from the regression of current earnings on lagged earnings. Predictability, the ability of earnings to predict itself, is operationalized with the use of instrument proposed by Lipe (1990). Information smoothness derives from the view that managers use their private information to smooth out temporary fluctuations, and thereby provide a more representative reported earnings number. Francis et al. (2004) use cash flows as the reference construct for un-smoothed earnings and measure smoothness as the ratio of income variability to cash flow variability. Value relevance, the ability of earnings to explain variation in returns, is operationalized as the explanatory power of earnings level and change for returns. Finally, timeliness is quantified as the explanatory power of a reverse regression of earnings on returns and conservatism as the ratio of the slope coefficients on negative returns to the slope coefficients on positive returns in a reverse regression of earnings on returns.

Wysocki (2008) criticizes recent (financial) research on accounting quality and especially that researchers have focused too heavily on the above-mentioned accruals model by Dechow and Dichev (2002) as a comprehensive way to measure accruals quality, earnings quality, accounting quality, and overall information quality. By conducting analytical and empirical analyses on the Dechow and Dichev (2002) model, Wysocki (2008) manages to find some fundamental limitations.

3.1.4. Concepts of Usefulness in this Study

Based on the financial and management accounting literature, none of the above-examined concepts has been self-explanatory. By studying common linguistic definitions, it is notable

that the notions of usefulness and sophistication are somewhat both ambiguous, and the term quality carries even more meanings. Whereas the uses of the concepts of usefulness and quality have been quite literal in the accounting literature, the use of the concept of sophistication has been metaphorical.

The simultaneous use of different notions can be very confusing. A literature review of the concepts of 'usefulness', 'sophistication', and 'quality' has revealed that all three concepts have been used with various meanings, further adding to the complexity. In general, it appears that the concepts are often used quite thoughtlessly and without sufficient justification as they are not at the center of analysis. Sometimes, these notions are used more or less as synonyms. One might state that the quality of a management accounting system is high if the system is sophisticated and/or useful. On the other hand, at times the concepts are used to describe somewhat dissimilar factors. For example, the phrase 'high quality sophisticated system' can be used to denote a technically advanced and elegant system, whereas even a simple and plain system can be seen as useful.

Within the MA literature, certain notions appear to be more widely used in some streams of the literature than in others. A strong driver for using this or that concept seems to stem from the aim to conform to the earlier use of language in a certain sub-branch of scientific enquiry. Although a specific stream has adopted a certain notion within its vocabulary, the conceptual specifications of the notions have remained largely absent. The ambiguity of these key notions in the MAS literature is somewhat alarming as they define the foundations of much of the research. However, this ambiguousness has not hampered academic discussions from crossing over the conceptual borders, at least based on the volume of published research. On the contrary, it might have even encouraged more discussion as authors make contradictory findings as a consequence of different conceptualizations. Tillema (2005), for example, has studied accounting systems with the help of the concept of sophistication. In forming the contingency model of MAS sophistication (see Figure 3), she cites various papers (e.g., 1986, Mia 1993, Mia and Chenhall 1994) that have studied MAS with the aid of the concept of usefulness.

Based on the review, some of the concepts (especially sophistication) are more strongly connected to the technical aspects of an accounting system, whereas some others (especially usefulness) relate more strongly to the human perceptions of that system. Hence, perspectives differ on their view of where the "successfulness" of accounting systems is derived. While the first perspective examines successfulness as a straightforward product of material conditions, the second perspective regards successfulness as stemming, at least partly, from behavioral and social processes. As Markus and Pfeffer (1983) suggest, the first mentioned perspectives have strongly influenced both the academic discussion and the practical development of management accounting and control systems. This strong orientation has also been clearly visible in the literature review, dominated by research focusing on the structure of accounting sys-

tems. Nevertheless, the human perceptions of a system constitute an important dimension that should also be acknowledged while developing accounting systems.

To conclude, it appears to be mostly a matter of taste to decide which concept to use. The study could most likely continue with an adoption of any of the abovementioned notions. In this dissertation, I am most comfortable with the use of the term usefulness. The use of the term usefulness can be further justified with the coherence between its dictionary definitions and the scope of this study and the strong foundations it has in accounting research. Furthermore, the notion of usefulness as such is perhaps the most value-free of the reviewed concepts. In case of the use of the terms sophistication and quality, more technical aspects of organizing are often emphasized.

3.2. Management Accounting and Control Systems

Management accounting and its roles as part of organizational control systems is another important dimension within this dissertation. There is a plethora of concepts closely related to MAS. For example, the terms management control (MC), management control systems (MCS), management information systems (MIS) and accounting information systems (AIS) are sometimes used interchangeably with MAS (Otley 1980, Chenhall 2003). In addition, accountants and researchers of management accounting speak about different management accounting tools, methods and techniques, many of which have been adopted from other disciplines such as economics and engineering (Hopwood 1992, Chenhall and Langfield-Smith 1998, Miller 1998, Kurunmäki 2004). Overall, the literature in the area has been criticized for having problems with the definition of concepts (see e.g., Bisbe et al. 2007, Malmi and Brown 2008, Tessier and Otley 2012). To support the conceptual analysis, what follows is a distinction between three levels: management control systems, management accounting systems and management accounting tools.

3.2.1. Management Control Systems

In the earlier literature, the terms management control and organizational control have been used in several ways (Baumler 1971, Ansari 1977, Otley and Berry 1980)⁵. According to Flamholtz et al. (1985), a reason for this has been the ambiguity of the concept of control, which has inevitably led to divergent approaches. In accounting research, management control is often (e.g., Otley 1980, Simons 1990, Langfield-Smith 1997) defined by following Anthony (1965) as “the process by which managers ensure that resources are obtained and used ef-

⁵ It seems that these two concepts are often treated as synonyms. Malmi and Brown (2008) have however suggested a preference for the use of management controls / management control system over organizational controls/organizational control system. This way, organizational controls could include controls that are used by employees, such as quality and inventory controls. However, we then find ourselves thinking about how to make distinctions between managers and employees. The problem of empirically separating these roles has also been highlighted by Malmi and Brown (2008).

fectively and efficiently in the accomplishment of the organization's objectives" (p. 27). A more general definition for management control is provided by Emmanuel et al. (1990): "the process by which managers attempt to ensure that their organization adapts successfully to its changing environment" (p. xi).

Ouchi (1977) proposed that organizational controls fall generally into two categories⁶. In the MA context, this division has been followed, for example, by Cunningham (1992). Based on his definitions, the first category includes output controls (results controls) where "specific outcomes...are measured, monitored, and compared against expectations, with corrective action taken when appropriate" (p. 86). In addition, the category includes administrative controls (action controls) that include, for instance, "formal rules, standard procedures and manuals, and monitoring compliance therewith" (p. 86). In this sense, the concept of organizational controls is specifically used to refer to those "controls built into activities and processes such as statistical quality control and just-in-time management" (Chenhall 2003 p. 129). The second category proposed by Cunningham (1992) includes behavioral and social controls. Although the use of the concepts in this area is recognized to vary among the writers, Cunningham (1992) maintains that this category involves shared values and norms that are maintained by group interaction. These values and norms steer the selection and placement of personnel, the design and allocation of tasks, and more generally, the observed work behavior of personnel. In spite of a slight conceptual ambiguity, it appears evident that these control processes are fundamental organizational activities (Otley and Berry 1980).

Management control systems can be broadly seen to embody all those techniques and mechanisms (i.e., management controls), which companies use to pursue their goals (Cunningham 1992). Chenhall (2003) remarks that over the years, the definition of MCS has changed from one focusing on the formal provision of financial information to one that holds a broader scope of information. That is, whereas conventionally MCSs were perceived as passive tools providing information for managerial decision-making, recently, especially scholars following more sociological and behavioral orientations have seen MCS as a more active vehicle, which supports a wider group of individuals to achieve their goals (Chenhall 2003). Scholars have also proposed a view of seeing MCS as an overall organizational control package (e.g., Otley 1980, Abernethy and Chua 1996, Malmi and Brown 2008). This view is based on an idea, according to which the aspects of an organizational control system (e.g., AIS design, MIS design, and organizational design) can only be evaluated as a whole (Otley 1980). However, before actually being able to study MCS as a package, Malmi and Brown (2008) recognize that the challenge of conceptually describing what constitutes an MCS package is an issue. To further highlight this issue, they divide the definitions of MCS into three classes.

⁶ Scholars have categorized organizational controls in many different ways. Please refer to articles by Langfield-Smith (1997), Merchant and Otley (2007) and Malmi and Brown (2008) for a more detailed review.

1. Broad conceptions of MCS.

The first category is illustrated with the help of Chenhall's (2003) and Merchant and Otley's (2007) definitions. Chenhall (2003) has defined MCS as a "broader term that encompasses MAS and also includes other controls such as personal and clan controls" (p. 129). In other words, MCS can be seen as the common label for different systems that are used for the purpose of organizational control. Merchant and Otley (2007) have also recognized that some studies have adopted rather broad conceptualizations of MCS. These studies have included strategic control processes in definitions of MCS. In addition, they further recognize that some of these studies have pointed out the threats of concentrating only on a formal strategy. That is, learning and adaptation are, for example, also seen as important functions of control systems. Therefore, in the end "almost everything in the organization is included as part of the overall control system" (Merchant and Otley 2007 p. 785).

2. Narrower views on MCS.

Malmi and Brown (2008) illustrate the second category with the help of the studies of Merchant and Van der Stede (2007) and Abernethy and Chua (1996). Merchant and Van der Stede (2007) distinguish three management processes: objective setting, strategy formulation and management control. In consequence, objective setting and strategy formulation functions are excluded from their definition of MCS (Merchant and Otley 2007). Malmi and Brown (2008) propose that Abernethy and Chua (1996) employ the same line as they define an organizational control system as "a system that comprises a combination of control mechanisms designed and implemented by management to increase the probability that organizational actors will behave in ways consistent with the objectives of the dominant organizational coalition" (p. 573).

3. Very narrow conceptions: controls as the means to achieve goal congruence.

Flamholtz et al. (1985) define organizational controls as "attempts by the organization to increase the probability that individuals and groups will behave in ways that lead to the attainment of organizational goals" (p. 36). Interestingly, this definition has been a source of influence for Abernethy and Chua (1996), whose definition is highlighted in connection with the previous category of MCS definitions. However, Flamholtz et al. (1985) further define control systems as "techniques and processes to achieve goal congruence and may be designed for all levels of behavioral influence: individuals, small groups, formal subunits and the organization as a whole" (p. 36). Malmi and Brown (2008) argue that because the definition has a strong emphasis on goal congruence, it should belong to a separate class.

To conclude, Malmi and Brown (2008) offer their framework (Figure 4) that illustrates MCS as a package. The notion of a package underlines the fact that different systems are often introduced by different interest groups at different times. Hence, there is typically no single system, but rather, a group of systems.

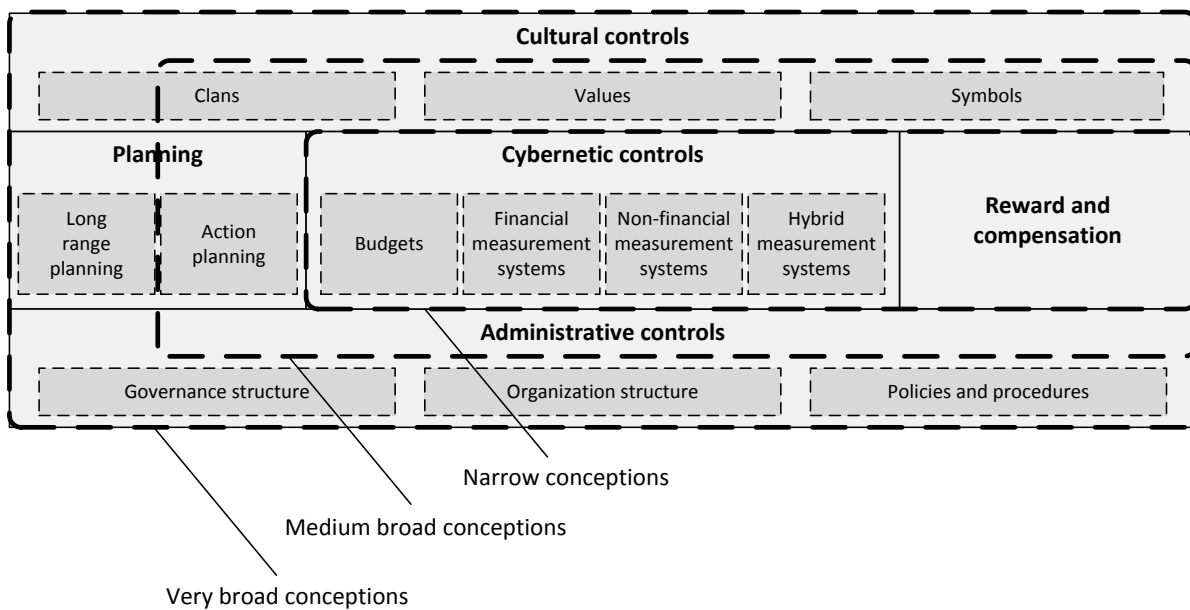


Figure 4. Management control systems as a package (adapted from Malmi and Brown 2008)

In general, Malmi and Brown (2008) recognize that a package comprises five groups of controls, all of which are interrelated. Cybernetic controls (in the middle of Figure 4) include feedback systems traditionally associated with accounting practice. Planning controls are ex ante systems used to set organizational goals. Reward and compensation controls motivate individuals and groups, and hence, steer organizational behavior. Cultural controls include established values, beliefs and norms. Finally, administrative controls direct the behavior of employees through organizational designs and structures.

3.2.2. Management Accounting Systems

A management accounting system can be seen as part of an organization's management control system. Hence, when compared with MCS, MAS is a narrower concept, which includes MCS with other organizational controls (Chenhall 2003). In other words, MAS should be seen as one type of control mechanism (Waterhouse and Tiessen 1978, Otley 1980). Management accounting systems are traditionally associated with output or administrative controls that predominantly rely on monetary measuring and target setting (Cunningham 1992). Abernethy and Brownell (1997), for example, use the term 'accounting controls' to refer to budgets, spending limits, and financial targets. More recently, MAS have also been connected to behavioral and social controls, as these systems can be seen to provide a language and communication system (Cunningham 1992). Related to these developments (Roberts and Scapens 1985), various scholars have highlighted that MAS should be a part of the wider management control system and organizational control package (Waterhouse and Tiessen 1978, Otley 1980), as there are many interdependencies between MAS and other components of the package.

In the discussions related to MAS, the terms MIS and AIS are also widely used. These discussions are based on the observation that organizations hold multiple information systems that serve the needs of both internal and external stakeholders (March 1987). Abernethy and Guthrie (1994) have defined MIS as “the numerous subsystems which are available in an organization to provide historical, current and future oriented information about both internal operations and external intelligence” (p. 2). Otley (1980) has, in turn, defined AIS as “part of a wider management information system, itself part of a management planning and control system, and all of which are part of an overall organizational control package” (p.421).

Based on the abovementioned definitions, MAS and AIS can be seen as very closely related terms. Perhaps MAS could include all those parts of AIS used for internal purposes. Gerdin (2005a) shares this idea, and further delimits the scope of MAS on formal systems by defining it as “those parts of the formalized information system used by organizations to influence the behavior of their managers that leads to the attainment of organizational objectives” (p. 103). Related to the degree of accounting systems’ formalization, Roberts and Scapens (1985) have used the term ‘accounting system’ to refer to the abstract potential system, and the term ‘systems of accountability’ to refer to those systems that are embodied in practice.

3.2.3. Accounting Tools

Management accounting systems comprise sub-elements, i.e., accounting tools, methods, and techniques. To refer to these sub-elements, Chenhall (2003) uses the simple term, management accounting, which he defined as “a collection of practices such as budgeting or product costing” (p. 129). Using tool metaphors, Tillema (2005) refers to these MAS sub-elements as instruments. She further suggests that these instruments can be classified into decision-making instruments and planning and control instruments. In the decision-making class are instruments such as pricing information systems and investment calculations. Budgets and performance targets can, in turn, be seen to belong to the planning and control class. Chenhall and Langfield-Smith (1998) make a somewhat different distinction. They suggest that management accounting practices and techniques could be divided into traditional techniques and contemporary practices. The traditional techniques class includes the use of budgeting systems for planning and control, performance measures such as ROI, divisional profit reports, and cost-profit-volume techniques for decisions. The contemporary practices class, in turn, holds techniques, such as different forms of benchmarking, activity-based techniques, balanced performance measures, employee based measures, and strategic planning. This distinction succeeds nicely in highlighting the change that has occurred in accountants’ roles.

The evolution of management accounting practices is presented in detail in Kaplan’s (1984) historical review. In general, the management accounting function emerged within the business organization in the first half of the 19th century when industrial companies, such as textile mills and railroads, required new internal administrative procedures to support their or-

ganizational controls. Traditional management accounting techniques were mostly developed when the so-called modern corporations were established in the late 19th and early 20th centuries (Kaplan 1984). In this phase of development, the emphasis was on financial measures such as profit, return on investment and productivity (Ghalayini and Noble 1996). Around the 1960s, the management accounting literature began to apply more complex quantitative models, often originating from operational research, to different planning and control problems (Kaplan 1984). In the 1980s, companies made major changes in their strategic priorities and implemented various new technologies and philosophies of production management, such as computer-integrated manufacturing (CIM), just in time (JIT), and total quality management (TQM). The adoption of these changes highlighted the various limitations of traditional management accounting practices, and hence, led to the development of new performance measurement systems (Ghalayini and Noble 1996). Hence, a range of new calculative practices were continuously drawn from beyond the earlier boundaries of accounting (Miller 1998). As Hopwood (1992) has summarized, “In the process, bookkeeping became accounting. But accounting then became a source of management information” (p. 126).

3.2.4. Concepts of Accounting and Control Systems in this Study

In this dissertation, the focus is on the accounting “toolsets” that can be found at the interface of sales and procurement. Placing these toolsets on the above-illustrated hierarchy is somewhat challenging. In light of the conceptual analysis, it seems clear that toolsets are subparts of management control systems. These toolsets represent only a proportion of the means used in organizational settings in order to achieve aspired goals. Although they are an inherently interrelated part of MCS, these toolsets are characterized by their cybernetic nature. Moreover, they belong to a somewhat ambiguous subgroup of accounting information systems.

Based on the above definition, when AIS is used for the internal purposes of an organization, it can be labeled as MAS. When examined from the perspectives of either customer or provider organizations, MAS appears to encompass a broader concept as there are, for example, budgeting systems, enterprise resource planning systems, and a number of different performance measurement systems that together form the MAS. However, when the perspective is limited to the interface of sales and procurement, the domain of MAS also becomes smaller. In extreme cases, an accounting tool, such as a list of price quotations and offers, might represent all the accounting information that two organizations exchange. Consequently, the toolset could be seen as customers’ procurement MAS or providers’ sales MAS.

In this study, there are many accounting tools under development within the MAS. In general, the term accounting tool seems to be another appealing alternative. Whereas the term MAS has often been seen as too broad, the notion of accounting tools can easily be comprehended too narrowly. That is, all the above-mentioned sub-parts (methods, techniques, and practices) included in the toolset can be seen as tools in and of themselves. The toolsets consist of multiple calculations that utilize a variety of mathematical methods to formulate figures that facil-

itate decision-making. They often aim to provide a “balanced” perspective by taking account of a number of factors that relate to different scenarios. Hence, toolsets also provide means for benchmarking. However, wider conceptions of tool could see the toolset as one tool constituting multiple parts.

3.3. Interface of Sales and Procurement

The interface of sales and procurement represents the empirical context for this dissertation. In general, the notion of sales and procurement might seem rather clear when compared with the concepts of usefulness and management accounting systems. Nevertheless, shedding some light on this context, especially from an MA perspective, could be beneficial before proceeding to the analysis of this dissertation. What follows is a short illustration of three research streams to shed some light on the empirical context: inter-organizational management accounting, the accounting oriented supply management literature, and the accounting oriented marketing literature.

3.3.1. Interorganizational Management Accounting

In the management accounting literature, there has been an increasing tendency to study accounting in interorganizational settings. This tendency has been explained as a consequence of the increased value of purchased products and services, and hence, the need to better manage supply chains (Anderson and Dekker 2009). In addition, the complexity of companies has argued to become higher, for instance, as a result of joint ventures, alliances, and outsourcing, thereby propelling organization boards into continuous change (Håkansson and Lind 2004).

In management accounting research, Hopwood’s (1996) paper is sometimes referred to as an initiator of interorganizational studies (Håkansson and Lind 2007, Caglio and Ditillo 2008, Meira et al. 2010). In this introductory paper, Hopwood (1996) debates importance of acknowledging the roles accounting could have in the control of supply chains because “the accounting research community is largely continuing to be satisfied with its fixation on the traditional hierarchical organization” (p. 590). Since then, a number of MA studies have broadened the traditional company-centered perspective and explored MA practices by crossing the traditional (legal) boundaries of an organization (Chua and Mahama 2007, Caglio and Ditillo 2008, Meira et al. 2010).

A few recent reviews (Håkansson and Lind 2007, Caglio and Ditillo 2008, Meira et al. 2010) have shed light on the current state of the interorganizational management accounting literature. In these reviews, the interorganizational accounting literature is analyzed especially in light of the types of organizational relationships under investigation, and by the theoretical perspectives adopted. In addition to briefly highlighting these previously acknowledged aspects, the roles of accounting in the interorganizational setting are illustrated.

Concerning relationship types, a significant number of papers has focused on relatively simple (dyadic) supply chain relations (Caglio and Ditillo 2008, Meira et al. 2010). Håkansson and Lind (2007) further note that even in those (relatively rare) instances when more complex network relationships have been studied, the focus is typically on formalized networks with a network center such as a final assembler (see also Seal et al. 1999). In consequence, Chua and Mahama (2007), for example, point out that much of the extant research provides a very limited understanding of the actual complexities that exist in interorganizational relationship networks. Furthermore, the interorganizational accounting literature has been blamed for its overly strong emphasis on the standpoints of purchasing organizations (Seal et al. 1999).

Interorganizational management accounting studies have adopted a variety of theoretical perspectives. Håkansson and Lind (2007) observe that transaction cost economics, agency theory, actor network theory, the industrial-network approach, structuration theory, and contingency theory have been adopted to study accounting practices in interorganizational settings. Meira et al. (2010) provide a similar list of theories, but further note the presence of evolutionary theories in interorganizational MA. In general, the field of research has been dominated by theoretical frameworks drawn from transaction cost economics (Chua and Mahama 2007, Håkansson and Lind 2007, Meira et al. 2010). Meira et al. (2010) further claim that the popularity of transaction cost economics is based on the argument that accounting systems cannot take account of transaction costs related to business relationships, and hence, they are limited in terms of how they capture interorganizational reality. More recently, MA scholars (e.g., Seal et al. 2004, Chua and Mahama 2007, Meira et al. 2010) have increasingly contended the feasibility of purely economic analysis. Seal et al. (2004) propose substituting more traditional economic analysis with institutional analysis that could take account of “the wider institutional antecedents of successful inter-firm collaboration” (p. 74). In much the same sense, Meira et al. (2010) argue on the importance of social and political factors, which require moving from orthodox economic explanations towards more social theories.

A few papers (Seal et al. 1999, Dekker 2003) have recognized that accounting can have a number of roles in business relationships. Based on empirical examination, Seal et al. (1999) recognize three important roles in which MA is involved in supply chain management:

- Supporting decisions concerning supplier selection (including make-or-buy decisions) and the depth of alliances/partnerships formed.
- Enabling relationship management by supporting discussions between the parties and steering the focus on a cost (or profitability) rather than price-based evaluations.
- Supporting to overcome accountability problems by measuring and demonstrating the actual benefits of business relationships with the help of MA information.

The study by Dekker (2003) focuses more specifically on the benefits of an MA technique (i.e., value chain analysis) in his analysis of a British retailer. Like Seal et al. (1999), Dekker (2003) recognizes that cost data is used for three main purposes in business relationships.

These purposes of interorganizational accounting relate mainly to the two last roles suggested by Seal et al. (1999). They are (Dekker 2003, adopted from Meira et al. 2010):

- The use of cost models in analyses of the cost performance of supply chain activities.
- The use of cost models to calculate the cost consequences of changing the supply chain operations based on improvement ideas.
- The use of cost models to periodically monitor the development of supply chain costs over time.

The abovementioned roles and purposes of accounting information highlight the emphasis on collaborative relationships that have recently emerged as an increasing business trend (Caglio and Ditillo 2012). To enable such relationships, various authors have emphasized the importance of trust and accounting openness between the parties (Håkansson and Lind 2007, Caglio and Ditillo 2008, Meira et al. 2010). At the same time, when interorganizational accounting practices help to align the interests of the parties (Vosselman and van der Meer-Kooistra 2009), there is a prevailing risk that this information can be abused (Seal et al. 1999, Dekker 2003).

3.3.2. Management Accounting in the Marketing Literature

In the marketing literature, various scholars have shown an interest in examining the common grounds of marketing/sales and management accounting (e.g., Wilson 1986, Roslender and Hart 2002, Gleaves et al. 2008). This interest has been motivated, for example, by the inability of MA to meet the needs of the marketing function (Ratnatunga et al. 1988, 1989); the need to spread the scope of MA from its traditional (production related) roots (Roslender and Hart 2002); increased interest in performance measurement (Roslender and Wilson 2008a); the diminishing importance of marketing “at the boardroom table” (Sidhu and Roberts 2008) and a growing recognition of the importance of business relationships (Grönroos and Helle 2012). Generally, management accounting is seen as the function that can support the planning, decision-making and control needs of the marketing function (Wilson 1986).

Much of the marketing literature’s interest in management accounting is to better understand the benefits and disadvantages of the marketing function. For example, Wilson (1986) suggests that marketing expenses should be more often seen as investments rather than operating costs. Therefore, the role of MA would be to introduce such measures that support the understanding of such marketing investments. Ratnatunga et al. (1988, 1989), in turn, study how management accounting actually supports marketing. By drawing from both the literature review and empirical survey, they conclude that the majority of accounting techniques and measures are not regarded as particularly useful in support of the marketing function. In consequence, Ratnatunga et al. (1989) identify that there is a general dissatisfaction with marketing accounting systems. These issues explain, at least partially, the gap between the MA literature and practice (Ratnatunga et al. 1988).

A number of studies acknowledge that marketing and the MA literature share a common interest in customer profitability. The basic idea behind the notion of ‘customer profitability’ is that not all customers are equally profitable, and thus, it makes sense to target marketing efforts at the most profitable customers and customer segments (Storbacka 1997, Mulhern 1999, Gleaves et al. 2008). Hence, accounting development is predominantly driven by providers’ need to focus marketing activities with the help of accounting information. To further emphasize the perspective of seeing customers as long-term assets, the marketing literature has also used terms such as ‘customer equity’ and ‘customer lifetime value’ (cf. Gleaves et al. 2008).

More recently, the marketing literature has increasingly emphasized the importance of understanding value as perceived by customers (see e.g., Ravald and Grönroos 1996, Grönroos 1997). This tendency is present especially in the relationships marketing school, which is based on an idea according to which parties establish business relationships as they enable “both (or all) parties to gain something”, although parties may have differing goals (Grönroos and Helle 2012). However, achieving a mutually beneficial relationship requires that providers aim to support their customers’ value creation processes (Grönroos 1997). This perspective introduces new opportunities for the use of MA as a support base/mechanism for marketing. That is, accounting can support the providers’ understanding of the value sought and perceived by customers. Roslender and Wilson (2008b) label this intersection between marketing and MA as “customer-focused accounting”.

3.3.3. Management Accounting in the Supply Management Literature

The supply management literature has also shown some interest in MA. In particular, the (modern) MA literature has been seen as a source of new purchasing and supply chain management practices (LaLonde and Pohlen 1996, Axelsson et al. 2002, Ramos 2004). Incorporating accounting and supply chain management perspectives has been done, for example, with the help of target costing (Ellram 2002), value chain analysis (Hergert and Morris 1989), open book accounting (Kulmala 2004), and total cost of ownership analysis (Cavinato 1992, Ellram and Siferd 1993). Ramos (2004) identifies that the effective application of MA provides benefits for supply chains with the help of two mechanisms:

- By facilitating decision-making throughout organizations (i.e., executing).
- By ensuring that actions are consistent with plans made (i.e., monitoring).

In general, both the execution and monitoring activities of interorganizational operations require information and information sharing. As Ramos (2004) further notes, MA can be viewed as an appropriate and powerful set of techniques answering to such information needs. However, Van Hoek (2001) acknowledges the need for some improvements in traditional practices, that is, in the supply chain context, more direct, qualitative and operational measures should be adopted to enable accounting to reflect operating processes more accu-

rately. In addition, to respond to the operational needs of supply chain management, accounting should move beyond traditional reports developed for financial accounting purposes.

Much of the supply management literature emphasizes the perspective of the procurement function of customer organizations. Management accounting methods and techniques are seen as a way to support the evaluation and selection of suppliers (Degraeve and Roodhooft 1999). Ellram and Sifred (1993), for instance, highlight that the importance of considering cost related issues beyond the purchasing price has been acknowledged for some time. However, the lowest price has remained, even today, as a common criterion when selecting a supplier (Selos et al. 2013). Degraeve and Roodhooft (1999) propose the adoption of the total cost of ownership perspective to better recognize the actual lifetime costs of different supplier choices. They further note that besides supplier evaluations, the total cost of ownership approach can be used to better understand the feasibility of different purchasing policies. Methods and techniques stemming from the MA literature have also been used to address the feasibility of different supplier evaluation and selection methods that have their roots in operations research. For example, Degraeve et al. (2000) examine a variety of supplier evaluation and selection methods by evaluating them with the help of the total cost of ownership approach⁷. At the same time, these methods stemming from the operations research literature can be seen as extensions to more traditional “cost focused” accounting practices.

3.3.4. Interface of Sales and Procurement in this Study

Above, it was recognized that three streams of research share interest on management accounting at the interface of sales and procurement. The interorganizational management accounting literature has risen as an answer to calls for broadening the traditional company-centered perspective in MA research. In this stream of research, MA practices have been investigated in different kinds of organizational relationships by adopting a variety of theoretical perspectives. Marketing literature was also found to show some interest towards MA practices. However, much of this interest has stemmed from its self-serving needs for better understanding the benefits and disadvantages of the providers’ marketing function although recently there has also been a growing interest towards the value perceived by customers. In the supply management literature, the MA literature was often considered as a source of new purchasing and supply chain management practices. In this stream of research, the perspective of the customer organizations’ procurement function was often emphasized.

Although the topic of MAS usefulness is acknowledged in marketing and supply management perspectives, this dissertation leans predominantly on the foundations of earlier MA research.

⁷ As illustrated above, in a number of supply management papers, the total cost of ownership approach has been seen as a supplier selection method. Using a selection method to choose a selection method is recognized as leading to a so-called ‘decision-making paradox’—to find the best method you need to have the best method—that has been earlier highlighted, for instance, by Triantaphyllou and Mann (1989) and by Guitouni and Martel (1998).

The business relationships examined in later sections of this study are rather simple. The empirical analyses recognize “network centers”, which in this study are the providing companies. In addition to providers, the examinations also admit the importance of customer companies. This focus may be somewhat limited in taking account of the effects of interorganizational relationship networks (Chua and Mahama 2007). However, the role of the relationships between “networked customers” is arguably rather small when compared with the importance of the customer–supplier relationship.

As noted, interorganizational accounting can have various roles. In this dissertation, these roles include both customer and supplier information needs. From the perspective of the customer, MA answers especially to the need to better understand the feasibility of different supplier alternatives. From the perspective of the provider, MA can be an essential way to better understand the value perceived by the customer. Consequently, MA practices support building and sustaining business relationships (cf. Seal et al. 1999, Dekker 2003, Meira et al. 2010).

4. Theoretical Conceptualization

In this study, the conceptualization of MAS usefulness leans on existing theoretical foundations. To do this, both organizational studies and the management accounting literature are reviewed in this chapter. The chapter starts by highlighting the variety of organizational perspectives that provide different ways to examine MAS usefulness. By drawing on earlier literature, it further argues that at the paradigmatic level the perspectives generally divide into two disciplinary camps, which should be united. In order to study usefulness as a union of these perspectives, the latter parts of the chapter provide a detailed examination of two streams of theoretical thought.

4.1. Organizational Perspectives in MAS Research

As March (2007) notes: “The field of organization studies is a large, heterogeneous field involving numerous enclaves having distinct styles, orientations and beliefs. It is integrated neither by a shared theory, nor by a shared perspective, nor even by a shared tolerance for multiple perspectives.” (p. 9-10) Thus, organization scientists have approached their research questions with a variety of theories. The same applies to management accounting research, which is focused on “accounting in its organizational context” (Boland and Pandy 1983 p. 233). The research on management control and management accounting systems is no exception.

Despite the variety of theories, the dominance of two (often competing) organizational paradigms⁸ has been pointed out by a number of scholars, both in the fields of organization studies (e.g., Gouldner 1959, Thompson 1967, Scott 1981) and management accounting research (Boland and Pandy 1983, e.g., discussion started by Tomkins and Groves 1983, Hopper et al. 1987). In general, Gouldner (1959) has been the first to discern the two fundamental organizational models on which much of the literature leans (Thompson 1967). To distinguish them, he labels these models as rational and natural models. Gouldner’s (1959) distinction has been

⁸ Following Patton’s (1975) definition, “A paradigm is a world view, a general perspective, a way of breaking down the complexity of the real world. As such, paradigms are deeply embedded in the socialization of adherents and practitioners telling them what is important, what is legitimate, what is reasonable. Paradigms are normative, they tell the practitioner what to do without the necessity of long existential or epistemological considerations.” (p. 9)

adopted by various authors, among whom Scott (1981, 2003) has perhaps been the most influential⁹.

In management accounting research, several contributions have also recognized the existence of competing paradigms (Ansari 1977, Boland and Pandy 1983, Cooper 1983, Tiessen and Waterhouse 1983, Ansari and Euske 1987, Ansari and Bell 1991). All such works maintain that management accounting research is dominated by (at least) two separate perspectives. On the other hand, many of them make their distinctions by adopting varying sets of concepts. Although there are some differences in terms of aspects emphasized, the arguments also have acute similarities (cf. Chua 1988), suggesting that the perspectives could be linked. Figure 5 portrays the dimensions and conceptual relations between them in three focal papers on this topic (Ansari 1977, Boland and Pandy 1983, Cooper 1983).

(Ansari 1977)

		Structural Focuses on control, information and communication systems	Behavioral Focuses on human and social relationships
(Cooper 1983)	Objective Focuses on a concrete reality, which can be understood by studying causal relationships	Rational Emphasizes model based analysis that encompasses relevant causal factors	
	Subjective Focuses on a human constructed reality, which can be studied by "making sense"		Natural Emphasizes the analysis of social and cultural aspects

(Boland and Pandy 1983)

Figure 5. Paradigmatic perspectives in accounting research

⁹ Besides the distinction between rational and natural systems (e.g., Gouldner 1959, Thompson 1967, Scott 1981), a few other closely related distinctions can also be found in the literature of sociology and organization science. In sociology, distinction is often made between objectivists and subjectivists (Gewirth 1954, Diesing 1966, Burrell and Morgan 1979). While the objectivists view that "the scientific method requires publicly observable, replicable facts", the subjectivists view that "the essential, unique characteristic of human behavior is its subjective meaningfulness", and hence, these subjective aspects should be a point of focus (Diesing 1966 p. 124). In organization science, distinction is, in turn, often made between positivists and post-positivists (McKelvey 1997). Organizational positivists relay that the studied phenomena could be explained with the traditional (often inductive) logic of justification, whereas organizational post-positivists assert that their phenomena are more complex and diverse, and hence, they should be explained by focusing on "idiosyncratic microstates" (McKelvey 1997).

Ansari (1977) notes that MCS researchers have concentrated on the topic from two main perspectives (x-axis on Figure 5). The first perspective, called the structural viewpoint, takes a mechanistic view on control. The structural viewpoint, which is especially adopted by the researchers of cybernetics, management information systems, and traditional (non-sociological) accounting, concentrates mainly on the information and communication aspects of a control system. The second approach, which is called the behavioral viewpoint, emphasizes the human and social aspects of control through which an organization achieves its goals. The behavioral viewpoint is based on the studies of human behavior in organizations.

Correspondingly, Cooper (1983) remarks that research on management control and management accounting systems is divided into two perspectives (y-axis on Figure 5). On the other hand, his suggestion draws from Burrell and Morgan's (1979) distinction between objective and subjective research traditions. According to Cooper (1983), objectivists assume "a concrete reality", independent of any observer and understood by identifying and testing causal relationships. Conversely, subjectivists emphasize "the human construction of reality", which necessitates acting and making sense of cognitive reality.

Boland and Pondy (1983) adapt Gouldner's (1959) ideas, already refined by Thompson (1967) and Scott (1981)¹⁰. These ideas propose that organizational studies, including accounting research, are done from rational and natural perspectives (x-axis on Figure 5). Boland and Pondy (1983) summarize these perspectives: "Rational models assume that management is confronted with an objectively knowable, empirically verifiable reality that presents demands for action... Natural models, on the other hand, see management as responsible agents who interact symbolically and, in so doing, create their social reality and give meaning to their ongoing stream of experience." (p. 223) This widely acknowledged dichotomy has some common elements with both Ansari's (1977) and Cooper's (1983) dichotomies (cf. Hopwood 1983). The rational perspective acutely corresponds with structural and objective perspectives. Conversely, the natural perspective bears a greater correspondence with behavioral and subjective perspectives.

4.1.1. Organizations as Rational Systems

The rational system perspective emphasizes the structural aspects of organizing. Rational system theorists typically assume that managers are situated in an objectively knowable and verifiable reality that presents demands for action (Boland and Pondy 1983). Here, the notion of rationality is used in its narrow sense to refer only to "the extent to which a series of actions is organized in such a way as to lead to predetermined goals with maximum efficiency" (Scott 2003 p. 33). Hence, rationality is not connected to the selection of goals but to their implementation. As Scott (2003) notes, perfectly rational means can be used to pursue completely

¹⁰ Gouldner (1959), on the other hand, can be seen to build his ideas on the earlier writings of Selznick (1957, as noted by Stark 1963).

irrational goals. This type of rationality has also been described as “functional rationality” or as “goal-rationality” (Rutgers 1999). Further, rationality is vested in the structure, not necessarily in the actors, but in rules and processes (i.e., control and reward systems) that ensure that the actors behave in determined ways for the organization to achieve aspired goals (Scott 2003).

The rational perspective assumes a mechanistic model according to which organizations are structured from “manipulable parts, each of which is separately modifiable with a view to enhancing the efficiency of the whole” (Gouldner 1959 p. 405, Scott 2003 p. 36). Rational systems are, in general, designed and characterized by calculation. It is assumed that managers analyze causal relationships, make cost-benefit calculations, and based on this information, take action to respond to prevailing situational requirements. Following this logic, it is assumed that model-based analyses encompassing relevant causal factors could be used to support the selection of desired outcomes (Boland and Pandy 1983).

The rational system perspective on organizations asserts that organizations are purposefully designed, formalized collectivities that pursue specific goals (Scott 1981, 2003). This statement warrants further detail of two important elements, namely, goal specificity and formalization, which contribute to the rationality of organizational action. Goal specificity refers to conceptions of desired ends that provide the basis for selecting among alternatives. Choices include, for example, tasks to be performed, personnel to be hired, and resources to be allocated. The (goal-specific) desired ends are the supply of criteria for choosing among alternatives, and hence, act as an organizational decision-making guide. This goal specificity is important because without clear preferences, making rational assessments and choices among alternatives is not possible (Scott 2003). Formalization denotes the specification of roles and procedures enabled by goal specificity and the rules governing it (Scott 1981). Rational systems theorists stress that formalization is the key to rational action, as it permits the formation of stable expectations and makes the prevailing structure and relationships clearer in respect of different roles and principles governing the organization (Scott 2003).

From its inception, the rational perspective on organizations has been attached to scientific streams, such as Taylor’s scientific management, Weber’s ideal type of bureaucracy and Fayol’s administrative theory (Bennis 1959). The rational perspective has since been examined in conjunction with March and Simon’s acknowledgment of bounded rationality, Lawrence and Lorsch’s contingency theory, and Williamson’s transaction costs theory (Scott 2003).

The rational system perspective has been criticized for its ignorance on behavioral aspects. At the same time, when concentrating on structural aspects, rational system theorists accord only scant attention to the behavioral aspects of organizations (Scott 2003). Hence, the studies relying on the rational system perspective have been mocked as studying “organizations without people” (Bennis 1959). Acknowledging the underlying assumptions, the rational definition of

organizations can be further highlighted by citing Scott (2003): “Organizations are collectivities oriented to the pursuit of relatively specific goals and exhibiting relatively highly formalized social structures” (p. 27).

4.1.2. Organizations as Natural Systems

The natural perspective emphasizes cultural-collective elements in the construction of organizations (Scott 2003). That is, challenges are not only dealt by management, they are constructed by them (Boland and Pondy 1983). The notion of naturalism indicates a “commitment to appreciate social phenomena from the standpoint of the actors who are engaged in the routine construction and reproduction of social worlds” (Hopper et al. 1987 p. 438). Whereas the rational perspective perceives organizations as somewhat peculiar types of collectivities, the natural perspective stresses the similarities that organizations share with other social groups (Scott 2003). Hence, those forces that affect other social groups are also seen as relevant to organizations.

Whereas the rational perspective assumes a mechanistic model and is characterized by (quantitative) calculation, the natural perspective assumes an organic model and is typically guided by (qualitative) interpretation (Boland and Pondy 1983, McKelvey 1997). Although the natural perspective acknowledges that organizations hold certain goals, it is also recognized that the actual behavior of actors is not necessarily guided by these goals. Because of possible decoupling, goals cannot be used to predict organizational actions (Scott 2003). Instead, it is believed that actions arise from interaction and adjustment within a sociocultural context (Boland and Pondy 1983).

In general, the natural system perspective on organizations views organizations as collectivities consisting of social actors that cause the goals to become rather complex (Scott 1981). Hence, while the rational perspective is characterized by goal specificity and formality, the natural perspective is founded on the notions of goal complexity and informal structure. The natural perspective views organizations as social systems, which are forged by consensus or conflict, but share a common interest in the organization’s survival (Scott 1981, 2003). To study organizations, the natural system theorists focus more stringently on behavioral aspects, and hence, recognize the complex interconnection between organizational structure and behavior (Scott 2003). The recognition of this interconnection propels pursued goals to become more complex, fragmented, differentiated, and subject to change (Scott 2003). Generally, the natural perspective also emphasizes the importance of unplanned and spontaneous activities (Scott 1981). As Scott (2003) exemplifies, the natural system theorists hold that “individuals are never merely ‘hired hands’ but bring along their heads and hearts: they enter the organization with individually shaped ideas, expectations, and agendas, and they bring with them distinctive values, interests, and abilities” (p. 59). Although the existence of formalized structures in organizations is not questioned as such, natural systems theorists challenge their importance, and above all, the scope of their impact on the behavior of actors (Scott 2003). They

also highlight the importance of the fore-mentioned “organically emerged” informal structures as the basis of organizational behavior (Scott 1981).

At its inception, the natural systems perspective was especially connected with the human relations school (Bennis 1959). Scott (2003) has further positioned the early natural systems perspective by connecting it, for example, with Mayo’s human relations school, Barnard’s cooperative system, and Gouldner’s conflict models. According to Scott (2003), this work has more recently continued with Weick’s ideas on organizing, Hannan and Freeman’s organization ecology, and institutional theory advanced by Selznick, Meyer and Rowan.

Whereas rational system theorists stress the importance of organizational structure, natural system theorists emphasize the importance of individual interests and capabilities (Scott 2003). The emphasis on individual aspects has been so strong, that Bennis (1959) has labeled the natural perspective as an orientation portraying “people without organizations.” Notwithstanding, acknowledging the assumptions behind the natural perspective, “Organizations are collectivities whose participants are pursuing multiple interests, both disparate and common, but who recognize the value of perpetuating the organization as an important resource. The informal structure of relations that develops among participants is more influential in guiding the behavior of participants than is the formal structure.” (Scott 2003 p. 28)

4.1.3. Closed and Open System Perspectives

Besides distinguishing between rational and natural perspectives, scholars have often made an additional distinction between closed and open systems models (Thompson 1967, Scott 1981, Boland and Pondy 1983). According to Thompson (1967) and Ackoff (1971), a closed system can be defined as one that has no environment or one that has no interaction with elements that are not internal to the system being examined. Therefore, the closed systems models concentrate exclusively on the internal features and processes of organizations. Conversely, open systems are defined as systems that are, at least to some degree, in interaction with their environments (Thompson 1967, Ackoff 1971). Generally, open systems models recognize the importance of organization-environmental connections and are assumed to provide a more realistic, but simultaneously more complex, image of organizations. Consequently, closed system theoretical models on organizations have become increasingly supplemented by open system models since the 1960s (Scott 2003).

As already noted above, the rational and natural perspectives could be further divided into early and later studies. Scott (1981, 2003) has further proposed that both early rational and natural perspectives tended to view the organization as a closed system. More recently, these perspectives have adopted open system models. Noteworthy, Scott (2003) provides the disclaimer that, in practice, “all systems are made up of subsystems and are themselves subsumed in larger systems” (p. 90). The interdependent nature of systems complicates the attempt to set clear boundaries around them. Hence, the setting of boundaries is ultimately arbi-

trary. According to Hall and Fagen (1956), “whether a given system is open or closed depends on how much of the universe is included in the system and how much in the environment. By adjoining to the system the part of the environment with which an exchange takes place, the system becomes closed” (p. 23).

Layered Model of Paradigmatic Perspectives

Although Scott (2003) puzzles his reader by first presenting an open system perspective as an independent paradigm, in the later phases he returns to his earlier “layered model” (cf. Scott 1981). As presented above, the layered model takes the open–closed model dichotomy as an independent dimension in addition to making the distinction between rational and natural perspectives. Table 1 illustrates the aforementioned theoretical schools in light of Scott’s (1981, 2003) layered model.

Table 1. Layered model of theoretical perspectives (adapted from Scott 2003)

<i>Levels of analysis</i>	Closed system models		Opens system models	
	1900–1930 Rational models	1930–1960 Natural models	1960–1970 Rational models	1970– Natural models
Social / Psychological	Scientific management	Human relations school	Bounded rationality	Organizing
Structural	Bureaucratic theory Administrative theory	Cooperative systems theory Human relations school Conflict models	Contingency theory Comparative structural analysis	Sociotechnical Systems
Ecological			Transaction costs theory Knowledge based theory	Organizational ecology Resource dependence theory Institutional theory

Overall, the layered model recognizes four paradigms, each of which holds different assumptions. Because of differences in fundamental assumptions, the perspectives provide rather dissimilar interpretations on organizations. As Boland and Pundy (1983) have summarized:

- closed system rational models emphasize efficient input-output transformations,
- closed system natural models emphasize humanly satisfying interpersonal dynamics,
- open system rational models emphasize structural adaptation to environmental and task uncertainty, and
- open system natural models emphasize the non-rational aspects of adaptation and the importance of survival over goal attainment.

As Table 1 highlights, the popularity of different perspectives has changed over time. At first, there was a shift from rational to natural closed systems models. Two decades later, the idea of open system models replaced the earlier assumptions based on closed systems. At first, the popularity of open systems rational perspectives rose. Later, the rational models were once again challenged by natural perspectives. This kind of paradigmatic “fluctuation” is also visible in the forthcoming sections, where the developments of selected theoretical thoughts are dealt in more detail. In addition, a similar development path has also been witnessed in the area of management accounting (Miller 2007), where both rational and natural open systems perspectives have been prevalent among scholars.

4.1.4. Problemacy of Competing Theoretical Paradigms

Besides being separated, rational and natural perspectives have also competed for dominance. The competition has been so harsh that organization theory has been charged to be engaged in “paradigm wars” (Denison 1996, McKelvey 1997, Scott 2003). In general, the prevalence of competing paradigms has led to a variety of problems, such as disadvantages in the contest for resources, dispersion of academic talent, and hence, a lack of collaborative development (Pfeffer 1993, Scott 2003). These factors have negative implications for the scientific field as they stalemate the field’s development. Pfeffer (1993) further emphasizes that because of these problems, the field of organization studies is threatened with comparative underdevelopment¹¹.

The problem of the distinct perspectives is that as they emphasize a single approach, they simultaneously ignore the existence of the other. Although the problem has long been recognized (see e.g., Bennis 1959, Gouldner 1959), it has been quite resilient (see e.g., McKelvey 1997, Scott 2003). The problem with the rational perspective is that when the structural aspects of the organization are emphasized, the behavioral (and more broadly socio-cultural) aspects are forgotten. Hence, a limitation of adopting an overly narrow rational perspective is that it “portrays action as simply an adaptation to material condition” (Alexander 1982, as cited by Scott 2008 p. 67). Conversely, while the natural perspective emphasizes behavioral as-

¹¹ Contrary to this dissertation, Pfeffer (1993) suggests solving the challenge caused by multiple paradigms with an integrated organization theoretical paradigm. This proposal has often been interpreted as a resistance of multiparadigm thinking or a call to intellectual orthodoxy (see e.g., Schultz and Hatch 1996, Lewis and Grimes 1999, Hassard and Kelemen 2002).

pects, no interest is paid to structural aspects. A limitation of this paradigm is the tendency to forget to recognize the importance of underlying material conditions.

The “paradigm war” can be interpreted as an either/or choice between rational and natural perspectives. Various scholars (e.g., Boland and Pondy 1983, Scott 2003, Hopper and Major 2007) have proposed an end to the juxtaposition of the perspectives. As McKelvey (1997) remarks, “in fact the most interesting aspect of organizations is the continual transition between the two phenomena” (p. 374). Actually, most organizational phenomena, including management accounting systems, seem to be affected by both structural and behavioral aspects. As Boland and Pondy (1983) remark, “the use of accounting in organizations is both a rational and a natural process” (p.224). Hence, “the interaction of these two faces of organization is the field of mutual context in which accounting is to be understood” (Boland and Pondy 1983 p. 224). Ansari (1977) and Cooper (1983) provide somewhat similar propositions. Ansari (1977) notes that designing control systems requires a consideration of the viewpoints of both [structural and behavioral] perspectives. Cooper (1983), in turn, suggests the possibility of uniting the [subjectivist and objectivist] perspectives. Despite these encouraging remarks, MA research combining the perspectives has remained scarce.

4.1.5. Usefulness as a Union of Dichotomic Perspectives

The previous review on the dominant paradigms in MA research and in organization studies more broadly has highlighted a number of scholars who emphasize the prevalence of contradictory dichotomies. The review has also highlighted the number of studies acknowledging that these perspectives are not actually in conflict, but rather, they complement each other. For example, Ansari (1977) remarks that because “information and human-social variables” are in constant interaction with each other, designing (a useful) control system requires a joint consideration of these aspects. In the same sense, Boland and Pondy (1983) note that the use of accounting proceeds by “an interaction of the rational and the natural, in which each aspect serves as the context for the other” (p. 224). In consequence, it has been suggested that organizational phenomena, such as the usefulness of MAS, should be studied as “the genuine union of the rational and the natural perspectives” (Boland and Pondy 1983 p. 225).

Ansari and Euske’s (1987) study starts from a similar angle. That is, when aiming to understand the conditions leading to MAS use, they start by recognizing that since the beginning of the 1980s, the rational perspective on management accounting systems has been both expanded and challenged with more change oriented and subjective—natural perspectives (Scott 1981, Boland and Pondy 1983). Ansari and Euske (1987) further remark that the existence of distinct perspectives poses a challenge for researchers as there is no single theory of infor-

mation use in organizations to acknowledge both perspectives¹². Hence, to explain the reality of information use in organizations, they decide to use multiple theories. More recently, Ahrens and Chapman (2006) have also acknowledged that the events in the field may be best explained with reference to multiple theories. This comment once again reminds us to think from outside the established camps, which still reflect the ideas of the “paradigm wars”.

Boland and Pondy (1983) present four prerequisites for the success of organizational accounting research to achieve a union of rational and natural systems. Firstly, the researcher must focus on action in organizational settings, and by doing so, study individual actions in organizations as he or she makes and interprets accounting. Secondly, the researcher must use case analysis of specific situations in which individuals experience accounting systems while solving organizational problems. Thirdly, the research must be interpretive and recognize the symbolic use of accounting in ordering and giving meaning to the individual’s experience. Fourthly, the researcher must step out of the actor’s frame of reference and take a critical view of the actor’s definition of the situation, in the sense that the actor’s purely subjective interpretation must be transcended. These guidelines are generally sound with the research design adopted in the empirical part of this study.

To explore the usefulness of MAS from the rational perspective, the study leans on the contingency theory literature. The idea of contingency suggests that particular features of an appropriate MAS will depend on the specific circumstances in which an organization is situated (Otley 1980). In general, contingency formulations have been, and still are, some of the most broadly adopted rational perspectives in organizational research. In the accounting research concentrating on management control systems, contingency formulations also have long traditions (Otley 1980, Chapman 1997, Chenhall 2003). Moreover, contingency formulations have been widely used in the management information systems literature (Weill and Olson 1989), which is a field of science closely related to the MAS literature.

To explore the usefulness of MAS from the natural perspective, the dissertation takes an institutional theoretical view. Institutional theorists agree that institutions matter a great deal, and hence, their effect on organizational behavior and outcomes should be studied (Rutherford 2001). In general, institutional analyses have a long history and have stimulated research in several branches of science (Scott 2003). Institutional analyses have their roots in economics, sociology, and political science (Scott 2008), and they have also been influential in organizational sciences. Today, these theories are regarded as some of the most popular in the area (Donaldson 2006). Perhaps the single most important contribution of institutional theorists to the study of organizations has been the alternative conceptualizations provided. Hence, insti-

¹² It is acknowledged that there might be certain theoretical perspectives that are not strictly situated in the rationalist or naturalist “camps”. Ahrens (2008), for instance, notes that the actor network theory literature in management accounting rejects the distinction between subjective and objective perspectives. To illustrate the importance of acknowledging both rational and natural aspects, theories taking more extreme orientations were seen to provide a more feasible basis, and hence, they were preferred in this dissertation.

tutional theorists have succeeded in challenging rationalist assumptions by emphasizing the technical facets of organizing (Scott 1991). Institutional analyzes have also been widely adopted in the field of accounting, where they have been used to support an understanding of why and how accounting becomes what it is (Moll et al. 2006).

Combining the Theoretical Perspectives

The purpose of contingency and institutional theories in this study is to provide a way to capture the organizational realities connected to the usefulness of management accounting systems. The union of rational and natural perspectives provides a holistic way to conceptualize the MAS usefulness. This union acknowledges the agents' situations to be both "endogenous and exogenous", that is, both the external world and actors' internal workings affect usefulness (Langlois 1986). It should be noted that this dissertation is not the first study to combine contingency and institutional theoretical perspectives. For example, the combining of the perspectives has previously been suggested by Gupta et al. (1994), Ketokivi and Schroeder (2004) and Donaldson (2008a, 2008b). In the MA literature, the work of Alam (1997) represents, to my knowledge, the first, and so far, the only work that has combined these theoretical views.

The organization theoretical paper by Gupta et al. (1994) has perhaps been the first to suggest combining contingency and institutional theories. The paper begins by acknowledging that contingency and institutional theories are some of the most prominent approaches. They further recognize that these theories hold almost opposite viewpoints to explain organizational phenomena. In general, the contribution by Gupta et al. (1994) has largely followed the common ways of doing contingency research. That is, the hypotheses deducted from earlier literature are tested with the help of empirical data that is gathered with the help of a questionnaire, and analyzed with the help of statistics. To compose institutional theory into their contingency framework, the works of new institutional sociologists, such as Meyer and Rowan (1977), DiMaggio and Powel (1983), and Tolbert and Zucker (1983) are acknowledged, but they remain perhaps slightly underused. That is, an 'institutional environment'—the need to conform to accepted social norms—is merely introduced as an external contingency factor besides organizational size.

In an operations management context, Ketokivi and Schoeder (2004) begin by acknowledging that operations management research has traditionally relied on closed rational systems perspectives¹³. They also recognize that more recently, the open rational systems explanations, such as contingency theory, have gained in popularity. Ketokivi and Schoeder (2004) further remark that to understand how structural arrangements correlate with operational perfor-

¹³ Ketokivi and Schoeder (2004) actually adapt Scott's (2003) concepts and argue that to understand how innovative manufacturing practices become diffused, they should not be studied only by relying on rationalistic explanations.

mance, there is a need to step out from strict profit-maximizing economic rationality. To do that, Ketokivi and Schoeder (2004) suggest the adoption of an institutional perspective. After reviewing institutional theories more broadly, Ketokivi and Schoeder (2004) also end up adopting the new institutional sociology stance as it is argued to better fit with their aim to understand how individual manufacturing practices become diffused. Besides an analytical exercise to validate the incorporation of new institutional perspectives to operations management research, Ketokivi and Schoeder (2004) also conduct a survey to test their theoretical propositions. As a result, they conclude that while all the theories have merits, especially contingency arguments have some delimitations to explain why certain practices are adopted. Hence, in order to gain a more realistic image, they propose a wider use of new institutional sociologic perspectives in the operations management literature.

Donaldson (2008a, 2008b) ponders the relationship between contingency and institutional theoretical perspectives in two of his book chapters. His analyses are motivated by the observation that besides contingency theory, institutional theory represents the major contemporary theory of organizational structure. To be more exact, his analyses concentrates especially on structural contingency theory (as defined by him, Donaldson 2001) and the new institutionalism in sociology (as defined by DiMaggio and Powell 1983, Powell and DiMaggio 1991). Based on these perspectives, he argues for the contingency fit to produce internal effectiveness and the institutional fit to produce external legitimacy and support. In conclusion, Donaldson (2008a) suggests that institutional perspectives are, in general, compatible with those rational organizational design principles described by structural contingency theory. However, he also notes that very often the perspectives come into conflict in their structural perceptions. In other words, organizations can usually maximize either internal effectiveness or external institutional support, but not both simultaneously (Donaldson 2008a). To solve this conflict, Donaldson (2008b) suggests balancing contingency and institutional perspectives by weighting their monetary effects. For example, if external support is economically stronger than internal effectiveness, then it is optimal for the organization to sacrifice some internal effectiveness (lowering contingency fit) and fit the institutional requirements (rising institutional fit).

Alam's (1997) study represents an example of MA research drawing simultaneously from contingency and institutional theoretical perspectives. To be more specific, the main aim of this paper is to explore how budgeting processes are used in Bangladeshi jute and sugar mills.¹⁴ By drawing on the writings of Dent (1986) as well as Ansari and Euske (1987), Alam (1997) identifies the prevalence of "two approaches to conceptualizing and understanding the

¹⁴ Before Alam (1997), pluralistic MA research was done in the context of Bangladeshi jute mills by Hoque and Hopper (1994, 1997). Alam (1997) sees that his paper contributes to the extant literature primarily by presenting larger empirical evidence and comparing managerial responses to environmental uncertainty. Furthermore, the paper is also the first, and before this dissertation, the only MA study highlighting the possibility to combine contingency and institutional theoretical perspectives when examining the use (and usefulness) of accounting tools and systems.

ways in which budgetary processes intersect uncertainty” (p. 148). These approaches are further labeled technical and institutional. Similar to this dissertation, the approaches are examined with the help of contingency and institutional theories. However, the theoretical perspectives are assessed in a relatively general manner. Contingency theory is adopted to support the author’s interpretations by simply noting that “the design of accounting and control systems is dependent on the specific circumstances or situations in which an organization operates” (p. 148). Institutional theory, in turn, is adopted from the writings of Meyer and Rowan (1977). As Alam (1997) remarks: “Actual organizational activities are frequently loosely coupled with the ways in which they are externally legitimized” (p. 149). Nevertheless, with the help of the two theoretical foundations, Alam (1997) illustrates both the symbolic and instrumental roles of budgetary processes.

To summarize, several scholars (e.g., Boland and Pondy 1983, Ansari and Euske 1987, Hopper et al. 1987) have suggested that organizational phenomena, such as MAS usefulness, should be studied as a union of rational and natural perspectives. Applying multiple theories to explain organizational phenomena can be seen as a potential way to access both perspectives. To study the usefulness of MAS from a rational perspective, a contingency theoretical approach is selected in this dissertation. The natural perspective on usefulness is approached, in turn, by selecting an institutional theoretical view. These theoretical bases represent perhaps two of the most prominent theoretical approaches prevailing in relevant scientific fields (Gupta et al. 1994, Donaldson 2008a). In addition, a few earlier studies have already illustrated the plausibility of combining the theoretical stances. However, the true nature of these theories (underlying presumptions, key concepts and variables) remains a pertinent question.

4.2. Rational Perspective on Usefulness: Contingency Theory

The field of contingency theoretical studies is highly varied, and thus, it can be said that there is no single contingency theory, but rather a large group of theories that share some similarities. Therefore, there is a need to define in more detail how the rational, i.e., contingency theoretical perspective, concerns this study. However, before doing this, I present more broadly what is meant by contingency theory and what kinds of choices one faces when conducting contingency theoretical research. The aim of this section is also to introduce the main concepts related to contingency theoretical studies. Noteworthy, contingency theory is addressed here beyond the practical needs of this dissertation. However, at the same time such an in-depth review is essential to rigorously justify the choices made¹⁵. The section starts with a general overview of the features of contingency theories. Following that, the application of

¹⁵ I acknowledge that the reviews on theoretical streams can be prone to delude some readers from the main argument of this dissertation. To avoid that, a reader can first become acquainted with the last part of this section and then return to read the more general and detailed reviews.

these theories is examined in the MA literature, leading us to examine the feasibility of these theories in light of the purposes of this study.

In his early and still very influential organization theoretical book, Galbraith (1973) defines contingency theory as based on two main premises.

1. There is no one best way to organize.
2. Any way of organizing is not equally effective.

Contingency theory assumes that the optimal structure of an organization is dependent on certain factors, which are called contingencies or contingency factors. Over the years, scholars have proposed a number of different contingency factors that characterize organizations. Studied organizations are examined with the help of contingencies, such as strategy, size, task uncertainty, and technology, for example. These organizational characteristics are often seen to reflect the influence of surrounding environments on the organization. Contingency theory of organizations is based on the presumption that to be most effective, the organization needs to have its structure in fit with the contingencies, and hence with the surrounding environment. (Schoonhoven 1981, Donaldson 1996)

In general, contingency theory surfaced in the late 1960s (Lawrence and Lorsch 1967). Since then, contingency theories have been noted to dominate research in studies of organization behavior, design, performance, planning and management strategy (Van de Ven and Drazin 1985). Thus, contingency theory has become a normal science, and it still is, to a great extent, the dominant approach to organization design. This appears accurate, at least in terms of the number of textbooks in the area (Schoonhoven 1981, Pennings 1992). In organizational sciences, a particular area of focus has been structural contingency theory, which aims to build knowledge on how different contingency factors affect organizational structure, and further, organizational performance. Although the theories developed in organizational sciences have also been criticized, contingency theories have provided a coherent paradigm for the analysis of organizations (Donaldson 1996).

Contingency theory relies strongly on rational assumptions that emphasize model-based analyses encompassing relevant causal factors. The key focus of contingency theory has been to understand and represent the associations that characterize relationships between the dependent entity and its context¹⁶. For example, whereas in organization theory, much of the interest has been to understand the causal relationships between the organization and its environment (Burrell and Morgan 1979), in management accounting, MAS and its relevant organizational context has been the focus (see e.g., Chenhall and Morris 1986, Mia 1993, Mia and Chenhall 1994). These studies are typically objectivist in nature.

¹⁶ Although the relationships are predominantly studied with the help of large datasets that are gathered, for instance, by conducting questionnaires or interviews, some contingency theoretical studies, e.g., Helliard et al. (2002), Tillema (2005) and Woods (2009) have also built on (qualitative) case studies.

Occasionally, contingency theory is seen as following so-called “functionalist sociology” (Burrell and Morgan 1979, Donaldson 1996). Typically, both the theory and empirical data employed in contingency formulations have been positivist in nature (Donaldson 1996). On the other hand, subjective ideas and values are not seen to be significant drivers of organizational change. This paradigm has meant that the analysis of contingency theories is often depersonalized and exists at the level of the organization (Donaldson 2006). In consequence, both Pennings (1992) and Donaldson (2006) note that in contingency theory, there has been an absence of analysis at the level of the individual. To sum up, contingency theoretical studies clearly tend to focus on structural aspects of the organizational realm.

As mentioned, contingency theoretical studies have also been strongly criticized. In general, much of the criticism stem from the fact that contingency-based research has largely relied on functionalist assumptions and has not adopted more interpretive and critical views (Chenhall 2003). Weill and Olson (1989) remark that the most important criticism has been that contingency variables chosen in any one study account for only a small percentage of the variance in organizational performance. Pennings (1992) similarly identifies that there is a lack of continuity in the choice of contingency variables and how they are defined. He further argues that this has meant that the cumulative results of the research stream have remained somewhat inconclusive.

Donaldson (1987) builds upon Rex (1961) and notes that contingency theoretical studies have been criticized as inherently static, and thus, fail to explain societal and organizational change. Similarly, Weill and Olson (1989) lean on Argyris (1964) and argue that it is not possible to leave people with their non-rational objectives out of the analysis. Bourgeois (1984), in turn, highlights that contingency research has been strongly deterministic, which has meant that the human choice has been somewhat neglected. To conclude, much of the critique can be traced back to the underlying (rational) axioms of contingency theory, such as rational actors, equilibrium, and determinism (Weill and Olson 1989). Due to criticisms and its weaknesses in explaining organizational performance, contingency theory has declined in popularity in organizational research since the 1970s (Weill and Olson 1989, Donaldson 1996).

4.2.1. Contingency Theory in General

The development of organizational theories has been traditionally divided into three phases, of which the contingency theoretical phase is the third¹⁷ (Ansari 1977, Donaldson 1996). These phases are named according to their related scientific schools. At its inception, organizational research strongly identified with the classical (or traditional) management school, which held an assumption about a single organizational structure that was highly effective for

¹⁷ More recently, open systems natural perspectives have appeared in organizational studies, thus composing the fourth phase of organizational theories. However, the swift has not been a total, but both open systems rational and natural perspectives have enjoyed concurrent popularity.

all organizations. Ansari (1977) further elaborates that in the classical management school, the problem of control was typically analyzed in terms of power, authority relations, and sanctions. Hence, he concludes that the classical management school regarded superiors as directive and subordinates as passive. The strong position of the classical management school lasted until the late 1950s although it was challenged from the 1930s onwards by the human relations school (Donaldson 1996). The human relations school¹⁸ started with the recognition that individual workers possess psychological and social needs, which are sometimes more important determinants of their performance than economic needs (Ansari 1977, Donaldson 1996). Thus, the human relations school placed more emphasis on leadership as opposed to directive management. Contingency theoretical studies on organizations appeared in the 1950s as a response to the classical management and human relations schools, both of which emphasized the one best way to organize (Weill and Olson 1989, Ansari et al. 1997).

The Origins of Contingency Theory

Lawrence and Lorsch (1967) are generally acknowledged as the first authors to use the term 'contingency theory' (Jablin 1975, Burrell and Morgan 1979, Donaldson 1996). In one of the chapters of their book, they give special attention to specific kinds of studies. This particular chapter has been titled, "Toward a contingency theory of organization." There, they define the scope of the review with three criteria (Lawrence and Lorsch 1967). Their first criteria specifies that studies should focus on organizations: "of how organizations or major parts of them function, based on the systematic collection of empirical data" (p. 186). Second, they propose that studies should be multivariate. Thirdly, they select only "studies that are contingent in the sense that they try to understand and explain how organizations function under different conditions" (p. 186). Lawrence and Lorsch (1967) further illustrate and define contingency theoretic studies by reviewing some selected pieces of earlier research, which they consider as belonging to this line of science.

Lawrence and Lorsch (1967) start by reviewing the pioneering study of Burns and Stalker (1961). The aim of this seminal study is to examine how the external environment affects the management practices of companies. The study uses in-depth, qualitative case data from interviews with executives from 20 companies in the United Kingdom. With their "explorative" research, Burns and Stalker (1961) find two divergent systems of management practice, namely, "mechanistic" and "organic". Whereas mechanistic systems fit better with environmentally stable conditions (a low rate of change in technologies and markets), organic systems work better in unstable conditions. These mechanistic and organic viewpoints present a

¹⁸ Whereas the traditional management school emphasized the closed systems rational perspective on organizations, the human relations school emphasized the closed systems natural perspectives (cf. Scott 2003). When open systems models appeared in organizational studies, the rational perspective reappeared as contingency theory, which in the organizational field, focused especially on the structural determinants of organizations (Scott 1981).

synthesis between the classical management and human relations schools by stating the compromise that both schools were valid in their own place (Donaldson 1996).

Second, Lawrence and Lorsch (1967) highlight the work of Woodward (1965). Woodward's study aims to shed light on the relation between the predictability of production techniques and organizational structure. Woodward's (1965) comparative study includes a large sample of companies (n=100) from a selected geographical area (South Essex, England). With the support of a quantitative analysis of this dataset, Woodward (1965) concludes that operations technology is the key contingency of organizational structure, as the number of levels in a hierarchy, and the ratio of managers to workers, seem to increase in relation to the predictability of production techniques. She also finds that organizational structures seem to be unrelated to the size of organizations.

Third, in Fouraker's (in Lawrence and Lorsch 1967) study, the connection between environmental uncertainty (change, complexity) and two polar types of management—traditional supervisory management (L-organization) and management of expert work (T-organization) is investigated. However, whereas the two above-mentioned studies rely on empirical data, Fouraker (in Lawrence and Lorsch 1967) starts from the basic theoretical premises of human choice behavior and continues with logical deduction and small scale experiments. He then concludes that the L-organization seems to be effective when the environment is fairly stable and threatening (scarce resources, strong competition). However, when the environment is more unstable and favorable (abundant resources, low competition) the more independent T-organization is likely to be productive and effective.

Fourth, Chandler's (1962) study examines the relation between strategy and organization structure. With the support of in-depth analyses of historical data on a few pioneering companies supplemented with a larger set of brief reviews, Chandler (1962) concludes that different environmental conditions demand different kinds of organizational structures. To be more specific, Chandler (1962) proposes that the strategic choices that companies make arise from environmental changes, and that organization structure follows strategic decisions. Hence, it is natural that different kinds of organizations are needed to cope efficiently with different strategies and environments. If there is no fit between the strategy and the structure, the company will suffer lower performance.

Fifth, Udy's (1959) research addresses the relationship between technology and organization structure. However, he concentrates on non-industrial societies, whereas all previously mentioned organizations were industrial. The research data from which he draws his evidence is based on anthropological descriptions of different social groups from all over the world. With this evidence, Udy (1959) concludes that certain organizational aspects (authority, division of labor, solidarity, proprietorship, and requirement structure) could be predicted to follow from the present technology.

Sixth, Leavitt's (1951) paper studies group performance in different communication settings. Lawrence and Lorsch (1967) mention Leavitt's (1951) paper as a special case, an example of a study that has gone further than others in considering the implications for management practice. The research data in this study has been gathered by creating an experimental setting with small groups conducting problem-solving activities. These experiments reveal that when the tasks are highly routinized, non-involving, and centralized, a hierarchical communication network works best. However, when the task requires more creativity and flexibility, a more decentralized communication network appears to work better.

The above highlights the trajectory of contingency research defined through several studies that differ quite significantly from each other in terms of methodology. Early contingency research utilizes both quantitative and qualitative methods. Analyses based on observations are as valid as analyses based on statistical data crunching. As research has developed, contingency research traditions have become more established, and are currently dominated by quantitative methods. Donaldson (1996) proposes that over the years, contingency research has become more sophisticated at least in four senses. First, increasing attention has been paid to the operational definitions of concepts. Second, there has been increasing attention on the reliability of measurement. Third, the theoretical models used have gone from single contingency factor models to multiple variable models. Fourthly, data analysis now utilizes more sophisticated statistics.

4.2.1.1. Contingency Theory and Contingency Variables

Various sets of variables are used in contingency theoretical studies. At the top level, both internal (organizational) and external (environmental) contingencies can be recognized to affect organizations (see e.g., Child 1972, Ginsberg and Venkatraman 1985, Pennings 1992). However, stricter structural contingency theoretical notions could only refer to internal factors, as they should (in ideal cases) reflect external contingencies (Donaldson 1996). Typically, the assumptions are not very robust but the researchers also take account of external contingencies in their studies (see e.g., Chenhall and Chapman 2006). As this very basic controversy already illustrates, reaching agreement on valid research variables has been a challenge for contingency research. To shed light on this issue, a few eminent papers dealing with contingency variables are briefly reviewed.

In his classic paper, Child (1972) examines early contingency studies that investigated the relationship between contextual and organizational variables. With the support of his literature review, Child (1972) discovers three particularly influential arguments explaining variations in organizational structure. The corresponding contingency dimensions postulated by these arguments are:

- Environment
- Technology
- Size

The first dimension (environment) is an external contingency. It concentrates on environmental conditions from the perspective of selecting effective structural forms. The second and third dimensions (technology and size) are internal contingencies, which concentrate on the “physical organization” (Child 1972).

According to Child (1972), the *argument from environment* originates from observations that recognize organizations as open systems, which are in touch with their environments. He further distinguishes three environmental sub-contingencies. First, *environmental variability* is acknowledged to generate uncertainty for an organization and its decision-makers. Child (1972) defines environmental variability as “the degree of change which characterizes environmental activities relevant to an organization’s operations” (p. 3). He further recognizes three aspects that define the degree of environmental variability. These are the frequency of change, the degree of change, and the variability of change. Second, *environmental complexity* is recognized to increase the information needs of an organization. Environmental complexity is conceptualized as “the heterogeneity and range of environmental activities which are relevant to an organization’s operations” (p. 3). Third, *environmental illiberality* is identified to cause reduced environmental slack in which an organization can operate. This last environmental contingency is defined as “the degree of threat that faces organizational decision-makers in the achievement of their goals from external competition, hostility or even indifference” (p. 4).

Child (1972) recognizes that the *argument from technology* is multifaceted. This finding first appears in Hickson et al. (1969) who point out that there have been differences in the definitions of technology, as well as in the levels of analysis that researchers use. Hickson et al. (1969) recognize three central definitions of technology. First, *operations technology* is used to describe those techniques that are used to equip and sequence the activities in the organization’s workflow. Second, *materials technology* is related to the characteristics of the materials used in the workflow. Third, knowledge technology is defined as knowledge used in the workflow. However, for unknown reasons, Child (1972) omits the first type technology highlighted by Hickson et al. (1969) from his analysis.

Lastly, Child (1972) briefly reviews the *arguments from size* and proposes that there are two main ones. The main difference between these arguments is the causal mechanisms that they perceive. The first causal explanation argues that larger size offers more opportunities for specialization. Specialization, in turn, enables operations that are more efficient. The second explanation points out that managing a large number of people in a personalized and centralized (organic) style is impossible. Thus, a more decentralized and impersonal (bureaucratic) management style is needed.

Dess and Beard (1984), in turn, concentrate especially on environmental dimensions and put forward a set of contingency variables from the more general “organizational task environ-

mental” perspective. By reviewing selected population-ecological and resource dependence theoretical literature, they conclude that there are generally three dimensions:

- Munificence
- Dynamism
- Complexity

Although these dimensions are crafted from a wider set of theoretical backgrounds with environmental focus, these variables are also used to support contingency theoretical studies by offering clear-cut concepts on which to build a study (e.g., Tushman and Anderson 1986, Keats and Hitt 1988).

Dess and Bread (1984) define *munificence* by following Starbuck’s (1976) conceptualization. According to this conceptualization, munificence describes the extent to which the environment can support sustained growth. This definition also highlights that organizations seek environments that permit growth and stability (Dess and Beard 1984). *Dynamism*, in turn, is defined by following the traditions of the organizational theoretical and business policy literature which suggests, according to Dess and Bread (1984), that change, absence of pattern, and hence, unpredictability are the best measures of environmental stability/instability. They further underline that dynamism should be restricted to highly unpredictable change. Change alone does not mean that an environment is dynamic. Finally, *complexity* is defined by following Child’s (1972) definition, which relates complexity with “the heterogeneity and range of environmental activities” (p. 3) relevant to an organization. Complex environments are more challenging for managers, and information processing requirements are higher in complex environments than in their simpler counterparts (Galbraith 1974, Dess and Beard 1984).

In his widely cited book, Aldrich (1979) reviews environmental dimensions and suggests that there are six independent environmental dimensions identified as important. First, environmental *capacity* means that the relative level of resources available to an organization within its environment might be rich or lean. Environmental capacity is defined as the extent to which an organization has to expand its area of operation to obtain the resources it requires to achieve stability and growth. Second, environmental *homogeneity–heterogeneity* assesses the degree of similarity or differentiation between the elements of the population. The related population can include other organizations, individuals, and any social force that affects resources. Third, environmental *stability–instability* relates to the degree of change in the elements of the environment. A stable environment implies that organizations can develop routines to deal with environmental elements. Conversely, in unstable environments organizations have more difficulties coping with change. Fourth, environmental *concentration–dispersion* assesses the degree of resource distribution. Besides other more common elements, resources include the population served. These resources can either be evenly distributed over the environment, or concentrated in certain locations. Fifth, domain *consensus–dissensus* is defined as the degree to which an organization’s claim to a specific domain is disputed or rec-

ognized by other organizations. Whereas, public service organizations typically have specifically recognized domains, business organizations are, by definition, in constant competition where their domain is constantly challenged. Sixth, environmental *turbulence* means the extent to which environments are being challenged by increasing environmental interconnection and an increasing rate of interconnection. In other words, turbulence results from the complexity and the multiple characters of causal interconnections (Emery and Trist 1965).

Dess and Beard (1984) acknowledge that the variables they propose are similar to the environmental variables by Child (1972), namely, illiberality, variability and complexity. However, perhaps more importantly, their study succeeds in further structuring Aldrich's (1979) above-mentioned environmental dimensions. However, Dess and Beard (1984) omit the consensus–dissensus dimension from their study, as they perceive it to be difficult to apply to business organizations. They continue by displaying the generality of their typology by positioning Aldrich's (1979) environmental dimensions in relation to their own conceptualization.

- Munificence: Capacity
- Dynamism: Stability–Instability, Turbulence
- Complexity: Homogeneity–Heterogeneity, Concentration–Dispersion

They suggest that the concept of munificence is quite similar to Aldrich's (1979) concept of environmental capacity. Stability–instability and turbulence, in turn, are related to the dynamic nature of the environment. Finally, environmental complexity is linked with homogeneity–heterogeneity and concentration–dispersion dimensions.

Over the years, a number of contingency studies has been conducted, and various contingency variables have been proposed. Whereas Child (1972) identifies three main contingencies: environment, technology and size; Donaldson (2001) recognizes that variables such as environmental change, task uncertainty, task dependence, technology, technological change, innovation, size, diversification/integration, and strategy are at least some of the better-established contingencies.

Although, defining the boundaries of an organization has been recognized as challenging (Scott 2003), the contingencies are often divided for those elements that are more clearly inside of the organization and those that are on the outside. This distinction is also made by Donaldson (2001) who further argues that external (environmental) contingencies affect internal contingencies that subsequently shape organizations' internal characteristics. As internal characteristics mirror internal contingencies, external contingencies can be subsumed as internal contingencies when the aim is to explain organizations' internal characteristics.

As illustrated above, Dess and Beard (1984) propose that environmental contingencies could be described with the main variables of dynamism, complexity, and munificence. Donaldson (2001) follows this example, and proposes that the number of contingency dimensions in gen-

eral could be reduced to three: task uncertainty, task interdependence, and size. Whereas Dess and Beard's (1984) dimensions are aspects of the environment, Donaldson's (2001) contingencies are aspects of the work being performed, and hence, they are internal organizational characteristics. These three contingencies will now be examined in greater depth.

The *task uncertainty* dimension includes sub-contingencies such as environmental instability, technological change, technology, and innovation. Donaldson (2001) suggests that all of these contingencies have an implicit connection with uncertainty. The first two sub-contingencies, environmental instability and technological change, are both external contingencies. According to Donaldson (2001), *environmental instability* leads to uncertainty for the organization and its managers, and this uncertainty creates uncertainty in the organization's tasks. *Technological change*, in turn, can be seen as part of environmental instability. *Innovation* is required to respond to these changes in the organization's environment. The *technology* an organization uses in its operations also affects task uncertainty. This basic idea can also be found in Hayes and Wheelwright's (1979) product–process matrix, which utilizes notions of fluidity and flexibility to describe the need that uncertainty sets; and uses the terms systemic and mechanic to describe structure, which fit better with higher task certainty. Finally, Donaldson (2001) links *strategy* with both innovation and technology. He takes Miles and Snow's (1978) distinction between “defender” versus “prospector” strategy and argues that the strategic choice is largely between routine operations versus innovation. This choice is strongly related to task uncertainty.

The *task interdependence* dimension encompasses some wider aspects of strategy. According to Donaldson (2001), task interdependence classifies the ways in which activities are connected to each other in an organization. As a starting point, Donaldson (2001) recognizes that the diversification–integration dimension is an important aspect of the strategy of a company. Diversification describes how the issues, such as products, customers, and functions of the company are connected to each other. He also notes that this diversification–integration dimension of strategy is clearly an “achieved strategy”, which is manifested in a set of concrete activities, rather than just “strategy as an intention.” The achieved strategy of the company is often analyzed through the levels of vertical and horizontal integration. Donaldson (2001) subsumes these dimensions of achieved strategy under task interdependence as they describe how organizational activities are related. Horizontal diversification and vertical integration describe how far the activities of a company are connected. On the other hand, horizontal integration and vertical diversification describe the closeness of these activities. The homogeneity–heterogeneity dimension of environmental complexity also relates to the degree of diversification of the company because the level of diversification of the company renders the environment.

The *size* dimension has been studied in relation to organizational structure (Pugh et al. 1968, Blau 1972, Blau et al. 1976) and with various other organizational aspects, such as technology (Khandwalla 1972). Contingency theoretical studies often define and measure size with the

number of employees (Chenhall 2003). However, such an operationalization of size is fraught with challenges. Donaldson (2001) remarks that the number of employees is both conceptually and empirically related to other aspects of organizational membership. Hence, should the number of customers or any other interest group be counted in organizational size, for example? However, despite its inherent problems, the number of employees has remained the widely used measure of size (Donaldson 2001).

4.2.1.2. Contingency Theory and Contingency Fit

In contingency theory, the concept of ‘fit’ is generally regarded as one of the most important (see e.g., Van de Ven and Drazin 1985, Gerdin and Greve 2004). Contingency theories see organizational outcomes as the consequence of fit between different factors (Van de Ven and Drazin 1985). For example, in a typical structural contingency theoretical setting, the structure fits the contingency, which in turn fits the environment (Donaldson 1996). Contingency theory further holds the proposition that if the factors “fit well”, then the organization functions effectively. On the other hand, if the factors “fit poorly”, efficiency suffers (Fry and Smith 1987).

Many statements in early contingency studies have also displayed a variety of other terms to describe fit, such as ‘appropriate for’, ‘conform’, ‘consistent’, ‘congruence’, ‘matched’, and ‘aligned’ (Schoonhoven 1981, Fry and Smith 1987). Besides the variety of terms applied, one of the core problems with contingency theories is the lack of clarity on what is meant by fit (Van de Ven and Drazin 1985), and hence, researchers’ failure to state expected and tested interactions (Hartmann and Moers 1999). In fact, there are various forms of fit in contingency theoretical studies (Chenhall 2003, Donaldson 2006). The ambiguity of fit has led to inconsistent approaches, which has made the comparison of studies difficult, if not impossible (Fry and Smith 1987). Fry and Smith (1987) state further in a quite provocative manner that the result has been wasted effort and little, if any, advancement in knowledge.

Although researchers have done a lot of valuable work in recent decades to clarify the concept of fit, the question about the meaning of the concept is but self-evident. Various authors have presented their interpretations and proposals on how the concept of fit should be conceived. However, there still remains a confusing overlap between the main writers (Chapman 2009). Because of this, it is necessary to briefly review how this key concept can be understood. In this review, I acknowledge the studies that have analyzed the forms of fit, especially from the perspective of management accounting research (e.g. Hartmann and Moers 1999, Gerdin and Greve 2004, Chenhall and Chapman 2006). However, to gain a broader understanding of the topic, the main emphasis is on the works of organizational theorists.

Congruency and Contingency Fit: Is Performance Dependent Variable?

Fry and Smith (1987) propose that research conducted under the rubric of contingency theory divides into two branches, namely, congruence and contingency theories. This difference is

important because the concept of fit has been used to refer to both congruence and contingency effects (Fry and Smith 1987). The distinction between congruency and contingency studies is also made by Drazin and Van de Ven (1985) and Gerdin and Greve (2004). All of these studies are inspired by the original ideas of Fry and Schellenberg (1984), whose original article remains an unpublished manuscript. These ideas are however presented in a more elaborated phase in a later paper by Fry and Smith (1987).

Fry and Smith (1987) define that “specifying *congruence* hypothesis means explicitly stating, a priori, the laws of relationship among units of a theory” (p. 120). In other words, following the model on which Fry and Smith (1987) ground their reasoning, congruence studies include the variables which relationships the researcher is interested in, and the laws of relationships among the variables that specify how they are associated. Drazin and Van de Ven (1985) state quite similarly: “in a *congruent* proposition a simple unconditional association is hypothesized to exist among variables in the model” (p. 514). They also give an example from a traditional structural contingency setting where the relation of task uncertainty and the complexity of the structure have been the focus. Gerdin and Greve’s (2004) interpretation is also in line with others with a lesser emphasis on the a priori nature of theorization. They define rather concisely that in the congruency approach, the research task explores the nature of the context–structure relationships. Hence, from the MCS research perspective, the system itself is often the dependent variable.

The interpretations and definitions of contingency research are more confusing. Fry and Smith (1987) define that “specifying *contingency* hypothesis means explicitly stating a priori the various system states where the integrity of the system is maintained but in a markedly different condition—in terms of its characteristic values that are deterministic and persistent through time—from what it was previously” (p. 120). That is to say, besides the elements included in congruency studies, contingency studies also include “the boundaries within which the laws of relationships are expected to operate”, and the “system states within which the units of the theory take on characteristic values that are deterministic and have a persistence through time” (p. 118). Thus, Fry and Smith (1987) further state that congruence is an a priori requirement, which while necessary, is not a sufficient condition for a contingency. Drazin and Van de Ven (1985) arrive at a slightly different interpretation by drawing on the earlier work of Fry and Schellenberg (1984), and define contingency studies as a “conditional association of two or more independent variables with a dependent outcome is hypothesized and directly subjected to an empirical test” (p. 514). That is, they associate interaction between two or more independent variables with the concept of contingency. Gerdin and Greve (2004) take a similar stance and state that “the researcher must show that a higher degree of fit is associated with higher performance” (p. 305). Hence, performance must be the dependent variable in contingency studies.

The above mentioned definitions point to two particular characteristics prevailing in contingency studies. First, this stream is characterized by performance as the dependent variable.

Second, performance is further affected by the interaction of two or more independent variables. However, in light of the (founding) definitions by Fry and Smith (1987), it could be argued that interaction is not a necessary—although undeniably commonly present—condition for contingency. For example, change in the technological environment can lead to change in a company's production technology, which can then affect the company's efficiency and profitability. In this contingency setting, there is no interaction *per se*, but the organization's production technique is merely a mediating variable. Thus, the concept of contingency fit is specific to studies that take performance as the dependent variable.

Cartesian and Configuration Fit: A Few or Many Independent Variables?

A few researchers (Donaldson 2001, Gerdin and Greve 2004, Henri 2008) have proposed that contingency studies can be divided into those that apply the Cartesian approach and those that apply the configuration approach. According to Gerdin and Greve (2004), this dichotomy originates from a debate between the supporters of the traditional structural contingency theory, and their opponents. More recently, this dichotomy has been popularized in organization sciences especially by Donaldson (2001, 2006).

The supporters of traditional structural contingency theory (*Cartesianists*) suppose that fit is a continuum formed by a number of independent contingencies that allow frequent, small movements in any of the dimensions that take organizations from one state of fit to another. Their opponents (*configurationists*), in turn, presume that interacting contingencies need to be in a suitable configuration. Hence, there are only a few states of fit and to move from one fit state to another, organizations need to make larger jumps. As these examples highlight, the Cartesian and configuration schools represent two competing approaches to fit (Donaldson 2001, Gerdin and Greve 2004). Despite the relatively small number of adherents, the dichotomy has received heightened visibility especially in the field of MA research.

The term '*Cartesian fit*' can be traced back to the thoughts of Rene Descartes. Cartesian dualism proposes that the subject could be separated from the object (Sköldbberg 1998). That is, "the whole" can be divided into the inner world of the subject and the external material world, separate from each other (Bakhurst 1997). Similarly, in contingency theory the whole is recognized to be dependent on multiple contingencies. The Cartesian approach assumes that these dimensions can be separated from each other. Further, this approach aims to understand organizations by analyzing their constituent parts and how these parts affect the performance of the organization (Henri 2008). However, Meyer (1993) points that although these analyses have been dominant in contingency research, they invoke reductionism. Figure 6 provides an illustration of the Cartesian approach where the effects of three MA variables are examined independently in relation to performance.

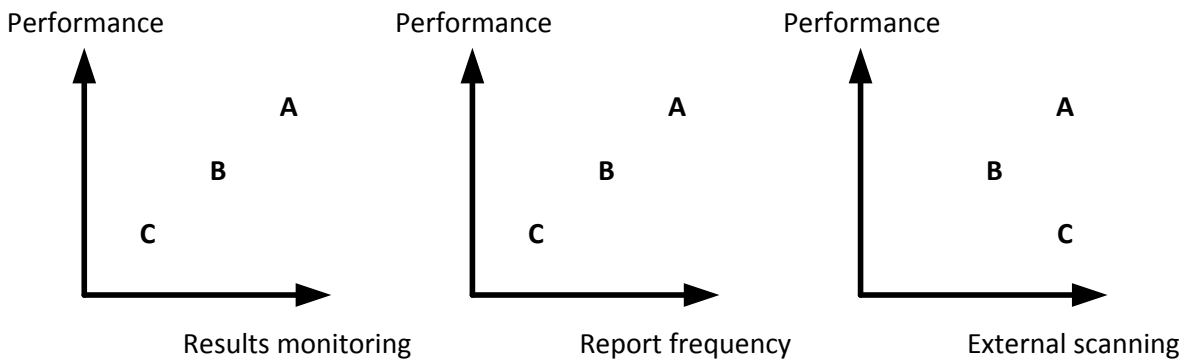


Figure 6. Cartesian understanding on fit (adapted from Gerdin and Greve 2004)

In Figure 6, each contingency defines the performance of organizations (A, B, and C) in a multidimensional space (Donaldson 2001). This illustration leads us to the second characteristic of the Cartesian fit. The Cartesian approach assumes that each dimension is “a continuum of fine gradations” (Donaldson 2001 p. 141) that form “a continuous line of fits” (Donaldson 2006 p. 22). Each dimension can get high or low values independent of the others. For example, an organization can gain a higher performance by the change in one dimension, and still stay at the same point in other dimensions. Hence, Cartesians propose that the number of fits between the contingencies and structure is very large (Donaldson 2006). Gerdin and Greve (2008) summarize the above-mentioned by defining that the Cartesian fit is “a continuum between pairs of contingency and structure dimensions that allow frequent and small movements by organizations from one state of fit to another” (p. 997).

According to Donaldson (2006), *configuration theory* represents a modern variation of contingency theory. Configurationalism proposes that every organization has a certain configuration defined as a specific set of characteristics. These characteristics are in interaction and only certain combinations of characteristics (configurations) enable the performance of an organization (Donaldson 2001). As the parts of an organization take their meaning within the whole configuration, they cannot be understood by separately analyzing them (Henri 2008). In other words, the basic premise of the configurational approach requires that all relevant variables are analyzed together by accounting for their interactions. In general, the configurational approach seems to present a more holistic and ambitious way of proposing and analyzing contingency formulations. For example, more sophisticated reciprocal and nonlinear relationships are used to understand the relationships between organizational elements in configurational studies (Dekker 2008). This acknowledgement of local maximums also leads to a smaller number of possible “efficient” fits. Figure 7 illustrates how performance emerges from certain kinds of interactions.

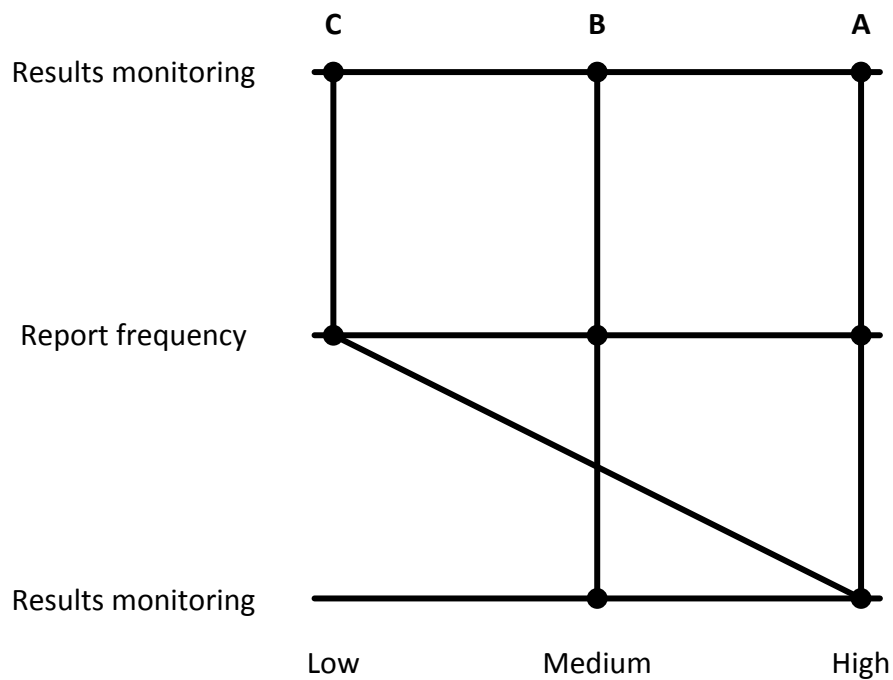


Figure 7. Configuration understanding on fit (Gerdin and Greve 2004)

In Figure 7, there are three possible configurations that all provide different levels of performance. In this example, if the requirements for the scope of information are high, the configuration of company A would provide the best performance.

The notions of Cartesian and configuration fit have been used quite broadly to describe two different schools of contingency research. Gerdin and Greve (2004) propose that the approaches differ in three main respects (Table 2).

Table 2. Cartesian and configuration understanding of fit (Gerdin and Greve 2004)

	Cartesian approach	Configuration approach
Variables	Few	Many
Relations	Continuous, general across contexts	System states, context specific
Change	Continuous, incremental	Episodic, quantum jumps

First, as illustrated in Table 2, the perspectives differ in the number of variables analyzed. Whereas the Cartesian approach accounts only for a few (dependent and independent) variables, the configurational perspective requires the simultaneous observation of many. This choice in the complexity of analysis has essential implications for the next aspect. Second, if

the number of variables is small, as in the Cartesian approach, the fit is analyzed as continuous functions. If this is not the case and there is a large number of variables, as in the configurational approach, the discrete analysis of “system states” becomes more feasible. Finally, if the contingency relationships are analyzed as continuous functions, the changes are inherently incremental. On the other hand, if the analysis relies on a discrete model, this inevitably leads to a model where the changes require larger jumps.

Although the above-mentioned features of the Cartesian and configurational approaches capture some often-affiliated characteristics, one could still argue for the possibility of exceptions. The Cartesian approach, for example, might sometimes rely on discrete analyses. The configurational approach, in turn, could be used to study highly complex continuous fits. Hence, it can be further suggested that the definition of the dimension of fit should be divided into two categories, according to the number of variables and based on the continuity/discreteness of the fit. In this dissertation, the narrower definition of the Cartesian/configuration fit dimension is adopted. This definition assesses only the first attribute of the previous division. That is, the Cartesian/configuration fit dimension is used to address only the number of variables (a few or many) used in the analysis.

Selection, Interaction, and Systems Fit: How do Contingencies Interact?

Van de Ven and Drazin (Drazin and Van de Ven 1985, Van de Ven and Drazin 1985) suggest that there are (at least) three different kinds of fit describing how contingencies are related. These types of fit are selection, interaction, and systems approaches¹⁹. This classification has been widely regarded especially in the field of organizational studies. Although the conceptions of fit are illustrated with the support of examples from structural contingency theory, Van de Ven and Drazin (1985) point out that in general, their classification should apply more to contingency theories. They also recognize that this classification (see Table 3) is not inclusive, that it covers most of the interpretations within organizational contingency theory.

¹⁹ The confusing nature of the definitions of fit is somewhat natural as they have developed rather independently of each other. Hartmann (2005) notes that the selection fit could be called the congruence fit, and the interaction fit could be labeled the moderation fit. In case of the selection and congruence fit, the logic follows from the definitions of Drazin and Van de Ven (1985) who recognize that early structural contingency studies typically examined only the (direct) relationship between organizational context and structure and did not address the effect on performance. In addition, they use the concept of congruence fit to describe the unquestioned type of fit in these studies. On the other hand, the paper by Van de Ven and Drazin (1985) lacks this explicit association. It is then possible (at least hypothetically) to study the effect of context on organizational performance. In case of the interaction and moderation fit, the term moderation has been used to describe the element, including the joint effect of variables, in various studies. Venkatraman (1989) uses the terms somewhat interchangeably. Hartmann and Moers (1999), in turn, have defined the interactive “product term” as a moderating effect.

Table 3. Selection, interaction, and systems fit (Van de Ven and Drazin 1985)

	Selection approach	Interaction approach	Systems approach
Initial views on fit	Assumption	Bivariate interaction	Consistency analysis
Definition	Fit is an assumed premise underlying causal organization context-structure models.	Fit is the interaction of pairs of organizational context-structure factors on performance.	Fit is the internal consistency of multiple contingencies, structural, and performance characteristics.
Test methods	Correlation or regression coefficients of context (e.g., environment, technology or size) or structure (e.g., configuration, formalization, centralization) should be significant.	Context-structure interaction terms in MANOVA or regression equations on performance should be significant.	Deviations from ideal type designs should result in lower performance. The source of the deviation originates in conflicting contingencies.
Current-future views on fit	Macro selection	Residual analysis	Equifinality
Definition	Fit at micro level is by natural or managerial selection at macro level of organizations.	Fit is conformance to a linear relationship of context and design. Low performance is the result of deviations from this relationship.	Fit is a feasible set of equally effective, internally consistent patterns of organization context and structure.
Test methods	Variables subject to universal switching rules should be highly correlated with context. Particularistic variables should exhibit lower correlations.	Residuals of context-structure relations regressed on performance should be significant.	Relationship among latent context, structure and performance constructs should be significant, while observed manifest characteristic need not be.

Donaldson (2001) examines the contingency dimensions inspired by (Table 3) Van de Ven and Drazin's (1985) classification. However, he uses various pages only to point out that especially the selection and systems fits are problematic concepts and therefore, they should be relabeled. The relationships between the terms suggested by Drazin and Van de Ven (Drazin and Van de Ven 1985, Van de Ven and Drazin 1985) and Donaldson (2001) are clearly illustrated (Table 4) by Chenhall and Chapman (2006).

Table 4. Summary of fit relationships (Chenhall and Chapman 2006)

Drazin and Van de Ven	Donaldson
1. Selection fit	1. Managerial choice
2. Interaction fit	2. Congruence fit
3. Systems fit	3. Multifit

Starting from the first type of fit in Table 4, Donaldson (2001) sees the concept of selection fit as problematic because the term selection is strongly linked to natural selection. This linkage is not a problem in itself, but it might take some emphasis from change processes that occur as a result of managerial choices. Donaldson (2001) further argues that the natural selection type of change is more common in public-sector organizations, whereas managerial selection is more typical of business organizations. As most organizational studies focus on business organizations, Donaldson generally prefers the use of the term ‘managerial choice’. We shall return to the analysis on the models of fit in the next part of this subsection.

Donaldson (2001) also sees the concept of interaction fit (second in Table 4) as unhelpful, as in Van de Ven and Drazin’s (1985) paper it fails to capture the deviation fit. Instead of the interaction fit, Donaldson (2001) proposes that the term congruence be used to describe this type of fit. However, if we acknowledge the above-mentioned (congruency/contingency) dichotomy by Fry and Smith (1987) and at the same time substitute the term interaction with congruence, the conceptualization of fit becomes more confusing.

Lastly, Donaldson (2001) focuses on the concept of systems fit (third in Table 4). He begins by acknowledging Van de Ven and Drazin (1985) to conceptualize that in a systems fit, the fit is more than the sum of the effect of each fit alone, that is, how the contingencies work as a system. The idea of a systems fit has been warmly welcomed in Donaldson’s (1996) earlier paper as “it opens the door to a more fully multivariate model in which all the contingency factors and all the structural variables for which there are contingencies are considered simultaneously for each organization” (p. 69). Nonetheless, Donaldson (2001) then critiques the notion of a systems fit. Although explicitly stating differently, Donaldson (2001) inter-

prets²⁰ Van de Ven and Drazin (1985) as implicitly referring to the additive nature of contingencies. Hence, he prefers the term multi-fit over systems fit (Chenhall and Chapman 2006).

From my understanding, it appears that Donaldson (2001) has misinterpreted the point that Drazin and Van de Ven (1985) make with the concept of systems fit. Hence, at the end, these authors discuss slightly separate things. Whereas Drazin and Van de Ven's (Drazin and Van de Ven 1985, Van de Ven and Drazin 1985) conceptualization emphasizes the interaction of contingencies in a multidimensional model, Donaldson's (2001) conceptualization seems to focus more strongly on the number of contingencies. Although adding the number of contingency variables, Donaldson (2001) relies largely on a two-dimensional interaction model. What follows is a more detailed examination of the above-introduced fit relationships by adopting Drazin and Van de Ven's (Drazin and Van de Ven 1985, Van de Ven and Drazin 1985) conceptualizations.

Selection Fit: Contingencies Independent of Each Other

The selection fit is perhaps the most traditional, and still one of the most widely used, ways of constructing contingency theoretical studies. Especially early contingency researchers concentrated on studying (only) the link between the context and organization. In these studies, one dimension simply explained the magnitude of the other. Later, researchers have constructed more and more complex networks of relationships in order to assess the fit between the contingencies. (Van de Ven and Drazin 1985) Logically, the selection fit is very simple. Drazin and Van de Ven (1985) propose that the selection fit was initially defined as an assumption that there was congruence between context and structure. They also note that in light of (more) recent studies, selection fit can be further defined as a macro selection, which is at a micro level instigated by natural or managerial selection. Drazin and Van de Ven (1985) further clarify that in selection fit studies, only bilateral relationships are studied to assess fit because an identity, or isomorphic relationship is presumed to exist between the independent and dependent variable.

As pointed out earlier, Drazin and Van de Ven (1985) make a rather strong association between the concept of contingency fit and the prevalence of two or more independent variables. The concept of congruence is also frequently used in the illustrations of Drazin and Van de Ven (Drazin and Van de Ven 1985, Van de Ven and Drazin 1985) in connection with structural fit, which builds an implicit connection between these two concepts. That is, as selection

²⁰ Donaldson's (2001) chain of thought starts from an example from Van de Ven and Drazin's (1985) paper, where a multidimensional systems fit is measured with the help of the Euclidian distance formula. Donaldson (2001) focuses on this particular example and concludes that in this case, the systems fit is just the sum of its parts. He also suggests that this example makes a point against Van de Ven and Drazin's (1985) own definition. Nevertheless, based on this "faulty" example he interprets that a systems fit can be seen simply as a sum of its parts. Consequently, following this logic Donaldson's (2001) concludes that a systems fit model anyhow boils down to the additive model, which is in his opinion the preferred model for analyzing organizations.

studies do not examine the performance component, they should be seen as congruence studies. A similar association between selection and congruence fit is also made by Chenhall and Chapman (2006) who note that “selection studies examine the way contextual factors are related to aspects of MCS with no explicit attempt to assess whether this association is linked to performance” (p. 2). Although this relation is often assumed, the connection between the two is not indisputable. For example, Drazin and Van de Ven (1985) also underline that it is unclear whether structural fit could address contingency theory. This speculation is based on the remark that many early technology researchers used a similar contingency logic as the studies that are generally regarded as contingency studies (see e.g., Khandwalla 1972, Gordon and Miller 1976). However, for some reason these congruency studies have not tested the link for performance.

Based on the analysis above, the most distinct common denominator in the definitions of structural fit seems to be the one-on-one relationship between contingency variables. In other words, in a structural fit the value of variable y is dependent on the value of independent variable x . This causal relationship is often seen as one-way. For example, the organizational context causes the structure, but the relationship can also be bidirectional.

Interaction Fit: Two Interacting Contingencies

A second, structural interpretation of fit is that fit is a type of interaction effect. An interaction fit explains the value of a dependent variable (often performance) caused by the interaction of two independent variables (for example context and structure). Overall, this approach has been the most widely used to address contingency theories in different fields of science (Van de Ven and Drazin 1985). Van de Ven and Drazin (1985) also highlight that although the interaction approach is well established, it contains a logical error that severely limits its convenience. As the interaction approach accounts for only two variables at a time, it assumes that the whole is reducible to a linear combination of its parts. However, in practice this is usually not the case.

More recently, various authors have pointed out that there are actually several interaction approaches. Van de Ven and Drazin (1985) suggest that these approaches share a common analytical procedure, which starts by reducing the total set of variables to a series of bivariate relationships. After relationships are formed, they can be examined to illustrate how the pairs interact to explain performance. Sharing this logic, Drazin and Van de Ven (1985) propose that an interaction fit can be analyzed either from the perspective of a bivariate interaction or as a residual analysis. The bivariate interaction is defined as “interaction of pairs of organizational context-structure factors”, which “affects performance” (p. 515). A residual analysis type of interaction is a “conformance to a linear relationship of context and design”, where the “low performance is the result of deviations from this relationship” (p. 515). This latter approach is also called the ‘deviation approach’ (Van de Ven and Drazin 1985). Taking a slightly different perspective, Donaldson (2001) proposes that the ‘congruence fit’ could be divided

into (multiplicative) interaction and matching fits. The multiplicative interaction fit is related, in Donaldson's (2001) terminology, to so-called 'multifit' studies that utilize relatively straightforward multiplicative relations. The matching fit, in turn, also recognizes the more complex forms of interactions between contingencies.

Schoonhoven (1981) has also analyzed the sub-types of the interaction fit. Based on her analysis on mathematical structures, she proposes that three types of interaction fits have been used in the contingency theoretical literature, namely, multiplicative, matching, and maximizing fits. These sub-types of interaction fit can be seen to relate to Drazin and Van de Ven's (Drazin and Van de Ven 1985, Van de Ven and Drazin 1985) bivariate interaction type of fit. Following Donaldson's (2001) terminology, Schoonhoven's first two fit subtypes can be easily connected with their namesakes. As Schoonhoven (1981) focuses especially on the difference between interaction and matching fits, the concept of maximizing fit remains somewhat unclear. To explain maximizing fit, Schoonhoven (1981) raises a question about the possibility of several maxima. She also points out that there could be, for example, an asymptotic approach to maximum or there might be a certain threshold level after which changes in variables do not increase performance any further. This perspective links maximizing fit with hetero-performance to which we shall return in a moment.

Table 5. Different types of interaction fit

	Multiplicative	Matching
Interaction	Multiplicative interaction	Matching interaction
Deviation	Deviation approach	

The first sub-type of interaction fit in Table 5 is called multiplicative interaction. A multiplicative fit means that the relationship between the two contingencies is expressed as a multiplicative function. When a multiplicative relationship is assumed, the effect of one variable is increased by higher values of the other variable. Moreover, the strongest impact on the dependent variable is caused when both variables get high values. The multiplicative interaction also assumes that effectiveness is most likely when both variables are present. (Schoonhoven 1981)

Pennings (1992) points out that one of the main strengths of the multiplicative fit is its simplicity. Hence, multiplicative interaction can also be expressed through relatively simple functions. Often, these functions have form $y = b_1x_1 + b_2x_2 + b_3(x_1 \cdot x_2) + c$, where y is the dependent variable (e.g., performance), x_1 and x_2 are independent variables (e.g., environment and organization structure). The multiplicative term of the function includes the incremental

effectiveness caused by the joint effect of independent variables. The multiplicative interaction can be further divided into monotonic and non-monotonic interactions (Donaldson 2001, Chenhall and Chapman 2006). When interaction is monotonic, the dependent variable achieves higher values when the values of independent variables rise. In non-monotonic interaction, this is not necessarily the case, but there, the dependent variable can achieve higher (or lower) values. Schoonhoven (1981) points out that monotonic interactions are typically assumed in organization theoretical studies as real-life interactions and are often monotonic in nature.

The second sub-type of interaction fit in Table 5 is the matching fit. The matching fit assumes that there is an optimal combination between interacting variables (Chenhall and Chapman 2006). That is, for each level of variable x_1 (e.g., context) there is a value of x_2 (e.g., structure) that will maximize y (e.g., performance) (Schoonhoven 1981, Chenhall and Chapman 2006). However, the matching fit loses the strict assumption that the variables are multiplicatively connected. In turn, the function describing the interaction can be more complex. Schoonhoven (1981) proposes that this kind of interaction fit could be labeled a matching or maximizing theory. In general, it is often seen that the matching fit offers a relatively precise way to conceptualize the nature of contingency relationships as it enables researchers to study both linear and nonlinear relationships (Chenhall and Chapman 2006).

The matching fit can be further divided into iso-performance and hetero-performance theories (Donaldson 2001, Donaldson 2006). Iso-performance theories relying on the Cartesian approach assume that there is equal performance on all the points of fit. Conversely, hetero-performance theories applying the configurational approach recognize that although the organization might be at one point of fit, there might be other points of fit that offer even higher performance (Donaldson 2006). Recognizing the possibility that there are different degrees of misfit could lead us to yet another concept, quasi-fit. The quasi-fit was coined by Donaldson (2001), who notes that while contingency theory states that organizations move to fit, they may not move into full fit. That is, when in a quasi-fit, the organization's structure only partially fits the contingencies (Donaldson 2006) even though it might be efficient enough to survive (Donaldson 2001). Organizations move "only" to quasi-fit because managers often know only the direction in which to move their organizations, but not the exact amount of movement (Donaldson 2001). Donaldson (2001) further proposes that in a dynamic environment, the quasi-fit is a key to high performance, as the permanent disequilibrium maintains a constant search for strategic and structural change.

The deviation fit can be seen as the third sub-type of interaction fit (see Table 5). It maintains the basic interactive logic, which assumes that only certain configurations of interacting variables are expected to yield the ideal outcome (Drazin and Van de Ven 1985). However, instead of testing interaction effects, the deviation fit approach analyzes the impact of deviations from an ideal model (Drazin and Van de Ven 1985, Van de Ven and Drazin 1985). For example, whereas the previous types of interaction fit concentrated on how performance is

achieved through the right composition of contextual and structural elements, the deviation fit takes a somewhat different approach and analyses how the underlying deviation from this ideal model affects performance.

The fit between the structural or contextual variables and the ideal model defines the amount of deviation. The amount of deviation, in turn, defines the performance level of the organization. Fry and Smith (1987) refer to this type of approach more generally as a “multiple regression residual technique”, which could also be utilized in more complex systems fit settings. As such, Drazin and Van de Ven (1985) also point out that the deviation-score approach relies on the calculation of a matching variable, and hence, it is a bivariate equivalent of the multivariate systems approach.

Systems Fit: Multiple Interacting Contingencies

Finally, the systems approach is the most recent and most complex structural conceptualization of fit. In general, it aims to explain the dependent variable by studying the interactions of more than two independent variables. Besides being the most complex, the systems approach is also the least tested form of contingency theory (Selto et al. 1995). The systems approach emerged in the field of contingency theoretical studies as a reaction to the reductionism of the earlier approaches. These approaches adopted the selection and interaction fit focus on “how single contextual factors affect single structural characteristics” and “how these pairs of context and structure factors interact to explain performance” (Drazin and Van de Ven 1985 p. 519, Van de Ven and Drazin 1985 p. 347). Conversely, the systems approach aims to capture the holistic pattern of interdependencies between several variables, and thus, it represents more than the sum of each variable considered separately (Chenhall and Chapman 2006). In this approach, the optimal fit occurs when all contingency elements are congruent (Selto et al. 1995). As in earlier approaches, the variations in performance result from variations in this fit.

The study by Govindarajan (1988) compares interaction and systems approaches, and hence, helps us to further clarify the nature of systems fit. In Govindarajan’s (1988) paper, the interaction fit is first studied by applying bivariate-type interactions. According to the interaction approach, the hypothesis states that by focusing on the relationship between two contingencies (competitive strategy and administrative mechanism), the witnessed level of performance can be explained. Second, Govindarajan (1988) adopts the systems approach and with the help of multivariate analysis, examines the joint linkages between multiple contingencies (various administrative mechanisms and strategy), and hence, explains the level of performance. The central difference between the approaches appears to be in the number of interacting contingencies.

Both in Govindarajan’s (1988) illustration and in Drazin and Van de Ven’s (Drazin and Van de Ven 1985, Van de Ven and Drazin 1985) examples, relatively simple contingency models are used. However, as Drazin and Van de Ven (Drazin and Van de Ven 1985, Van de Ven and

Drazin 1985) point out, the systems fit can be extended to higher dimensionalities, and more complex models could be created. A piece of research using the systems fit could, for example, take those three independent contingency dimensions (environment, technology, and size) proposed by Child (1972), and study their “systemic” interaction effects on performance.

Drazin and Van de Ven (1985) point out that especially early systems fit studies often made the assumption of iso-performance and examined fit as “the internal consistency of multiple contingencies and multiple structural characteristics” (p. 515). As in the branch of studies applying the matching interaction approach, more recent systems have also perceived the possibility of hetero-performance. These studies have also adopted the concept of equifinality from systems theory and maintained that “fit is a feasible set of equally effective internally consistent patterns of organizational context and structure” (Drazin and Van de Ven 1985 p. 515). Various researchers (e.g., Van de Ven and Drazin 1985, Doty et al. 1993) proposing the equifinality approach have based their analyses on Katz and Kahn’s (1978) definition that equifinality is a principle where “a system can reach the same final state from differing initial conditions and by a variety of paths” (p. 30). In other words, equifinality is an “assumption that there are multiple equally effective organizational forms” (Doty et al. 1993 p. 1199). Gresov and Drazin (1997) highlight that although equifinality is often cited, it remains as an underdeveloped construct in organization theory. In consequence, equifinality is often used simply an explanation for “non-findings” in contingency studies.

4.2.1.3. Contingency Theory and Contingency Explanations

Over the decades, researchers have proposed various contingency formulations. These explanations offer means to explain how contingencies actually affect organizations. Regarding controversial findings in contingency research, the under-specification of the contingency explanation/model has been proposed as an alternative explanation for problems caused, for example, by invalid and unreliable data (Dent 1990). By browsing the contingency theoretical literature, especially three explanations stand out, namely, the contingency determinism model, the strategic choice model, and the structural adjustment model (Table 6).

Table 6. Three types of contingency explanations (Donaldson 1987)

	Contingency explanation		
	Contingency determinism	SARFIT	Strategic choice
Ultimate cause of structure	Contingencies	Contingencies	Contingencies and preferences of dominant coalition
Immediate cause of structural change	Change in contingencies	Misfit of structure to contingencies	Misfit and preferences of dominant coalition
Effect of misfit on structural adjustment to regain fit	No	Yes	Yes
Response to pressure to regain fit	No concept of fit / Fit unquestioned axiom	Structure adjusted to contingencies	Structure adjusted to contingencies or vice versa
Degree of choice by dominant coalition	Nil	Limited	Considerable

Contingency Deterministic Model

The first and simplest contingency explanation has been labeled contingency determinism (Table 6). In early contingency studies, the emphasis was strongly on the relationship between contingencies and organizational structure. In these studies, the widely held idea was that contingency led relatively straightforwardly to a certain kind of structure (Donaldson 1987). That is, the fit was still then largely an unquestioned axiom (Van de Ven and Drazin 1985). The deterministic model can be further illustrated with the help of Figure 8.

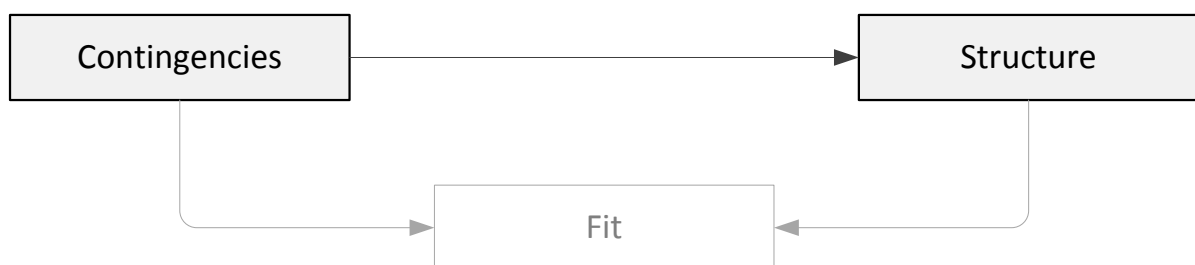


Figure 8. Contingency determinism model (adapted from Donaldson 1987)

According to Child (1972), the contingency determinism model adapts the simplest theoretical solution, which proposes that “the contextual factors determine structural variables” (p. 2). According to him, the fit is assumed to occur because of certain economic constraints that organizations are supposed to impose. More recently, the explanation has sharpened and contin-

gency determinism has been viewed as the result of natural selection (Van de Ven and Drazin 1985). The natural selection argument presumes that if there is a misfit between contingencies and structure (see Figure 8), it leads to lower performance and finally to the death of organization. Therefore, it is still the case that in all organizations the structure needs to be in fit.

Research using contingency deterministic models has relied strongly on statistical analysis. In many cases, this has left the underlying processes without the necessary attention, and the statistically established relationships have not been able to speak for themselves (Child 1972). Eventually, these early contingency theoretical studies led to rather conflicting conclusions, which served as a source of motivation to further develop contingency formulations (Otley 1980).

Strategic Choice Model

The strategic choice model was first introduced by Child (1972). Child (1972) highlights that studies relating contingency determinism models ignore the essential political process where the power-holders within organizations decide upon the strategic choices. Hence, by bringing the strategy to the center of his analysis, Child (1972) argues that the traditional contingency determinism model is over-simplified. To define the concept of strategy, Child (1972) leans on Chandler's (1962) pre-contingency theoretical research. According to Chandler (1962), the strategy can be defined as "the determination of the basic long-term goals and objectives of an enterprise, and the adoption of courses of action and the allocation of resources necessary for carrying out these goals. Decisions to expand the volume of activities, to set up distant plants and offices, to move into new economic functions, or become diversified along many lines of business, involve the defining of new basic goals." (p. 13) Hence, the strategy is a major source of change in the structure of the organization, but it can also have an effect on contingencies under which the organization is working. Figure 9 illustrates the mechanism presumed by the strategic choice model.

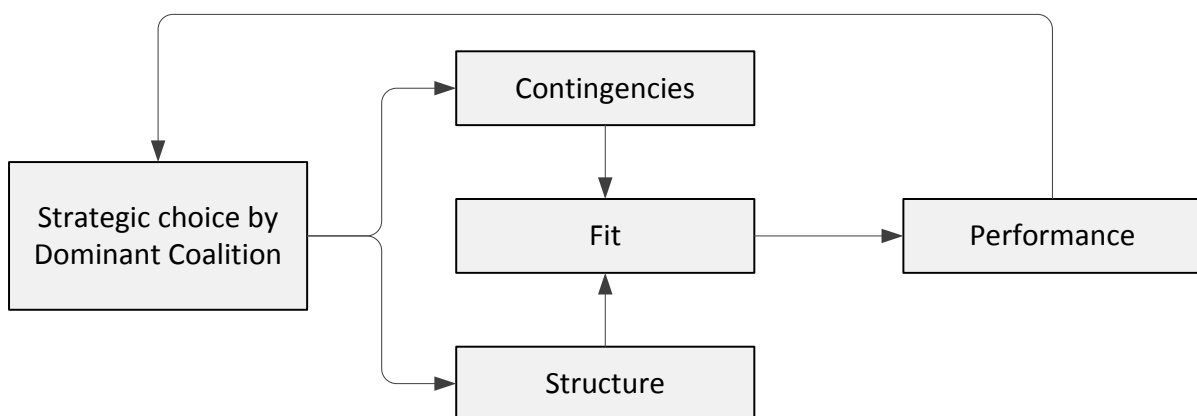


Figure 9. Strategic choice model (adapted from Donaldson 1987)

In contradistinction to contingency determinism, the mechanism proposed by the strategic choice model (Figure 9) includes more steps that take some time to occur. That is, the changes are not as imminent as in the deterministic model. In the strategic choice model, a change in the contingencies leads to the misfit that produces a decline in performance. Declining performance, in turn, generates pressure for change as the driving force of the strategizing processes, with an aim to restore the match between contingencies and structure. (Child 1972, Donaldson 1987)

The pressure for change prevails because “organizations must achieve certain levels of performance in order to survive” (Child 1972 p. 8). In the strategic choice model, the match can be improved both by adjusting structure to fit new contingencies and by adjusting the contingencies to fit the prevailing structure (Donaldson 1987). However, Child (1972) also notes that performance standards may themselves allow some slack for the choice process of the dominant coalition.

Structural Adjustment Model

The structural adjustment to regain fit (SARFIT) model has been proposed by Donaldson (1987) to overcome some of the problems of the contingency determinism and strategic choice models. That is, structural adjustment is more complex than the simple contingency determinism model but also less complex than Child’s (1972) strategic choice model. The SARFIT model can be further illustrated in Figure 10.

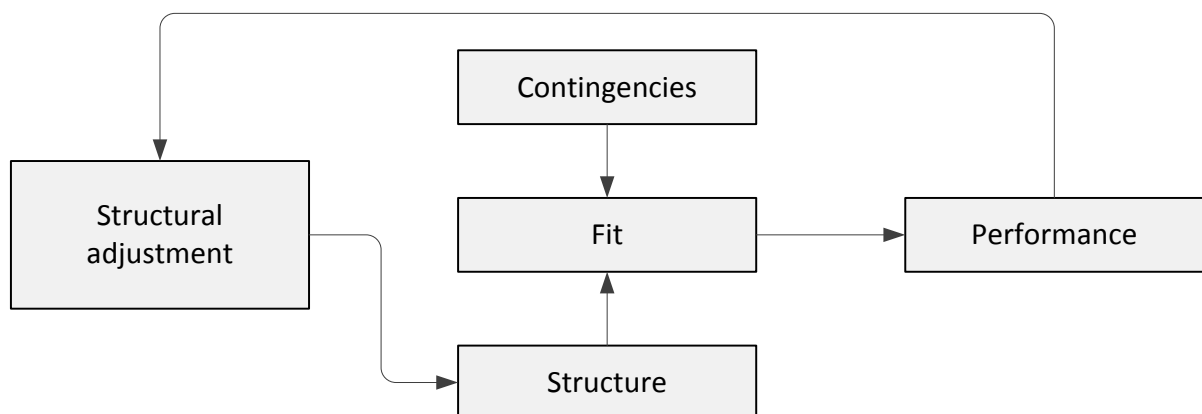


Figure 10 Structural adjustment model (adapted from Donaldson 1987)

In the structural adjustment model (Figure 10) a change in contingencies leads to a misfit between the prevailing structure and new contingencies. As in the strategic choice model, this mismatch between structure and contingency induces lower performance. Structural changes arise from performance deviation rather than from simple contingency changes as it were in

the contingency deterministic model (Donaldson 1987). The cycle of structural adjustment is: fit, contingency change, misfit, structural adaptation, new fit (Donaldson 1996).

With the support of empirical evidence, Donaldson (1987) concludes that the structural adjustment model provides a more accurate picture of the causal dynamics than the contingency deterministic model. Donaldson (1987) also prefers the structural adjustment model over the strategic choice model because it is simpler. Finally, his empirical dataset provides further justification for structural adjustment as it shows that in most cases, mismatched organizations restore their match through structural change. The data also highlights that in some cases, companies change their structures without changing their strategies.

4.2.2. Contingency Theory in Management Accounting Research

Studies inspired by contingency theory comprise a substantial and diverse body of research in the management accounting literature (Chenhall and Chapman 2006). Whereas contingency formulations were developed in organization sciences in the early 1960s (Lawrence and Lorsch 1967), the first references to contingency theory did not appear in the MA literature until the mid-1970s (Otley 1980). The theory made a remarkably fast breakthrough, and in the space of only a few years, it achieved a dominating position in the MA literature (Otley 1980).

In general, contingency theory has been utilized in MCS research to identify “how MCS are best designed and implemented to ‘fit’ the context, or contingencies, within which MCS are employed” (Chenhall and Chapman 2006 p. 35). Similar to the organization theoretical contingency perspectives, the contingency theory of MA is based on the premises that there is no one best way to organize, and that not all ways of organizing are equally effective. In the context of MA, this means that there is no universal, best design for a MAS. Hence, the contingency theory of MAS “must identify specific aspects of an accounting system which are associated with certain defined circumstances and demonstrate an appropriate matching” (Otley 1980 p. 413).

The contingency approach to management accounting has also been the subject of much criticism (see e.g., Otley 1980, Chenhall 2003, Chenhall and Chapman 2006). Based on his literature review, Otley (1980) summarizes that the contingency theoretical research in MA has relied heavily on common organization theoretical sources. Thus, the challenges of organization theory are also incorporated into the contingency theory of MA. Otley (1980) points out two particular challenges. First, he suggests that the contingency variables have been ill-defined, and hence, the dimensions considered differ from study to study. More recently, Chapman and Chenhall (Chapman 1997, Chenhall 2003, Chenhall and Chapman 2006) have also noted that while much attention is now given to the development of research instruments to address contingency factors, relatively little effort has gone into the more processual aspects of MCS. Secondly, Otley (1980) proposes that the research methods used have been in-

adequate for the task demanded of them, as “the contingency studies have been using mostly arms-length questionnaire-based techniques from which reliable results are expected to emerge by statistical analysis” (p. 419). More recently, Tillema (2005) has proposed that the criticism of the contingency theory of MA stems largely from the weaknesses of the survey method.

The above discussion has reviewed the main components of contingency theory. Naturally, contingency research in MA has some distinctive characteristics. What follows is a more detailed exploration of this branch of research.

4.2.2.1. Contingency Variables in MA Research

As already highlighted, organization sciences and MA differ particularly in their scope of analysis. The contingency traditions in MCS research are largely influenced by the broader stream of organizational studies. However, this has not prevented MA researchers from developing their own perspectives.

Otley (1980) has conducted a literature review on early contingency theoretical MA studies and has recognized that especially three dimensions of variables have been used to explain why management accounting systems differ from one situation to another. These dimensions are:

- Technology.
- Organization structure.
- Environment.

According to Otley (1980), technology is the simplest and most established contingency variable in MA. Importantly, the production technology of an organization has been recognized to affect the design of the accounting system. He further highlights that production technology has been operationalized by making the distinction between different types of production technique, for example, unit production, small batch, large batch, mass production, and process production (Woodward 1965). Secondly, Otley (1980) suggests that the organization structure affects how accounting information is best used. This finding is based especially on arguments from earlier MA studies (e.g., Hopwood 1972, Otley 1978) on how budgeting practices work under different kinds of organization structures. Finally, the importance of the environment as a contingency variable in MA studies has been well recognized. Different environmental variables, such as the type of competition (Khandwalla 1972) and the toughness/liberality of the operating environment (Otley 1978) are applied in the MA literature to explain the differences in the use of accounting information.

If the variables proposed by Otley (1980) are compared with the “traditional” contingencies suggested by Child (1972), it is possible to make a few interesting observations. First, the contingency theoretical studies in MA mainly share key variables with structural contingency

theory. On the other hand, Otley (1980) does not emphasize size as a particular contingency dimension, but presumably understands it as a sub-dimension of organizational structure. The differences between the branches of research appear to stem from the positioning of the organization structure in the analysis. Whereas structural contingency theory has traditionally regarded structure as a dependent variable, in MA studies it is often seen as an independent variable affecting, for example, the usefulness of MAS (Chenhall 2003).

Over the decades, contingency research has continued to advance both in MA research and organization sciences. About 20 years after Otley's (1980) review on early contingency studies, Chenhall (2003) has re-examined how the contingency theoretical perspective in MA has developed from its early years. With the help of his wide review, Chenhall (2003) recognizes that since the 1980s the early key variables (environment, technology, structure, and size) have been confirmed as "descriptors of fundamental, generic elements of context" (p. 128). Therefore, more recent studies have also used these variables extensively. On the other hand, during this time researchers have also proposed the adoption of new variables, such as strategy and culture (Chenhall 2003).

First, strategy has been recognized as a potential contingency variable (Langfield-Smith 1997, Chenhall 2003). However, strategy is a somewhat different variable from the previously mentioned ones, because without being an element of organizational context *per se*, it assesses whether managers can influence the nature of predominant external and internal contingencies (Chenhall 2003). In other words, there seems to be a strong connection between strategy as a variable and the contingency explanation adopted. For example, whether managers influence both internal and external contingencies as the strategic choice model (Child 1972) assumes, or whether managers' ability to affect is limited only to internal variables as the SARFIT model suggests (Donaldson 1987). Because of these linkages with other contingencies, there have been some concerns with the measurement of strategy. As Chenhall (2003) points out, the measures of strategy have been especially criticized for mixing up the environmental (external) elements with the organizational (internal) elements.

Second, culture has received some attention as a contingency variable (Chenhall 2003, Chenhall and Chapman 2006). Culture represents an extension of contingency theoretical research from its traditional bases to more sociological aspects (Chenhall 2003). However, so far the effect of culture has been studied from a very narrow perspective. According to Chenhall (2003), in MCS research the dominant notion of culture employs the cultural dimensions of Hofstede (1984, 1991) that relate to national culture. However, there are also various other meanings of culture that reflect very different understandings of what culture is (cf. Brown 1998). Organizational researcher, Schein (2004), also notes a plethora of meanings and integrates them by defining culture as: "A pattern of shared basic assumptions that was learned by a group as it solved its problems of external adaptation and internal integration, that has worked well enough to be considered valid and, therefore, to be taught to new members as the correct way to perceive, think, and feel in relation to those problems" (p. 17). However, typi-

cally in contingency theoretical research, culture is conceptualized much more narrowly as a set of characteristics to suit the methodological and scientific needs of the research community (Chenhall 2003).

4.2.2.2. Contingency Fit in MA Research

Contingency formulations are used to explain and predict the circumstances in which certain kinds of MCS could be found, or circumstances in which they would positively affect the performance of the organization (Chenhall 2003). Within the MA literature, a wide array of different approaches have been used to explore these questions. The varying nature of these studies has resulted in a somewhat fragmented body of research that has, on some occasions, ended up with conflicting results (see e.g., Otley 1980, Abernethy et al. 1999, Gerdin and Greve 2004). Hence, the central issue required to inform an understanding of their contributions is the concept of fit (Gerdin and Greve 2004, Chenhall and Chapman 2006). It is also important that the researcher understands the theoretical choices made. In general, the conceptualizations of fit in MCS studies have largely followed those of organizational contingency theorists.

Gerdin and Greve (2004, 2008) note that many forms of fit have been identified to exist within the MA literature. They also highlight that only a few researchers acknowledge the difficulty of relating these forms to each other. To overcome this problem, Gerdin and Greve (2004) offer a novel taxonomy that is further refined in their later paper (Gerdin and Greve 2008). Figure 11 illustrates this framework and leads us to discuss it in more detail.

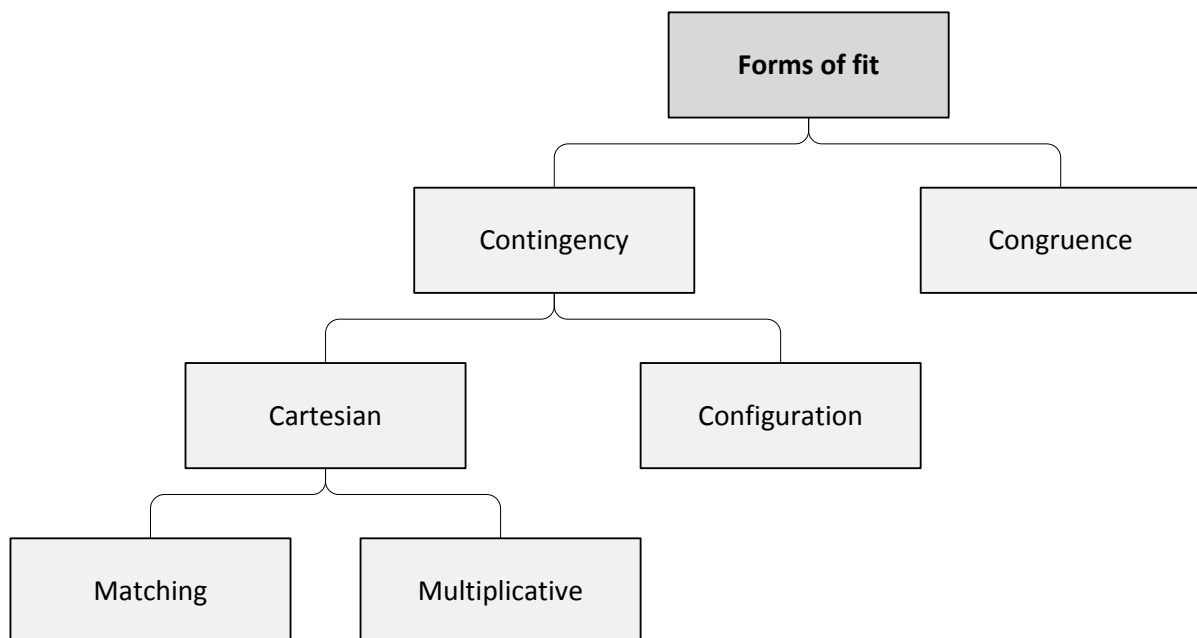


Figure 11. MA perspective on the variants of contingency theory (synthesized from Gerdin and Greve 2004, 2008)

The classificatory framework (Figure 11) starts by differentiating between the Cartesian and configurational types of fit. They propose that the dimension answers the question: “Is fit a continuum between pairs of contingency and structure dimensions that allows frequent and small movements by organizations from one state of fit to another, or is it the internal consistency of multiple contingency and structural elements with organizations having to make quantum jumps?” (Gerdin and Greve 2008 p. 997). This interpretation of Cartesian/configurational dimensions is quite broad and it acknowledges all three focal differences: the number of variables in the analysis, the continuity/discontinuity of fit, and the type of change found in the approaches. The framework continues by further dividing the Cartesian/configuration dimensions based on the type of dependent variable: “Is fit postulated, or must it be explicitly shown that deviations from optimal context/structure combinations lower organizational performance?” (Gerdin and Greve 2008 p. 997). This division seems to be rather clear and is well in line with the earlier (more general) definition describing the Cartesian and configurational types of fit.

In their earlier version of the classificatory framework, Gerdin and Greve (2004) divide the types of Cartesian fit between those that examine moderation effects and those that study mediation effects (cf. Luft and Shields 2003). Mediation and moderation are defined according to the study by Venkatraman (1989) who also recognizes four other types of fit (matching, gestalts, profile deviation, and covariations). According to Venkatraman (1989), moderation fit specifies that the effects of independent variables on a dependent variable are a function of the effect of independent variables and their interaction. Mediation, in turn, specifies the existence of an intervening mechanism [e.g., two-stage selection fit (Hartmann 2005)] between the independent and final dependent variable (Venkatraman 1989). These were discussed earlier under the types of contingency interaction (selection, interaction and systems fit) and under the different contingency explanations.

In their more recent study, Gerdin and Greve (2008) substitute their earlier (Gerdin and Greve 2004) division into moderation and mediation fits with a division of multiplicative and matching interaction fit. They define that this dichotomy answers the question: “Is fit a line with many optimal combinations of context and structure where any deviations affect performance equally, or is it assumed that there are only two optima and that the effect of deviations differs across different levels of context?” (Gerdin and Greve 2008 p. 997). This definition especially highlights the differences in results that multiplicative and matching assumptions yield. That is, whereas the deviations of independent variables affect performance in the multiplicative fit equally, in the matching fit, the interaction element can be more complex.

Chenhall and Chapman (2006) adopt the three-part division (selection, interaction, and systems) of fit proposed by Drazin and Van de Ven (Drazin and Van de Ven 1985, Van de Ven and Drazin 1985), but they also acknowledge comments made by Donaldson (2001) on the earlier terminology. However, they finally rely on terms suggested by Drazin and Van de Ven (Drazin and Van de Ven 1985, Van de Ven and Drazin 1985). Besides proposing a set of

ways to interpret fit, Chenhall and Chapman (2006) give examples of how these different perspectives have been employed, including the statistical methods utilized in management accounting research.

4.2.2.3. Contingency Explanations in MA Research

Contingency explanations have only implicitly dealt with the contingency theoretical MA literature (Otley 1980). However, the importance of understanding the assumed contingency explanation is highlighted, for example, in discussions by Gerdin (2005b) and Hartmann (2005). Besides highlighting the vagueness of the concepts of fit, these discussions highlight how the adopted explanation affects the justification of the entire study. Overall, the recent critics of contingency research have recommended a more careful exploration of how organizations move between misfit and fit in time by changing their circumstances (Chenhall 2007).

Previously, three common contingency explanations (contingency determinism, strategic choice, and structural adjustment) were recognized. From these models, especially the examples of contingency determinism and structural adjustment models can be found in the contingency theoretical MCS literature. What follows is a more detailed illustration of a few selected examples.

Contingency Determinism Model

Typically, the contingency studies in MA have (implicitly) relied on contingency deterministic models. This has been noted, for example, by Otley (1980) who also acknowledges that the model in which “the various propositions follow from each other in a simple linear fashion” (p. 419) (Figure 12) is too naive.

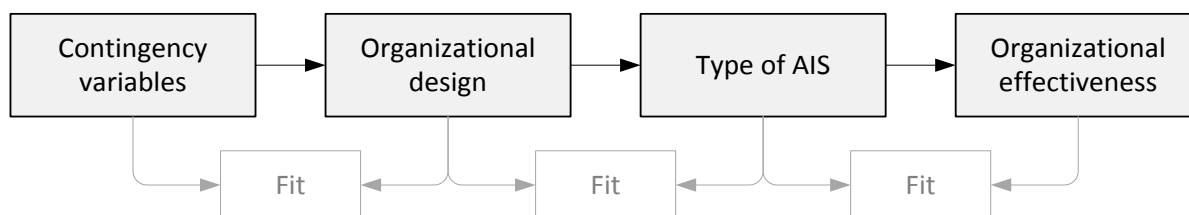


Figure 12. Contingency determinism in MA research (adapted from Otley 1980)

Although the naïve over-simplicity of contingency deterministic models (Figure 12) has been widely recognized, various studies have built their foundations on such models. A number of MA scholars (Gordon and Miller 1976, Larcker 1981, Gordon and Narayanan 1984, Chenhall and Morris 1986) proposing deterministic contingency models have assessed MCS design choices by using general information characteristics. Indeed, the informative role of control systems is widely studied in the area of information sciences. Weill and Olson’s (1989) review on contingency theory in management information systems (MIS) research nicely illus-

trates a typical deterministic contingency model (Figure 13) in this branch of research, which is, in general, similar to those used in the MA literature.

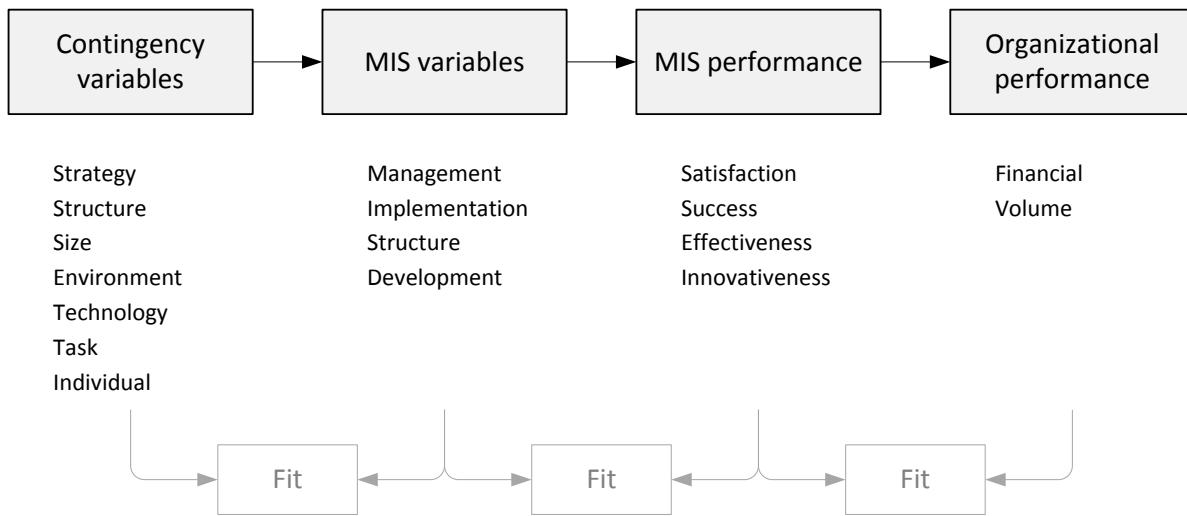


Figure 13. Contingency theory in MIS research (Weill and Olson 1989)

The framework in Figure 13 represents a multistage contingency model in which MIS variables and MIS performance work as mediators. As Weill and Olson (1989) note, the contingency approach in MIS research has typically relied on the assumptions of determinism and equilibrium. These assumptions are also clearly present in Figure 13. The contingency determinism assumption prevails through all the steps of the model. That is, contingency variables determine the MIS variables that, in turn, determine MIS performance, which then determines organizational performance. The existence of fit between the elements and the *de facto* resulting immediate performance is another implicit assumption.

The highly influential study by Chenhall and Morris (1986) is a slightly more complex example of a study relying on the contingency determinism explanation. In this study, the perceived usefulness of MAS (measured with general information characteristics) is dependent on environmental uncertainty, organizational interdependence and organizational decentralization. The framework provided by Chenhall and Morris (1986) is illustrated in Figure 14 by further adopting the above-demonstrated insights by Otley (1980).

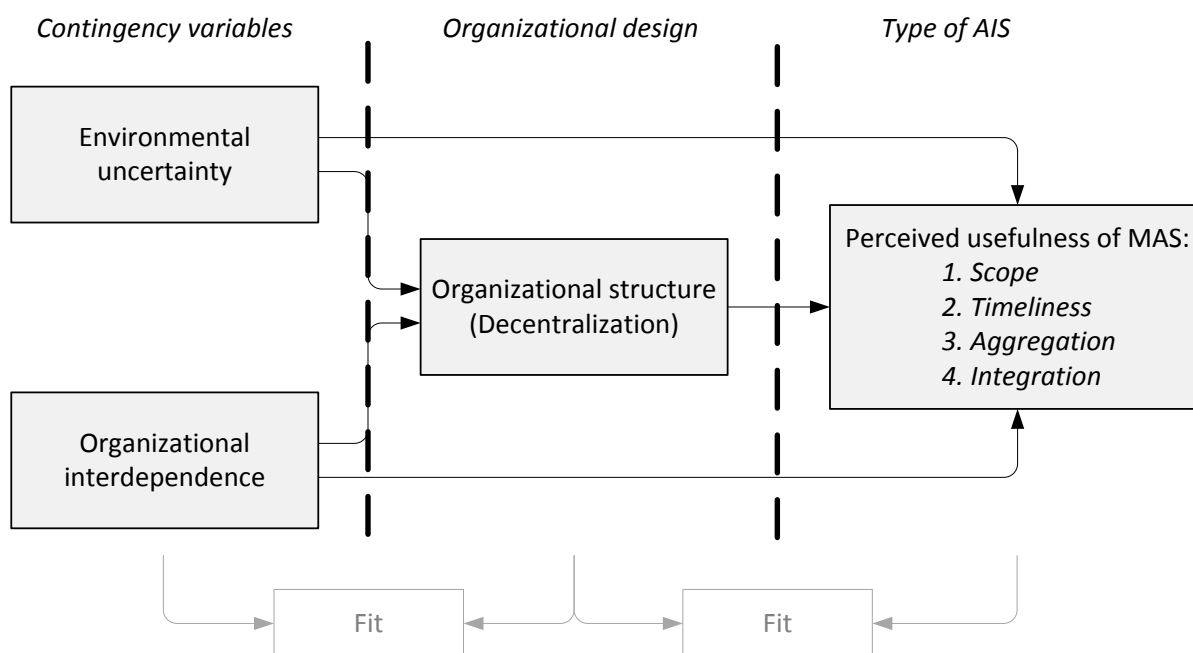


Figure 14. Deterministic contingency model of MAS usefulness (synthesized from Otley 1980, Chenhall and Morris 1986)

The framework (Figure 14) includes two independent variables, namely, external environmental uncertainty and organizational interdependence, that directly impact the perceived usefulness of MAS. In addition, the perceived usefulness of MAS is also dependent on the mediating variable, organizational decentralization, which is an interactive element of the two independent variables. Hence, the framework still fundamentally assumes that a certain kind of MAS follows deterministically as a result of the variables.

The Structural Adjustment Model

In their early conceptual contingency study on accounting systems, Gordon and Miller (1976) recognize that earlier research offered a rather narrow and inflexible perspective on the design and development of accounting information systems (AIS). By adapting contingency theory, they aim to gain a broader and more adaptive approach. Their framework (Figure 15) takes account of three main dimensions: environment, organizational attributes, and managerial decision-making style, which affect the required design characteristics of the accounting information system (Gordon and Miller 1976).

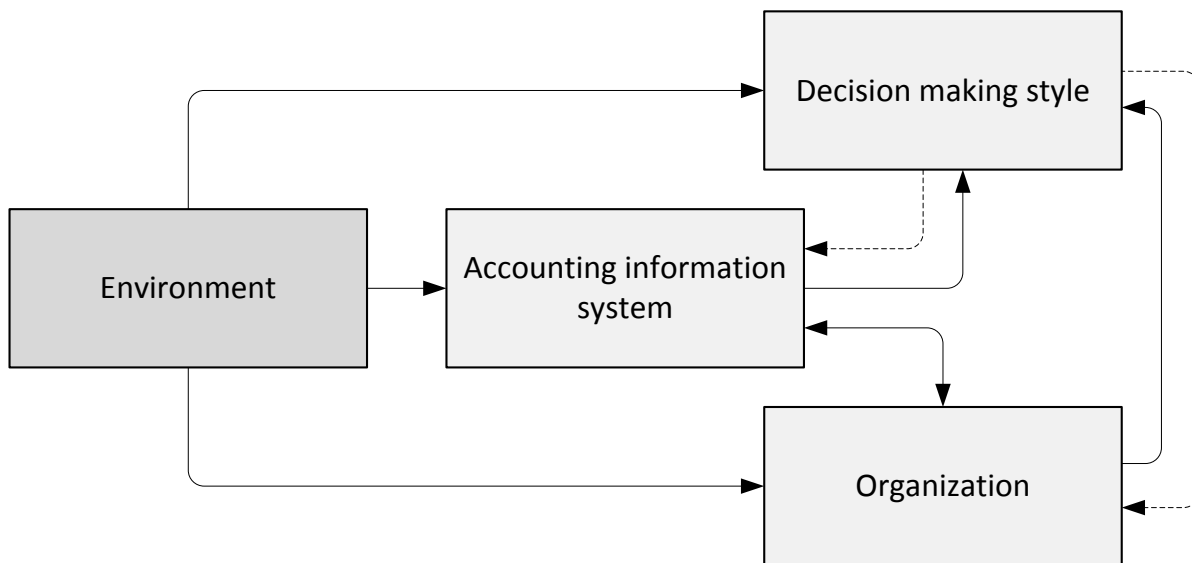


Figure 15. Structural adjustment model of MAS usefulness (adapted from Gordon and Miller 1976).

What makes the study exceptional is that it is one of the first (if not the first) MA studies to (implicitly) rely on the structural adjustment model (cf. Donaldson 1996). In the framework (Figure 15), change is initiated by environmental conditions, thereby propelling other aspects to adapt to new circumstances (misfit). The fit is then restored by decision-makers whose decision-making style affects the features of the organizational structure and the accounting information system. The relationships indicated by the dashed lines in Figure 15 are acknowledged, but left out of the discussion in the paper by Gordon and Miller (1976).

The structural adjustment assumption is also implicitly present in the study by Gordon and Narayanan (1984), who empirically investigate the relationship between environmental uncertainty, organization structure and information systems characteristics. They note that earlier studies have explained the organization structure especially with the help of environmental uncertainty. Gordon and Narayanan (1984) recognize that earlier studies (Burns 1961, Lawrence and Lorsch 1967) have often concluded that mechanistic forms of organization are associated with stable environments, whereas organic forms of organization are related to dynamic environments. However, it is important to point out that under these conclusions, there remains a somewhat deterministic explanation of adaption.

However, Gordon and Narayanan's (1984) study presents an explanation that resembles the structural adaptation model. Their results show that the characteristics of information decision-makers perceived to be important are related to environmental uncertainty. Nevertheless, their explanation is more interesting, especially in respect of our current discussion on contingency explanations, as it notes: "As decision makers perceive greater environmental uncertainty, they tend to seek external, non-financial and ex ante information in addition to other

types of information and increasingly move toward an organic form of organization” (p. 42). In other words, the accounting system and organization structure more generally adapt to new contingencies as a result of the structural adjustments of decision-makers.

The Strategic Choice Model

The strategic choice explanation has also been recognized by MA scholars (e.g., Otley 1980, Jones 1985, Abernethy and Chua 1996), but the adoption of strategic choice as an explanation has remained low in contingency theoretical MA studies (Bouwens and Abernethy 2000), at least if assessed solely on the basis of the number of explicit citations in Child’s (1972) framework. A possible reason for this absence is the strong tendency of MA scholars towards deterministic models. As Dent (1990) notes, the strategic choice model takes an extreme opposed position in the choice versus determinism debate. Hence, the strategic choice explanation may have been silenced by the status quo.

4.2.3. Contingency Theory in this Study

The contingency theoretical formulations identified above differ on the basis of three main aspects: contingency variables applied, conception of fit followed, and the type of underlying contingency explanation expected. Hence, in order to analyze MAS usefulness with the help of contingency theory, the stance of this dissertation on these aspects is now set out.

In this dissertation, contingency theory is employed to gain a rational perspective for the analysis of MAS usefulness. At the top level, internal and external contingencies are distinguished (cf. Duncan 1972). Internal contingencies are further seen to constitute three variables: technology, size, and organization structure. In the MA literature, these variables have generally been recognized as some of the most established (see e.g., Otley 1980, Mia and Chenhall 1994, Chenhall 2003). Therefore, they are also seen to provide a feasible basis for the analysis of this dissertation. Similar to internal contingencies, external ones are seen to constitute three variables: munificence, dynamism and complexity (cf. Dess and Beard 1984). Although the environment is typically taken into account as a contingency, its division into the selected set of variables has been found to support the analysis of that dimension (e.g., Tushman and Anderson 1986, Keats and Hitt 1988).

Regarding the contingency fit, the relationship between selected contingencies and MAS usefulness is presumed to be highly complex. As a consequence, the number of essential contingency variables is seen to be rather large, and the connections between them are supposed to embody a highly complex network. In other words, the contingency fit is supposed to be configurational (cf. Donaldson 2001, 2006), and it can be best understood with the help of the systems fit (cf. Drazin and Van de Ven 1985, Van de Ven and Drazin 1985). Moreover, as the focus is to investigate MAS usefulness, and not organizational or MAS performance *per se*, the study supports a congruence perspective on fit (cf. Fry and Smith 1987). In quantitative studies, these choices would probably lead to extremely complicated mathematical formula-

tions. However, in this dissertation the analyses are conducted with the help of qualitative methods. Based on the literature review, the application of qualitative methods in contingency studies has been found to be a valid choice. Furthermore, the need for in-depth case studies that could support our understanding on MA practices has been highlighted in various earlier contingency studies (see e.g., Otley 1980, Gordon and Narayanan 1984, Scapens 1990). Overall, qualitative case studies and studies based on quantitative surveys should not be seen as rivaling opposites, but rather as complementary perspectives.

Hopwood (1987) has noted that in the MA change literature generally, only a small role has been acknowledged for management preferences and choices. In this dissertation, managers are seen as capable, to some extent, of molding their organizations (i.e., internal contingencies). However, managers' ability to affect the organizational environment is perceived to be rather small. As such, the dissertation further relies on the structural adjustment explanation (Donaldson 1987). In other words, managers are supposed to make adjustments, for instance, to MAS and organizational controls generally, based on their views on useful practices.

4.3. Natural Perspective on Usefulness: Institutional Theory

Similar to contingency theory, institutional theory comprises several approaches. These approaches have some common attributes, but they also differ from each other in certain respects (Scott 2008). Certain branches of institutional theory diverge so strongly from basic characteristics that are typically connected to institutionalism, that it can even be a bit misleading to review them under the title of “natural perspective”. Nevertheless, this further highlights a need to examine the nature of different institutional theories and define how the natural, i.e., institutional perspective, concerns this study. The aim of this section is also to introduce the main concepts related to institutional theoretical studies. As in the previous section, the theories are illustrated rather broadly. This is important, not only because it answers how different branches of institutionalism fit into the naturalist perspective, but also to rigorously justify the theoretical choices made. This section starts with a general overview of the components of institutional theories. Later, these theories are examined in light of their applications in the MA-literature, which leads us to consider the feasibility of these theories in this study.

Institutionalism is generally a neutral idea (Selznick 1996), which in the organizational context, perceives organizations as open systems²¹ influenced by their environments (Scott 2003). Besides competitiveness and efficiency based forces, institutionalism—“the study of institutions” (Scapens 1994 p. 303)—recognizes that socially constructed belief and rule systems strongly affect the making and maintenance of organizations (Scott 2003). Without going further, it is important to note that there are many institutional theories, which have developed as

²¹ The concept of an open system did not become widely used until 1945, when a group of institutional economists introduced the idea of the economy as an open system as one of the defining characteristics of institutionalism (Hodgson 2000).

a consequence of different sources of interest with different, even opposing, motivations (Rutherford 2001).

Overall, institutional theories share a common theme in that institutions matter, and hence, scholars should consider how institutions shape organizational behavior and outcomes that are themselves shaped by economic, political, and ideological factors (Rutherford 2001). Similarly, management accounting systems and practices shape organizational behavior, and in order to understand complex processes related to these systems, their institutional characteristics need to be recognized (Burns and Scapens 2000). According to Scapens (1994), institutional studies in MA can highlight “how accounting information and practices become a taken-for-granted part of organizational activity and how the form and content of the accounting is influenced by external institutional arrangements” (p. 318).

In general, institutional theories embrace a natural perspective. Institutional theories emphasize the importance of the social context within which individuals and organizations operate (Scott 2008). As Purvis (2001) further remarks, “the behaviors of individuals (within organizations) are significantly influenced by the prevailing organizational norms, values, culture and history” (p. 120, brackets added). To understand the interplay between these aspects, institutionalism builds on a rather wide body of research on human behavior (Hodgson 1998). Langlois (1989) further notes that from an institutional perspective, humans do not live in a world of raw facts, but instead, they live in an interpreted world where objects, actions, and relationships have meaning. Hence, if the aim is to explain the world as a whole, those meanings should also be taken into account. Langlois (1989) continues by arguing that to access these meanings, the research needs to be (at least partly) interpretive. This type of research, in turn, tends to be subjectivist in nature.

4.3.1. Institutional Theory in General

Before providing a definition of an institution, the origins and the development of institutional theoretical thought are highlighted in brief. According to Scott (2008), the earliest institutional arguments arose in Germany and Austria as a by-product of the debate (Methodenstreit) over the scientific method in the social sciences. There, a collection of economists formed the so-called Historical School of Economics, which challenged the classical idea that economics could be reduced to a set of universal laws. Instead, the Historical School noted that economic processes operated within a social context shaped by cultural and historical forces. Many of the ideas of the Historical School were embraced and further developed by American institutional economists, who criticized conventional economic models for their unrealistic assumptions.

The Origins of Institutionalism

In the late 19th century, science was revolutionized by the rise of evolutionary theories that supported the emergence of institutionalism. The term ‘evolutionary economics’ was coined

by Veblen (1898), who recognized the significance of the recent findings in the field of natural sciences. He further argued that economics was going through similar experiences that had already taken place in the natural sciences. Prior to the evolutionary revolution, the natural sciences worked hard to establish taxonomies under “the régime of symmetry and system-making” (Veblen 1898 p. 384). However, this was changed by research that started to study life as a process, and to explain it in terms of cumulative causation. Veblen (1898) argued that besides natural sciences, economics was also realistic as “it deals with facts, often in the most painstaking way, and latterly with an increasingly strenuous insistence on the sole efficacy of data” (p. 375). In addition, as a biological being, economic interest did not act in isolation but was connected to its environment. These observations provoked him to finally ask, “Why is economics not an evolutionary science?” (p. 373). Further, Veblen (1898) noted that if economics fell in line as an evolutionary science, then economic action (life process) should be the subject matter.

Notably, both the economic and sociological traditions on institutionalism have been inspired by evolutionary analogies (cf. Hodgson 1989). On the other hand, over the years, evolutionary explanations have become more and more taken for granted and embedded in institutional analysis. Evolutionary theory was re-introduced to economics by Nelson and Winter (1982). In their evolutionary theory of the firm, companies are motivated by profit and aim to find ways to improve their profit. The actions of firms are not profit maximizing in the sense that there is a “shared ultimate goal”. Over time, the capabilities of companies and the operating environment change because of deliberate problem solving and random events. Finally, natural selection operates in markets, which determines which companies stay in business and which will disappear. According to Nelson and Winter (1982), in its broader sense, the notion of ‘evolutionary’ refers to processes that are progressive and long-term in nature. Hence, what is observable in the present should not be interpreted as a solution to a static problem, but as a result of dynamic processes that have occurred in the past. In addition, some of the current features can only help prepare for the future.

Johansson and Siverbo (2009) point out that evolutionary theory has been met with skepticism and even criticism in the social sciences because of three main reasons. The theory has been associated with Social Darwinism and “survival of the fittest”, and hence, even with anti-democratic, racist and sexist ideologies. Evolutionary theory has also been extensively associated with the laissez-faire doctrine. Finally, evolutionary theory has been criticized for its extensive use of biological analogies, which have been blamed to limit and narrow the view of the social world.

The Development of Institutional Theoretical Thought

Institutionalism emerged in economics and sociology in the late 19th century. Since then, it has acquired a significant position in both fields of science (Scott 2008). However, the development of institutional thought has been all but simple and linear. As a consequence, institu-

tionalism comprises multiple theories and sub-theories (Moll et al. 2006). Hence, Scott (1987) notes that when an institutional analysis is announced to be connected, the next question should be, Using which version of institutionalism? Before being able to answer this question, the range of institutional views raises a variety of questions concerning their differences (Van der Steen 2006). For instance: What are the perspectives of the different views? What are their differences and similarities? What are their strengths and weaknesses? Answers to these questions are sought to select a perspective to help us understand the usefulness of MAS as a natural phenomenon.

The following review does is not intended to be comprehensive, but it selectively concentrates on institutionalisms in economics and sociology²². The review concentrates on these perspectives because they have arguably been the most influential from a management accounting perspective. Often, types of institutionalisms are further divided into old and new. This division is made in both economics (see e.g., Hodgson 1989, Langlois 1989, Rutherford 2001) and in sociology (see e.g., Powell and DiMaggio 1991, Strang 1994, Selznick 1996). Figure 16 illustrates the division made in this dissertation.

	Economics	Sociology
Old	Old institutional economics	Old institutional sociology
New	New institutional economics	New institutional sociology

Figure 16. Old and new schools of institutionalism in economics and sociology

²² The distinction between economic and sociological institutionalisms can be traced back to the writings of Parsons (1935a, 1935b), who strongly criticized the work of the (old) institutional economists (Velthuis 1999). When assessing in retrospect, Parsons (1976) acknowledged that he holds especially two theoretical objections to old institutional economics: “The first was that, in the name of generalized radical empiricism, it denied the legitimacy of the analytical abstraction...The second main objection was the neglect of cultural-normative factors in the larger picture which transcended the economic perspective” (cited as in, Hodgson 2001a p. 191). More recently, the validity of these criticisms has been questioned by Hodgson (2001a) who suggests that Parsons was merely aiming to create space for his own brand of institutionalism. Whether this was the case, Parsons saw that there should be a clear division of labor between economics and sociology (Velthuis 1999), and actually succeeded (at least to some extent) in that task. To guide that division, he defined economics by leaning on Robbins (1932) as “the science which studies human behavior as a relationship between ends and scarce means which have alternative uses” (p. 16). Sociology is, in turn, defined as “the science of the role of ultimate common ends and the attitudes associated with and underlying them, considered in their various modes of expression in human social life” (Parsons 1934 p. 529).

As Scott (2008) remarks, the divisions are often greater within (i.e., old/new division), than between, different disciplinary camps (i.e., economics/sociology division in Figure 16). Nevertheless, how the terms old and new are used within different disciplinary camps diverge strongly. For instance, old institutional economics holds a stronger intellectual kinship with the new institutional approaches advanced by sociologists than with new institutional economics (Scott 2008).

The Concept of Institution

The concepts of institution and institutionalization have been defined and used in various ways, with substantial variation among approaches (Scott 1987, 2008). In consequence, there is no universal and agreed definition of an institution (see e.g., Jepperson 1991, Scapens 1994, Hodgson 2006). Choosing a definition remains a partially difficult task because different conceptualizations reflect different approaches to institutional theory (Powell and DiMaggio 1991, Mäki 1993). Although some scholars seem to have given up on matters of definition and have chosen to concentrate on more practical matters, the conceptualization of the key terms remains essential, as without adequate conceptions, it is not possible to carry out empirically or theoretically meaningful analysis (Hodgson 2006).

In old institutional economics (OIE), an early definition of institutions was given by Veblen (1919), who stated that institutions “are settled habits of thought common to the generality of men” (p. 239). Alternatively, Commons (1931) defined institutions in OIE as “collective action in control, liberation and expansion of individual action” (p. 648). Veblen’s definition was later elaborated by Hamilton (1932, see also Hodgson 1998), who analyzed the concept of institution at length in the *Encyclopaedia of the Social Sciences*. In short, according to Hamilton’s (1932) definition, an institution is “a way of thought or action of some prevalence and permanence, which is embedded in the habits of a group or the customs of a people” (p. 84). More recently, this definition has been adopted by various scholars (e.g., Scapens 1994, 2006, Hodgson 1998). Scapens (1994) notes that from an MA perspective, the strength of the definition is its ability to bring out the social and cultural character of an institution and emphasize the importance of habitual behavior.

New institutional economics (NIE) holds a broader conception of institution than OIE (Hodgson 1998). Notwithstanding, explicit NIE definitions of institutions remain scarce. Perhaps the most well-known definition is given by North (1990a), who defines institutions as “the rules of the game in society” (p. 3). In addition, he provides a more formal definition, that institutions are “the humanly devised constraints that shape human interaction” (p. 3). Earlier reviewers (Mäki 1993, Hodgson 1998) have also noted Schotter’s (2000) NIE definition of institutions: “a social institution is regularity in social behavior that is agreed to by all members of society, specifies behavior in specific recurrent situations, and is either self-policed or policed by some external authority” (p. 11).

In old institutional sociology (OIS), an early definition illustrating the nature of institutions in organizational contexts was given by Broom and Selznick (1955, Selznick 1996), who define institutionalism as “the emergence of orderly, stable, socially integrating patterns out of unstable, loosely organized, or narrowly technical activities” (p. 238). More recently, sociologists have drawn, for example, on the writings of Berger and Luckmann (1966) and Giddens (1979, 1984) to define the concept of institution. Berger and Luckmann (1966) see an institution as any “reciprocal typification of habitualized actions by types of actors” (p. 72). Giddens (1979) defines social institutions based on Radcliffe-Brown (1940) as “standardized modes of behavior” (p. 96) that “by the definition are the more enduring features of a social system” (Giddens 1984 p. 24). On this basis, Barley and Tolbert (1997) define institutions as “shared rules and typifications that identify categories of social actors and their appropriate activities or relationships” (p. 96). They further note that this definition is compatible with Giddens’ (1984) notion of structure²³ and Sewell’s (1992) concept of schema²⁴.

Generally, the old and the new institutional sociology definitions of institution do not appear to have significant differences (Selznick 1996). It appears obvious that the advocates of NIS have drawn largely from the same sources of inspiration as the OIS scholars in their definitions of institution. Meyer and Rowan (1977), for example, draw from Berger and Luckmann (1966) and define, similarly to Barley and Tolbert (1997), that “institutionalized rules are classifications built into society as reciprocated typifications or interpretations” (p. 341). In one of Powell and DiMaggio’s (1991) book chapters defining NIS, Jepperson (1991) suggests that in general sociology, the core denotation of institution is simply “an organized, established, procedure” (p. 143). A more detailed NIS definition of institution is provided by Nee (2003), who sees an institution as “a system of interrelated informal and formal elements—customs, shared beliefs, conventions, norms, and rules—governing social relationships within which actors pursue and fix the limits of legitimate interests” (p. 23).

This excessive number of definitions of institutions has been noted by Hodgson (1998). While reviewing the institutional economic literature, Hodgson (1998) further recognizes that all of the definitions compose a relatively broad conception of institutions. Besides different forms of organizations, the definitions also include social entities such as money, language, and law (Hodgson 2006). Despite the number of definitions, Hodgson (1998, 1999) recognizes that they share some common characteristics:

²³ In Giddens (1984) terminology, ‘structure’ is defined as “Rules and resources, recursively implicated in the institutional articulation of a social system. Structure exists only as memory traces, the organic basis of human knowledgeability, and as instantiated in action.” (p. 377)

²⁴ Sewell (1992) notes that the term ‘rule’ tends to have a strong connection with formally stated prescriptions – the sorts of things spelled out in statutes, proverbs, liturgies, constitutions, or contracts. He further argues that these publicly fixed codes or rules are rather “virtual”, i.e., they do not exist concretely in time and space, and hence they should be regarded as resources rather than as rules in Giddens’ sense. Because of that ambiguity, Sewell decides to replace the word rule with the term schema in his structuration framework.

- All institutions involve the interaction of agents, with crucial information feedbacks.
- All institutions have a number of characteristics and common conceptions and routines.
- Institutions sustain and are sustained by shared conceptions and expectations.
- Although they are neither immutable nor immortal, institutions have relatively durable, self-reinforcing, and persistent qualities.
- Institutions incorporate values, and processes of normative evaluation. In particular, institutions reinforce their own moral legitimation: that which endures is often (rightly or wrongly) seen as morally justified.

By reviewing the sociologic, economic and political schools of institutional thought, Scott (2008) has also identified the richness and diversity involved in the definitions. With the help of his extensive review, Scott (2008) concludes that: “Institutions are comprised of regulative, normative, and cultural-cognitive elements that, together with associated activities and resources, provide stability and meaning to social life” (p. 48). This definition holds that, in general, institutions are composed of three elements (pillars). The regulative pillar states that institutions constrain and regularize behavior, a point recognized practically by all institutional scholars. For example, scholars have recognized regulatory processes such as, rule-setting, monitoring, and sanctioning activities. The normative pillar states that normative rules are prescriptive, evaluative, and obligatory dimensions of social life. Normative systems can be further divided into values and norms, where values are conceptions of preferences and desires; norms are conceptions of legitimate means to pursue those valued ends. Finally, the cultural-cognitive pillar states that institutions form shared conceptions and “constitute the nature of social reality and the frames through which meaning is made” (p.57). Scott (2008) also notes that although “rules, norms, and cultural-cognitive beliefs are central ingredients of institutions, the concept must also encompass associated behaviors and material resources” (p.49).

4.3.1.1. Old Institutionalism in Economics

The term ‘institutional economics’ was first introduced by Hamilton (1919) in his paper from the American Economic Association meeting (Hodgson 2000, Rutherford 2001). Since then, the terms ‘institutional economics’, ‘American institutional economics’, ‘old institutional economics’, and ‘original institutional economics’ have been applied to describe the tradition of economics associated with authors, such as Veblen, Commons, Mitchell, and Ayres (Rutherford 1989, Williamson 1994, 2001). The prefix ‘old’ should not give an impression that the tradition is outmoded. On the contrary, as Rutherford (1989) underlines in the case of OIE, the ‘old’ implies that the branch represents the longer history of continuous research with institutional questions than its younger counterparts do. Although OIE comprises of many streams, it includes several common themes, which have been usefully highlighted by Klein (2000):

- Focus on collective rather than individual action.
- Preference for an evolutionary rather than mechanistic approach to the economy.
- Emphasis on empirical observation over deductive reasoning.

These themes have been raised mostly from the criticisms of orthodox economics (Scott 2008). Contrary to orthodox economics, OIE is characterized especially by the assumption that economic behavior is affected by institutions. These institutions develop over time and offer the means by which “men organize and control individual and social behavior in order to satisfy their wants” (Langlois 1989 p. 284). Besides being constraints on individual action, institutions include the embodied and generally accepted ways of thinking and behaving, and hence, they also mold the preferences and values of individuals (Rutherford 2001). If these human elements are removed from theory, we are left with a mechanistic model that includes only blind cumulative causation (Langlois 1989). From the OIE perspective, these institutions do not necessarily promote the social benefit, and in fact, often do the opposite (Rutherford 2001).

While Veblen’s writings are generally seen as embodying the central tenets of OIE, other influences have also been important (Langlois 1989, Rutherford 2001). In general, his argument was that orthodox economic theory was insufficient, and thus, conclusions based on it were faulty. Veblen’s (1919) critique of an assumption of economic man as “a lightning calculator of pleasures and pains” (p. 73) is one of the most cited remarks against orthodox assumptions. This critique can be further seen in relation to Simon’s (1955) notion of bounded rationality. To circumvent this problem of over-rational expectations, Veblen’s idea was to analyze the actual processes of change and transformation in the economy. In addition, he rejected the assumption of “the continuously calculating, marginally adjusting agent to place stress on inertia and habit instead” (Hodgson 1989 p. 262).

Besides the concept of ‘institutions’, notions such as ‘habits’, ‘routines’ and ‘rules’ are used as key concepts in OIE (Mäki 1993), and in institutional studies more generally. Typically, the concepts are not operationalized as variables that are measured in an objective way, but they are used as analytical tools (Burns and Scapens 2000). All of these concepts seem to have some similarities. For example, they all have a stabilizing quality and tend to sustain and pass on their characteristics over time (Hodgson 1999). However, there are also important differences in the meanings of these widely used concepts.

Despite their wide use, there are many ambiguities in the literature dealing with these key concepts (Camic 1986, Becker 2004). This presents a challenge for making and reading research. It is possible that these ambiguities have also stagnated research in this area. Several authors have nonetheless attempted to clarify the conceptual specifications.

Habits

In old institutional economics, the term habit has a central role both in its definitions of institutions and in its worldview (Hodgson 1999)²⁵. The concept of habit relates to behavioral patterns that individuals hold. In fact, habits are seen to provide the basis of both reflective and non-reflective behaviors of individuals. However, habit is not a behavior in itself, but rather a propensity to behave in a certain way. (Hodgson and Knudsen 2004) Habits are also seen as essential for agents to be able to learn and gain knowledge. That is, the perception of information is not possible without earlier habits of thought to link the information with meaning (Hodgson 1998). Veblen (1898, 1919) maintains that man has “a coherent structure of propensities and habits which seeks realization and expression in an unfolding activity” (Veblen 1898 p. 390, 1919 p. 74). These habits are “fostered by the more impressive affairs of life, by the institutional structure under which the community lives” (Veblen 1919 p. 10). Since then, more detailed definitions have been proposed.

Based on the broad historical investigation of the concept, Camic (1986) defines habit as “a more or less self-actuating disposition or tendency to engage in a previously adopted or acquired form of action” (p. 1044). This definition is also followed by Hodgson (1998, 1999, 2004a), who has provided further clarification. His earlier, relatively straightforward definition states that “a habit is a form of self-sustaining, non-reflective behavior that arises in repetitive situations” (Hodgson 1998 p. 178). His later definitions have built on the foundations of this earlier definition, but they have further emphasized the importance of prior activities and the promoting nature of habitual behavior (Hodgson 1999, 2000).

Habituation is a social mechanism that typically involves the imitation of others, or at least the reflection of behavior that is constrained by the institutions that others hold (Hodgson 2004a). In this sense, habituation can be seen to follow the Darwinian evolutionary model. On the other hand, learned skills can also become embedded in habits in the process of time (Hodgson 1998), meaning that the Lamarckian evolutionary model relates more strongly to the process. Hodgson (1999) further notes that habituation often happens through a self-reinforcing circle. When certain habits spread in society, they finally lead to the emergence or reinforcement of institutions. These institutions, in turn, maintain and support habits and transmit them further to new members of the group. Hence, (specific) individual habits both reinforce and are reinforced by (general) institutions (Hodgson 1998). This overview highlights that habits hold certain self-sustaining qualities (Hodgson and Knudsen 2004), which stabilize individual patterns of behavior. However, changing habits is arguably easier than changing more general and more strongly rooted routines and institutions.

²⁵ This can be contrasted with the definitions of an institution in “new” economic institutionalism that does not typically include the notion of habit (Hodgson 1998, Hodgson 1999).

Routines

Routine is another important concept in OIE inspired research, although the concept is typically connected to more recent studies that take organizations as their units of analysis. From an initial assessment, definitions of routine have strong similarities with those of habits. For example, Becker (2004) highlights two early definitions, which link routines with the recurrent behavior patterns of individuals. Winter (1964) defines a routine as “a pattern of behavior that is followed repeatedly, but is subject to change if conditions change” (p. 264). Koestler (1967), in turn, defines routines as “flexible patterns offering a variety of alternative choices” (p. 44). He further illustrates that “to shake hands, to light cigarette, to pick up pencil are routines often performed quite unconsciously and mechanically, but also capable of infinite variations” (p. 44).

Sometimes, the concept of routine is linked with the concept of habit, thereby implying a level of synonymity that can be perceived as problematic. For example, Giddens (1984) notes that “the routine (whatever is done habitually) is a basic element of day-to-day activity” (p. xxiii). Importantly however, the concepts often hold important differences. A relatively strong consensus prevails that whereas habits relate to individuals, routines relate to groups or organizations (cf. Scapens 1994, Burns and Scapens 2000, Johansson and Siverbo 2009). That is, where individuals have habits, groups have routines (Becker 2004, Hodgson and Knudsen 2004). Hence, routines can also be defined as “a form of collective habit” (Johansson and Siverbo 2009 p. 148) or as “organizational meta-habits” (Hodgson and Knudsen 2004 p. 289). Hodgson and Knudsen (2004) further argue that routines are “existing on a substrate of habituated individuals in a social structure” meaning that routines are “one ontological layer above habits” (p. 289).

Johansson and Siverbo (2009) emphasize that organizational routines (similar to habits) lack deterministic linkages to individual behavior. They note that this argument is in line with various other studies (Hodgson 2004a, Hodgson and Knudsen 2004, 2006), which have found that routines provide a framework for collective behavior, as opposed to mechanically creating that behavior. In addition, similar to habits where the essential aspect is for individuals to learn, building and replicating routines is needed for organizational learning and knowledge transmission (Hodgson and Knudsen 2004).

Hodgson’s (1998, 1999) distinction between habits and routines (or customs) also illustrates the difference in the scope of the concepts: “When habits become a common part of a group or a social culture they grow into customs or routines” (Hodgson 1998 p. 180, 1999 p. 531). This perspective is shared by Becker (2004) who provides a thorough review on the concept of routine. With the help of his review, Becker (2004) discovers various characteristics that routines hold. Some of the most distinctive characteristics are:

- Routines are recurring patterns of behavioral activity and cognitive regularity
- Routines are embedded in their relevant context
- Routines have a processual nature and they are shaped by history
- Routines are activated by internal or external stimuli
- Routines are collective, involving multiple actors

Somewhat similarly, Feldman and Pentland (2003) define organizational routines by highlighting the following four characteristics: “repetition, a recognizable pattern of action, multiple participants, and interdependent actions” (p.103). Such a definition could be easily applied to test whether a phenomenon qualifies as a routine. That is, the phenomenon should be successful to fulfill all the characteristics. If not, the phenomenon is not an organizational routine (cf. Pentland 2011).

Feldman and Pentland (2003) have adopted Latour’s (1986) ‘ostensive’ and ‘performative’ concepts and divided routines further in these categories. According to Feldman and Pentland (2003), ostensive routine (the idea) is “the abstract, generalized idea of the routine or routine in principle” (p. 101). Performative routine (the enactment), in turn, is more practice related and “consists of specific actions, by specific people, in specific places and times” (Feldman and Pentland 2003 p. 101). Whereas certain institution theoretical schools tend to perceive the ostensive and performative aspects of routines separated, some more recent schools (e.g. Structuration and Practice Theories) have rather emphasized their amalgamation (Feldman and Pentland 2003, Pentland 2011).

Besides distinguishing between habits and routines, the relationship between routines and institutions is also an important question. Yet, the difference between these concepts remains fuzzy. Scapens (1994) argues that as routines involve groups of individuals, they are “components of institutions” (p. 306). He further defines that “routines are formalized or institutionalized habits” (Scapens 1994 p. 306). That is, institutions are larger assemblages of routines. More recently, Scapens (2006) has defined that “institutionalized routines are dissociated from the historical circumstances which gave rise to them” (p. 16), which highlights the idea that institutions are highly established routines. Hence, it could be argued that whereas routines are one “ontological layer” above habits, institutions are one level above routines. This argument is in line with the evolutionary analogy presented by Johansson and Siverbo (2009), who connect routines to retention, and institutions to selection. Following this analogy, habits can be further seen to bring variation to the evolutionary process.

Rules

Finally, the concept of rules is clarified by a general understanding that “the rules may be imposed and enforced by direct coercion and political or organizational authority, or they may be part of a good or appropriate behavior that is learned and internalized through socialization

or education” (March and Olsen 1989 p. 22). In the earlier literature, the concept of rules was especially reflected in the concepts of habits and routines.

Hodgson (2004) has perhaps followed the tradition of OIE most strongly by analyzing individual habits and rules (Lazaric 2000). Hodgson (2004) recognizes that both rules and habits relate to repetitive, non-unique situations. Both rules and habits are also embedded in their relevant context, shaped by history and activated by certain stimuli. On the other hand, it could be argued that individual action is driven by habits and guided by rules (Hodgson 1999). The following citation provides a succinct clarification of the essential difference between rules and habits:

Rules are conditional or unconditional patterns of thought or behaviour, which can be adopted either consciously or unconsciously by agents. Generally rules have the form: in circumstance X, do Y. Habits may have a different quality: rule following may be conscious and deliberative whereas habitual action is characteristically unexamined. Rules do not essentially have a self-actuating or automatic quality but clearly, by repeated application, a rule can become a habit. Typically, it is easier to break a rule than to change a habit, since our awareness of our own habits is often incomplete and they have a self-actuating character because they have become established in subliminal areas of our nervous system. However, habits still have the same general form: in circumstance X, action Y follows. (Hodgson 1997 p. 664)

This definition²⁶ highlights that whereas habits are something that individuals have, rules are more external guidelines that individuals follow. Nonetheless, in addition of legal rules, rules also include norms of behavior and social conventions that could be (in principle) codified (Hodgson 2006). Hodgson (1997) further argues that “cognitive processes are built primarily on habit and tacit knowledge rather than on conscious and codifiable rules” (p. 674). That is, rules need to become embedded in habits in order to be deployed by agents (Hodgson 2004a, 2006).

The distinction between rules and routines is made often in management accounting literature. In the MAS context, the concept of rules stems especially from the writings of Nelson and Winter (1982). Pointing to a difference between the orthodox and evolutionary perspectives, they define rules as “the historically given routines governing the actions of a business firm” (Nelson and Winter 1982, p. 16). Although a bit ambiguous, this definition appears to be in line with the conceptual specification of Burns and Scapens (2000). They define rules as “the formally recognized way in which things should be done” (p. 6). Routines, in turn, are defined as “the way in which things are actually done” (Burns and Scapens 2000, p. 6). The difference

²⁶ Morgan and Olsen (2011) note the existence of other rule forms in addition to the one highlighted by Hodgson (1997). They also argue the fluidity of rules and distinguish ‘single rules’ from ‘rule systems’. That is, rules evolve and single rules often work in unison by forming more complex rule systems. For instance, a rule form might be: “in circumstance X do not do Y, do Z if A does Y” (Morgan and Olsen 2011 p.445).

between the concepts is further illustrated in definitions by Johansson and Siverbo (2009). They regard rules as artifacts (phenotypes e.g., text and pictures) that are expressions of organization culture. Routines, in turn, are regarded as dispositions (genotypes e.g., capabilities and representations) that are exposed to selection (Johansson and Siverbo 2009). Similar to individual habits, organizational routines can be formed by recurring rule-based activities. Conversely, established routines can be formalized in a set of rules (Burns and Scapens 2000), which appears more probable than the formalization of individual habits. As rules can become routine over time, and routines can be expressed as rules, routines and rules are interrelated (Johansson and Siverbo 2009).

The Critique of OIE

Veblen's (1919) thought centers on the argument that neoclassical economics operated with a faulty hedonistic conception of human nature. However, as Langlois (1989) notes "the problem comes when we ask what Veblen would substitute for the outmoded hedonism he saw in neoclassical economics" (p. 272). On one hand, Veblen apparently calls for a more humanistic conception of economics, whereby the consciousness of the agent plays a more important role. On the other hand, the opposite can be interpreted as Veblen seeks to translate the ideas of natural science (evolutionary biology) into economics, and with it, explain human behavior. In that case, as Langlois (1989) remarks, the problem is not that Veblen's hedonistic conception is too mechanical and inhuman, but the explanation is too human and insufficiently mechanical. Whatever is our interpretation of the puzzle presented by Langlois (1989), the fact is that Veblen's "hostility to theoretical system building" has strongly influenced the work of his followers. This hostility has opened the door for an "impressionistic approach" to economics that tended to gather more and more detailed descriptive data and which was eventually overridden by rival perspectives. (Hodgson 1989)

Langlois (1989) further highlights that methodological issues highlighted by Veblen, such as casting theory in terms of (evolutionary) processes and acknowledging the influence of institutions on individual behavior, still provide the common underpinnings for institutional research. However, certain aspects remain problematic and should be avoided.

First, OIE has perhaps focused too heavily on collective action, and at the same time, its perspective on individual action has remained undeveloped (Langlois 1989). The methodological holism of OIE is based on the observation that individuals are influenced by the society in which they live. Where it goes wrong, according to Langlois (1989), is its claim that analyzing wholes is sufficient and one does not need to build up wholes from individuals and refer back to individuals. He further notes that more recent developments in social theory (e.g., structuration theory) can be used to overcome these pitfalls of either abstract individualism or crude holism.

Second, OIE's answer to the value problem has been somewhat problematic to apply in practice (Langlois 1989). Traditionally, the value problem has been a key problem in economics, and consequently, institutionalists have been interested in the problem. Old institutionalists agree relatively profoundly with the orthodox economists' analysis on the value problem. For instance, both make the distinction between use value and exchange value. They both also emphasize the final use or conception as the ultimate criterion of value. However, they differ when the institutional underpinnings are taken into account. Institutionalists rely on social value theory that follows from their conception of the economic system as an open and constant process. (Gruchy 1987) This conception eventually leads to "a progressive separation of the pecuniary realm from the real realm" (Langlois 1989 p. 289). As Veblen (1919) notes, industrial value (value in use) is objective and it "rests on material circumstances reducible to objective terms of mechanical, chemical, and physiological effect" (p. 311). The pecuniary value (exchange/market value), in turn, is psychological rather than objective phenomena and it is defined based on "good will, fashions, customs, prestige, effrontery, personal credit" (p. 311). However, introducing this extra complexity into the definition of value has made it somewhat difficult to apply in empirical studies.

In general, the work of the old institutional economists has been criticized for its failure to sufficiently develop the fundamentals of an alternative economic theory (Hodgson 1989). The proponents of OIE highlight in detail the problems of orthodox theories. However, they have failed to provide an alternative conception of human agency to replace the foundations rejected (Hodgson 1989, Williamson 1998a). Although once popular, OIE has increasingly declined in position and prestige (Rutherford 2001). This has been at least partly due to the lack of methodological consistency (Langlois 1989). In addition, the early institutionalists have failed to illustrate the related foundations in the context of modern psychology (Rutherford 2001), which could have strengthened the foundations of the OIE tradition.

Another reason for the decline of old institutional economics has been its failure to develop with the pace of rival theories. In general, the development of the OIE tradition has been somewhat slow. As Rutherford (2001) notes, the early institutionalists have "failed to develop their theories of social norms, technological change, legislative and judicial decision-making, transactions, and forms of business enterprise (apart from issues of ownership and control) much beyond the stage reached by Veblen and Commons" (p. 183). On the other hand, from the 1930s onwards, many new developments in theory and methods have supported the rise of neoclassical economics. For example, the rise of econometrics has increased the empirical component of these studies. In addition, the neoclassical perspective has developed by including theories of imperfect and monopolistic competition (Rutherford 2001).

4.3.1.2. New Institutionalism in Economics

While the OIE stream may have achieved a significant position in economics in the interwar period, the institutionalist camp grew rather quiet in the decades following the Second World

War. However, the tides changed with the emergence and popularity of new institutional economics (NIE) at the start of the 1960s (Nee 2001). NIE is an attempt to incorporate institutional theory within economics by adopting some of the neo-classical perspectives of economic theory (North 1993). However, to incorporate the elements from neo-classical theory, NIE has been required to abandon the holism of OIE (Klein 2000). Although NIE is fundamentally neoclassical in orientation, its proponents aim to go beyond traditional assumptions to correct the deficiencies in the basic neoclassical story (Langlois 1989).

New institutional economics is often connected with scholars such as, Coase, North and Williamson (Nee 2003). The approach was initiated by Coase (1937), who introduced transaction costs into economic analysis (Coase 1998). According to Williamson (1975, 1998b), the coin-er of the term ‘new institutional economics’ (Hodgson 1989, Klein 2000), the foundations of NIE are defined in Coase’s two seminal papers. Coase (1937) introduces the institutions of governance that describe “the play of the game”, while Coase (1960) includes the true origins of NIE as the article describes “the rules of the game”. Consequently, NIE has developed from two complementary parts: while one part deals predominantly with background conditions, the other deals with the mechanisms of governance (Williamson 1994). In general, Rutherford (1989) has defined NIE as consisting of “work on the nature and evolution of institutions developed from neoclassical, game theoretic and Austrian approaches” (p. 299).

Like old institutional economics, new institutional economics is interested in the social, economic, and political institutions that affect everyday life (Klein 2000). The neoclassical twist of NIE, however, facilitates the prevailing institutions in traditional economic analysis (Matthews 1986), and hence, it answers to the critique of OIE. In contrast to various earlier attempts to overturn neo-classical theory, new institutional economics modifies and extends neo-classical theory to deal with a new range of issues (North 1993). As Williamson (2000) notes, while NIE has not stood out to give new answers to traditional economic questions on resource allocation and the degree of utilization, it has answered new questions, such as “why economic institutions emerged the way they did and not otherwise?” (p. 569).

From neo-classical economics, the NIE approach takes the fundamental assumptions of scarcity and competition. In turn, it rejects the assumptions that individuals have perfect information and unbounded rationality, which make transactions costless and instant (Ménard and Shirley 2005). NIE theorists have noted that the assumption of unbounded (instrumental) rationality, which does not take account of ideas and ideologies, has made neo-classical economics an institution-free theory (North 1993). Simon (1986) illustrates further the implications of the neo-classical assumption of a rational decision-maker:

If we accept values as given and consistent, if we postulate an objective description of the world as it really is, and if we assume that the decision-maker’s computational powers are unlimited, then two important consequences follow. First, we do not need to distinguish between the real world and the decision maker’s perception of it: he or

she perceives the world as it really is. Second, we can predict the choices that will be made by a rational decision maker entirely from our knowledge of the real world and without a knowledge of the decision maker's perceptions or modes of calculation. (We do, of course, have to know his or her utility function.) (p. 210-211)

Instead of unbounded rationality, NIE adapts at least partially to "institutional rationality"²⁷ (cf. Redmond 2004). In the NIE stream, individuals possess mental models to interpret the world around them and to make choices based on them (North 1993). That is, rationality is in part culturally derived, but also a product of individualistically learned mental models. In consequence, NIE does not hold an assumption of determinate equilibrium, but it perceives that multiple equilibria can take place (North 1993). However, the perspective retains the model of (boundedly) rational individual behavior and the assumption of individual preference functions (Hodgson 1998). The concept of rationality is modified to take account of markets that are characterized by imperfect information, subjective models, and the prevalence of transaction costs (North 1990b). In other words, the neoclassical maximizing assumption constitutes three components, "the global objective function, the well-defined choice set, and the maximizing choice rationalization of (firms') actions" (Nelson and Winter 1982 p. 14, brackets added). From these components, NIE retains the last two. At the end, all NIE analyses retain the use of the maximization metaphor as an organizing principle at some level (Langlois 1989). In consequence, the neo-classical result of efficient markets can still be reached when inefficiency inducing features are not present. However, typically there are some of such features, and hence institutions matter.

Transaction Cost Economics

As noted, NIE comes in a variety of forms and has acquired an interest in many areas (Williamson 1994). The stream of research labeled as transaction cost economics (TCE) has been perhaps one of most popular areas of NIE research. Transactions were first introduced as a basic unit of analysis by Commons (1924, 1931), and hence, TCE also refers, to some extent, to the older stream of the institutional tradition in law and economics (Williamson 1994, Williamson 1998b, Rutherford 2001). According to Williamson (1975), TCE holds that the traditional micro theory, although beneficial for many purposes, "operates too high a level of abstraction to permit many important microeconomic phenomena to be addressed in an uncontrived way"; and there is "a sense that the study of transaction...is really a core matter and deserves renewed attention" (p. 1). However, under the label of TCE, there are also various sub-streams. Based on his review on these streams, North (1993) concludes that "the transaction cost approach is unified only in its agreement on the importance of transaction costs" (p. 2). Recognizing this challenge, some general characteristics of TCE are considered.

²⁷ Redmond (2004) characterizes institutional rationality further with the help of individuals' limited capacity and social orientation.

According to Williamson (1994), transaction cost economics is mainly concerned with the governance of contractual relations. In TCE terminology, the notion of governance is alternatively termed “an effort to craft order” (Williamson 2000, p. 599). Modes of governance, and their relative efficiency, are further situated in the environment, which is characterized by the institutional environment and the attributes of economic actors (Williamson 1994). Moreover, economic actors are regarded as self-interested (including the use of guile in pursuit of one’s own interest, i.e., they are opportunistic) and boundedly rational (North 1993, Williamson 1994, 1998b). Holding these perspectives, TCE has focused especially on the ex-post stage of contracts (Williamson 2000).

TCE is perhaps most often connected with the Coasian (see e.g., Coase 1937) tradition, which aims to explain the existence of business organizations and the boundaries of those organizations. Following the Coasian framework, decisions to organize a company in a particular way are seen to depend on the relative costs of internal and external exchange (Klein 2000). For example, the use of a market mechanism (external) involves the costs of discovering the relevant prices, negotiating and concluding separate contracts (Coase 1937). When organizing as a company, contract related costs are not eliminated, but they can be reduced. However, the organization itself brings other (internal) transaction costs, such as the costs of organizing additional transactions, the cost of failure to put resources where they are most valuable, and the cost of diminishing marginal benefits because of the expansion of the company (Coase 1937). Hence, the nature of the company “is determined by the relative costs of organizing transactions under alternative institutional arrangements” (Klein 2000, p. 464).

The Critique of NIE

The assumptions of the NIE tradition have also come up against some criticism. Advocates of OIE have noted that NIE borrows “some bad habits” from neo-classical economics, and hence, certain old challenges are still present (Langlois 1989). Reviewing the literature highlights especially three aspects on which account NIE has been criticized.

First, although NIE recognizes certain limits in decision-makers’ rationality, the perspective retains the belief that individuals act rationally²⁸—maximizing their economic well-being within these limits. For example, while Williamson (e.g., Williamson 1975) recognizes some informational problems, the cost calculus made by decision-makers remains in his theory, meaning that he still clings to the orthodox assumption of maximization (Hodgson 1989). The problem of explaining institutions in terms of rational maximizing individuals has been raised by various scholars (e.g. Hodgson 1989, Langlois 1989, Rutherford 1989). First, the assumption of rationality is problematic as it cannot explain the unintended emergence of institutions

²⁸ Hodgson (1989) notes that inside NIE, there is a notable neoclassical wing, but at the other extreme, there are some Austrian theorists who depart more strongly by recognizing the large amount of information problems prevailing in decision-making. However, according to Hodgson (1989), both wings still share an attachment to the fundamental neoclassical assumptions.

and rules that operate for the social good out of individually self-interested action (Rutherford 1989). For the same reason, the maximizing assumption is problematic as it assumes that individuals simply (intentionally or unintentionally) create effective institutions (Rutherford 1989, Hodgson 2000). Nonetheless, it is easy to also perceive such institutions that do not serve economic efficiency.

Secondly, the strong individualistic emphasis of NIE has been pointed out and criticized especially by Rutherford (1989). He notes that NIE has sufficiently and justifiably emphasized that institutional changes should be seen as arising out of the actions of individual decision-makers. However, in this stance NIE is often taken to extremes where all institutions and other social phenomena are eventually reduced to theories of individual action alone. In these theories, typically only the psychology of individuals (preferences and goals), initial resource constraints, and natural givens are taken into account. Rutherford (1989) argues that such reductionism leads to a “number of problems” that stem from the fact that this kind of programme must, “in the final analysis, see institutions as the outcome of individualization and ignore or deny the reverse line of causation from institutions to an individual’s actions and even to his preferences and values” (p. 302).

Third and related to the abovementioned question on the nature of institutions, a few scholars (Hodgson 1989, 1998, Rutherford 1989, 2001) have criticized the convention in the NIE approach to take institutions as given. Rutherford (1989) calls for a more dynamic perspective on the nature of institutions. He recognizes that NIE often holds an assumption that each step in institutional evolution can be analyzed as if pre-existing institutions have no influence on the choices made. Similarly, Hodgson (1998) notes that the starting point of explanations cannot be institution-free. He continues by highlighting that it is not possible to understand how institutions are constructed without seeing individuals as embedded in a culture made up of many interacting institutions. However, this leads to the unanswerable ‘chicken or egg’ question of individual behavior or institutions? Hence, Hodgson (1998) argues that it is an important thing to recognize that “neither individual nor institutional factors have complete explanatory primacy” (p. 184).

4.3.1.3. Old Institutionalism in Sociology

Sociology has been concerned with the study of social institutions from its inception (Goodin 1996). While in general sociologists’ interest in institutions has been relatively constant (Scott 2008), there have been some remarkable changes in how sociology views institutions. Spencer (e.g., 1897) has been one of the most influential early institutionalists in the field of sociology. His early writings cast society as an organic system evolving through time (Scott 2008), through the Lamarckian evolution process (Hodgson 2001b). These writings together

with some ideas by Marshall (1923), for instance²⁹, can be seen to support the principle of socio-economic evolution (Hodgson 2001b). Spencer (1897), for instance, argues that “the phenomena of social evolution are determined by external actions to which the social aggregate is exposed, and partly by the nature of its units” (p. 435-436). He further underlines the importance of underlying Lamarckian evolution by stating that “the process of social evolution is in its general character so far pre-determined, that its successive stages cannot be antedated, and that hence no teaching or policy can advance it beyond a certain normal rate, which is limited by the rate of organic modification in human beings” (Spencer 1896 p. 365-366). Quite similarly, Marshall (1923) claims that “Economic institutions are the products of human nature, and cannot change much faster than human nature changes” (p. 260), although he also recognizes that, for example, education affects these institutions. In the same era, social anthropologists also inquired about the diversity of mankind and its ways, and embraced two widely held answers to that question (Mayhew 1989). First, they assumed that differences among people were racial. Second, they proposed that the variety of customs and patterns of behavior represented different stages in a process of un-linear evolution.

Later, the abovementioned ideas became strongly unfashionable and even questionable to follow (Hodgson 2001b, Johansson and Siverbo 2009). In consequence, these perspectives were replaced and modified with others. The later generations of sociologists discarded the strong biological evolutionary analogies and functional arguments, but still recognized the importance of institutions (Scott 2008). Social anthropologists, in turn, replaced their earlier explanations with ‘cultures’³⁰, which are regarded as the products of specific interactions of man and environment through time (Mayhew 1989). As the research in this stream continued, cultures became consequences “of vaguely defined interactions among environmental conditions, human activity, psychological factors, and historical connections” (Mayhew 1989 p. 324). At the same time, people’s actions, beliefs, and artifacts were also the products of culture (Mayhew 1989). In other words, culture was both cause and consequence. At the time, early institutional sociologists focused especially on ways in which collective entities (e.g., family, profession, church, school) created and constituted institutions that shaped individuals (Goodin 1996).

In general, the study of organizations has a relatively short history within sociology. As Tolbert and Zucker (1996) and Scott (2003, 2008) note, organizations did not appear in sociological studies until the late 1940s. Although it is evident that institutionalism in sociology has a

²⁹ Institutional sociologists have drawn ideas from various sources including authors, such as Veblen, Commons and Coase (see e.g., Stinchcombe 1997), who are connected especially with institutional economics. Perhaps, because of these links, OIS does not always identify as an independent branch of institutionalism, especially in the area of management accounting (cf. Scapens 1994, Scapens 2006, Van der Steen 2006).

³⁰ Jepperson (1991) recognizes that, in general, there are three forms of institutionalization. First, institutionalization can be carried by formal organizations that affect individuals. Second, institutionalization can be carried by regimes. The term regime refers here to institutionalization that stems from some sort of authority. Third, cultures may also carry rules, procedures, and goals without formal organization, monitoring and sanctioning by the rights of authority.

substantially longer history, the notion of ‘old institutional sociology’ has been connected especially with this stream of sociological institutionalism acknowledging organizations³¹. The term ‘old institutional sociology’ was introduced by Powell and DiMaggio (1991) in their debates on the newer variant of institutional sociology. In their writings, OIS is attributed to authors,³² such as Selznick, Gouldner, Dalton, and Clark (Powell and DiMaggio 1991, Greenwood and Hinings 1996). Abbott (1992) further argues that authors, such as Cooley, Thomas, Park, and Hughes should be included in this list although they are not mentioned by Powell and DiMaggio (1991). Accordingly, the notion of ‘old institutional sociology’ is used in this dissertation in a broad manner in an attempt to label the streams of sociological enquiry on institutions that are not considered as NIS.

As with other streams of institutionalism, OIS can be characterized by certain features. First, OIS often emphasizes the irrational aspects of behavior caused by institutions. That is, the social system is regarded as a control mechanism that largely determines the actions and choices of both individuals and groups (Goodin 1996). Scott (2008) notes various early studies held an implicit assumption that institutions are a threat to rational decision and action. He further notes that several terms related to institutions such as myth, ceremonial, and superficial conformity all indicate excuses for mischief. Quite in line, Powell and DiMaggio (1991) note that the OIS stream has highlighted informal interactions to illustrate how informal structures and close-minded interests cause deviation from and constrain the organization’s formal structure based on an intended and seemingly rational mission. However, as Scott (2008) adds, the concept of institution can also be used to examine the complex interdependence of non-rational and rational elements that together comprise all social situations. The shared values, beliefs, and interests, together with personal habits and feelings are important ingredients of social behavior.

Second, OIS has focused on institutions typically at the micro level. Especially during the 1960s, a substantial amount of work by the old institutional sociologists and organization scientists followed an organization centric perspective (Scott 2008). This perspective views the environment from the perspective of a single focal organization and the organization’s interactions and workings are the main focus of interest. Issues, such as influences, coalitions, and competing values are central, in addition to power and informal structures in these explanations (Greenwood and Hinings 1996).

Third, OIS has been characterized by its interest in institutionalization and institutional change. Although the earlier scholars (pre-OIS) focused mainly on settled institutions, it was not long before organizational researchers began to examine the social processes through

³¹ For a broader analysis on sociological formulations claiming an institutional focus to study organizations, see e.g., Scott (1987).

³² The OIS stream of research has been strongly influenced by the ideas of Parsons (Powell and DiMaggio 1991). For a more detailed analysis of the development of sociological institutionalism, see e.g., Camic (1992), Velthuis (1999).

which institutions came into being (Scott 2008). The common denominator of OIS studies has been to understand and explain why practices and organizations are what they are. Selznick (1957), for example, argues (with the support of psychological analogy) that the organization has its own character, which is partly a historical product, but also dynamic in nature. The ability to respond to changes is generally seen to form a natural part of the organization's relationship with its local environment (Powell and DiMaggio 1991).

Institutionalization

The pioneering work of Selznick and his colleagues emphasize the processual nature of institutionalization (see e.g., Selznick 1948, Clark 1960, Zald and Denton 1963). In consequence, these studies also inherently acknowledge that institutions change with time (Selznick 1957). These quasi-historical studies typically follow the development of a single organization over a relatively long period (Scott 2008). Selznick (1957) views organization structure as an “adaptive vehicle” that is molded to both the characteristics and limitations of participants and to the influences and constraints of the external environment. The notion of ‘institutionalization’ refers to this adaptive process, which also takes account (or “infuse with value” as Selznick (1957) notes) of the non-technical requirements of the task at hand. This also illustrates Selznick's (1957) distinction, which distinguishes between organizations as technical instruments and organizations as natural communities with their own self-maintenance (Scott 1987). Selznick (1957) further defines that the technical dimension sees organizations as instruments designed to match certain goals. Technical organizations “are judged on engineering premises; they are expendable” (p. 21). The natural dimension, in turn, highlights that organizations “are products of interaction and adaptation; they become the receptacles of group idealism; they are less readily expendable” (Selznick 1957 p. 22).

Berger and Luckmann (1966) have been influential in their understandings of the institutionalization process. They propose that institutionalization begins from habitualization, which renders it unnecessary to define suitable behavior for each situation. These processes of habitualization can happen even when an individual is detached from social interaction. Institutionalization occurs “whenever there is a reciprocal typification of habitualized action by types of actors” (Berger and Luckmann 1966 p. 72). In other words, institutionalization results when standard schemes of meaning (and behavior) are shared by a group of individuals. A bit more extreme, Burns and Scapens (2000) propose that institutionalization ensues when routines (shared habits) become so widely accepted that they become unquestionable—“the way things are” (Johansson and Siverbo 2009 p. 148). Although, Berger and Luckmann (1966) emphasize the importance of institutions as shared—“they are available to all members of the particular social group in question” (p. 72)—they note that hypothetically, the institutionalization process could begin even if there were only two people interacting. Even though they would not define the outcome as an institution, institutionalization would be present already in “nucleo” (Berger and Luckmann 1966).

Structuration

The pioneering old institutional sociologists distinguished between ideas and action. Although structuration theorists largely followed the OIS traditions³³, they attempt to reconnect these aspects by theorizing their mutuality and interdependence (Scott 2008). Structuration theorists acknowledge that institutional ideas do not completely determine human action, but they set bounds on rationality by restricting the opportunities and alternatives we perceive (Barley and Tolbert 1997). Hence, institutions increase the probability of certain types of behavior.

Structuration theory, proposed by Anthony Giddens (1979, 1984), is typically seen as an independent theoretical stream. This view on structuration theory is well in line with the fact that Giddens (1979, 1984) has not drawn only from institutional sociology, but also from much broader sociological and philosophical foundations. Hence, Doyal and Harris (1986) also describe “the spirit of anti-sectarianism and synthesis” (p. xiii) to have been dominant in his work. Nonetheless, some essential linkages remain between structuration theory and (old) institutional sociology more in general. Giddens (1979, 1984) shares the interest of old institutional sociologists (cf. Selznick 1948, 1949) to understand both the genesis of social structures and how these structures are drawn on everyday actions. As noted by Hodgson (2007), structuration theory can be seen as an answer to conceptualize the relationship between social structure and individual agency, which has been one of the central problems in institutional social theory (see also Feldman and Pentland 2003, Scott 2005). In consequence, the work of Giddens has been embraced by institutional theorists (Scott 2008). On the other hand, the connection between the theoretical bases can be seen to be more fundamental. For instance, Yates and Orlikowski (1992) note that “structuration theory involves the production, reproduction, and transformation of social institutions” (p. 299). In the same sense, DeSanctis and Poole (1994) position structuration theory under the major “institutional school” label.

The concept of ‘structure’ is often understood as “a configuration of activities that is characteristically enduring and persistent” (Ranson et al. 1980 p. 1). Giddens (1984), in turn, defines ‘structure’ as “rules and resources, or sets of transformation relations, organized as properties of social systems”, where social systems are “reproduced relations between actors of collectivities, organized as regular social practices” (p.25). Structuration means, “conditions governing the continuity or transmutation of structures, and therefore the reproduction of social systems” (Giddens 1984, p. 25). Sewell (1992) examines the concept of structure in more detail and finds that it is nearly impossible to define it adequately. He identifies that in sociological discussions, the concept of structure typically operates as a “metonymic device” that can

³³ It should be noted that structuration arguments can also be found in the NIS literature (Strang 1994). However, neither of the streams (OIS and NIS) has explicitly investigated the processes by which structures emerge and influence action (Barley and Tolbert 1997). Here, structuration is discussed under the OIS stream, as the three characteristic features of the OIS fit are often found in studies inspired by structuration theory. This connection seems natural, as both Selznick (see e.g., Selznick 1961) and Giddens (see e.g., Giddens 1984) have been influenced by Parsonian ideas.

be used to identify some part of a complex social reality as explaining the whole. Importantly, the concept of structure highlights “the tendency of patterns of relations to be reproduced, even when actors engaging in the relations are unaware of the patterns or do not desire their reproduction” (p. 3). Hence, in spite of problems related to the use of the concept, the term should not be abolished (Sewell 1992).

Giddens (1979, 1984) argues that for any social theory to be complete, it must include both the intentional actions of individuals and social structures from which they draw (Macintosh and Scapens 1991). In general, these ideas can be traced back to the writings of Berger and Luckmann (1966) who note that the basic domain of social science is neither the subjective experience nor any form of social totality³⁴, but in social practices where these two are incorporated (Busco 2009). As the above highlights, the duality of structure is a crucial element in structuration theory. In Giddens’ (1979, 1984) terminology, duality of structure means that the constitution of agents and structures are not two independent sets of phenomena, but they represent a duality. In other words, they are the same “situated practices *per se* (i.e., what people actually say and do) and which generates such practices (i.e., that which underlies and produces the patterns as such)” (Englund et al. 2011 p. 496). Moreover, structuration theory sees structures both as the medium and outcome of the practices that constitute those systems. That is, “the structural properties of social systems do not exist outside of action but are chronically implicated in its production and reproduction” (Giddens 1984 p. 374).

In this duality, the term ‘structure’ (i.e., institutional realm) is used to refer to the structuring (or organizing) properties of any social system. Structure consists of “the codes, templates, blueprints, rules, or formulas that shape and program social behavior and provide for the binding of social practices across time and space” (Macintosh and Scapens 1991 p. 136). These structures are historical accumulations of past practices and understandings that set conditions on action (Barley and Tolbert 1997). The second part of the dualism, interaction (i.e., realm of action) refers to the actual arrangements of people, objects and events in social life (Barley and Tolbert 1997). The interaction perspective holds that social life is actively constituted by agents who subjectively interpret and produce shared understandings, which guide them in social settings (Macintosh and Scapens 1991). In addition, the theory acknowledges agents as knowledgeable and reflexive, which makes them capable of choosing to do otherwise (Englund et al. 2011). With the help of these abilities, actors can also adapt to changing social events (Macintosh and Scapens 1991). Finally, in between these two realms are modalities. Modalities can be defined as “the degree to which institutions are encoded in actors’ stocks of practical knowledge” (Barley and Tolbert 1997, p. 96). Actors draw upon modalities while in the production of interaction, but at the same time, they mediate to reproduce structural prop-

³⁴ Hodgson notes that although “duality of structure” is a concept used especially by institutional sociologists, the phenomenon itself has also been (implicitly) recognized by certain institutional economists (cf. the definitions of institutions in Commons 1934, North 1990a).

erties (Giddens 1979, Giddens 1984). The constituting parts of dualism are illustrated in the rows of Figure 17.

	Signification Meaning	Legitimation Morality	Domination Influence
Structure Institutional realm	Signification Signification structures include semantic and cognitive rules which are drawn on to produce meaning . They are organized webs of semantic codes.	Legitimation Legitimation structures consist of legitimacy codes, normative rules, and moral obligations. What is regarded virtue/vice, important/trivialized, desirable/undesirable.	Domination Domination structures involve the codes or templates for the relations and ordering of dependence and autonomy within a social system.
Modality	Interpretative schemes Interpretative schemes are standardized elements of stocks of knowledge, applied by actors in the production of Interaction. They form the core of the mutual knowledge	Norms and moral codes Norms and moral codes include normative aspect, which consists of norms for proper conduct and moral obligation aspect, which involves rule following behaviors.	Facilities / Resources Allocative resources, refer to the knowledge of how to operate a physical artifact. Authoritative resources, are result of domination of some social actors over others.
Interaction Realm of action	Communication / Discursive practices Discursive practices consist of speech, writing, and other forms of discourse that agents engage in to communicate meaning to others.	Sanction Sanctions reproduce morality by rewarding and penalizing the actors in accordance with their compliance or non-compliance with the norms and moral codes of conduct.	Power Power in its broad sense is the ability to get things done and to make a difference in the world. In a narrow sense, power is simply domination.

Figure 17. Giddens' model of structuration (synthesized from Giddens 1979, 1984, Macintosh and Scapens 1990, 1991, Barley and Tolbert 1997)

A second aspect of structuration theory is that the parts of dualism can be further divided into three dimensions. Giddens (1979, 1984) proposes that structuration takes place along the dimensions of signification, legitimation, and domination (Macintosh and Scapens 1991). However, Giddens (see e.g., Giddens 1984) and various other scholars inspired by structuration theory (e.g., Macintosh and Scapens 1991, Busco 2009, Englund et al. 2011) have further noted that these dimensions are strongly intertwined and hence are only separated for analytical purposes. Figure 17 illustrates how the two realms of social interaction and their constituting dimensions are related based on structuration theory.

The columns of Figure 17 include the dimensions of structuration. The signification dimension holds the abstract cognitive aspects of social life. The signification structure includes the semantic rules—codes or modes of coding—that are drawn on to make sense and to mediate meaning. (Giddens 1979, Macintosh and Scapens 1991) In everyday interaction, agents draw upon and reproduce interpretive schemes in order to understand and communicate with others (Macintosh and Scapens 1990). The legitimation dimension involves the normative and moral constitution of social action (Macintosh and Scapens 1990). The existence of this consensus makes the unity of the social whole possible (Giddens 1979). The legitimation structure can be thought of as the “collective conscience” or “moral consensus” of society (Macintosh and Scapens 1991). This structure is further mediated through norms and moral codes that sanction (and reward) particular behaviors (Macintosh and Scapens 1990). The domination dimension includes the means through which agents draw to exercise power. Giddens (1979) further divides the dimension of domination to ‘allocation’ and ‘authorization’, where allocation refers to “capabilities which generate command over objects or other material phenomena”, and authorization stands for “capabilities which generate command over persons” (p. 100). In general, these domination structures define the templates of dependence and autonomy within social system (Macintosh and Scapens 1991). Agents gain influence by drawing on allocative and authoritative resources available to them based on these templates. It is however notable that all forms of dependences offer some resources by which, for example, subordinates can influence the activities of their superiors. This phenomenon is also called the “dialectic of control” in social systems. (Giddens 1984)

According to Giddens (1979), sociology refers “in a general way to the study of institutions of the industrialised society” (p. 8). Hence, structuration theory, being a sociological theory, engages in the study of institutions. However, the relation between structures and institutions in Giddens’ (1979, 1984) terminology is somewhat challenging to comprehend as he does not provide a clear conceptual delineation between the two. This lack of clarity can be observed when comparing how he addresses the relationship between these two notions in two sections of his book (Giddens 1984 Chapter 1).

In the first section, Giddens (see 1984 p. 17) discerns structures and institutions based on their “time-space extension”. According to him, “structure is [only] a ‘virtual order’ of transformative relations” (p. 17). In consequence, social systems (including institutions) “do not have ‘structures’ but rather exhibit ‘structural properties’ and that structure exists, as time-space presence, only in its instantiations in such practices and as memory traces” (p. 17). Structural properties, in turn, are those “structured features of social systems” that are “stretching across time-space” (p. 377). Furthermore, Structural principles are “the most deeply embedded structural properties, implicated in the reproduction of societal totalities” (p. 17). Finally, institutions are “those practices which have the greatest time-space extension within such [societal] totalities” whose reproduction involves structural principles (p. 17). In addition, to better understand how institutions are constituted and reconstituted, Giddens (1979) identifies three key levels of temporal existence. These are the temporality of day-to-day interactions, the fi-

nite temporality of our individual lives, and the ‘long durée’ of institutions (Giddens 1984, Craib 1992). Although the above highlights that structures and institutions differ especially based on their temporal nature, the conceptual linkage remains vague, thus leaving the reader puzzled about the actual relationship between the concepts.

In the later section, Giddens (see 1984 p. 33) stresses that the separation of structural dimensions is only an analytical one. Building on analytical use of the structures, Giddens (1979, 1984) proposes the use of the dimensions of signification, domination and legitimation as a framework to classify different institutions. As an example (Figure 18), highlights the relationships between four highly general institutions and his three structural dimensions.

S – D – L	Symbolic orders/modes of discourse
D (auth) – S – L	Political institutions
D (alloc) – D – L	Economic institutions
L – D – S	Legal institutions

S = Signification

L = Legitimation

D = Domination (authoritative and allocative)

Figure 18. Giddens’ classification scheme for institutors (adapted from Giddens 1979 p. 107, 1984 p. 33)

In Figure 18, each of the institutions draws on all three structural dimensions. The lines connecting the structural dimensions designate interdependence between the structural dimensions. The order of letters, in turn, indicates the direction of analytical focus. For example, in light of symbolic orders/modes of discourse, the signification structures are dominant when compared with the domination and legitimation structures. Although the above suggests that structures could be seen as institutional “building blocks”, Giddens once again leaves the reader with the responsibility to understand how structures and institutions are actually related.

A few sociological theorists have aimed to further develop the ideas that are central for structuration theory. Often, the development work is initiated by highlighting certain challenges in the Giddens’ version of structuration theory (e.g., Archer 1982, Thompson 1989, Sewell 1992). Stones (2005) provides an assessment of the critiques and presents his suggestions on how structuration theory could be made stronger. Although Stones’ (2005) argument for stronger structuration has a number of themes, especially two of his suggestions have received attention (see e.g., Jack and Kholeif 2007, Coad and Herbert 2009, Coad and Glyptis 2012).

First, Stones (2005) takes note on the criticism with respect to the difficulties in applying structuration theory in empirical research (see also a recent criticism on this issue in Coad and Herbert 2009). As Stones (2005) notes, “the concepts he [Giddens] produced were ‘ontological’ concepts – concepts about the very nature of social entities over and beyond any particular empirical manifestation of them in specific social circumstances” (p. 7). To overcome this challenge, Stones (2005) presents a scale of ontological levels (Coad and Glyptis 2012) which are synthesized below by drawing from various sources (Stones 2005, Jack and Kholeif 2007, Coad and Herbert 2009, Coad and Glyptis 2012):

- Abstract level: Very broad and general set of concepts favored by Giddens
- Meso-level: Mid-range concepts that place the researcher above the specific situation under the view, but can also incorporate variations in abstract concepts
- Ontic-level: Specific and detailed concepts that are empirically informed, observed in concrete situations, but still guided by the more abstract concepts

The three levels of Stones’ (2005) are interrelated with two mechanisms. The abstract concepts are guiding the more concrete ones. Empirical research, in turn, influences the modification and elaboration of abstract concepts. According to Stones (2005), strong structuration encompasses abstract “ontology-in-general”, but moves an emphasis on more concrete phenomena which he labels as “ontology-in-situ”. In this way, he encourages doing more work at more substantive and empirical levels.

Second, the work of Stones (2005) downplays the importance of the three modalities identified by Giddens (Jack and Kholeif 2007). In turn, he places stronger emphasis to understand agents in their actual contexts. To do this, Stones (2005) distinguishes between agents local/internal structures and global/external structures (see also Kilfoyle and Richardson 2011, Englund and Gerdin 2011). In addition, he acknowledges the possibility of active agency and argues that these elements result in certain outcomes. Figure 19 illustrates Stones’ (2005) “quadripartite” framework of structuration in more detail.

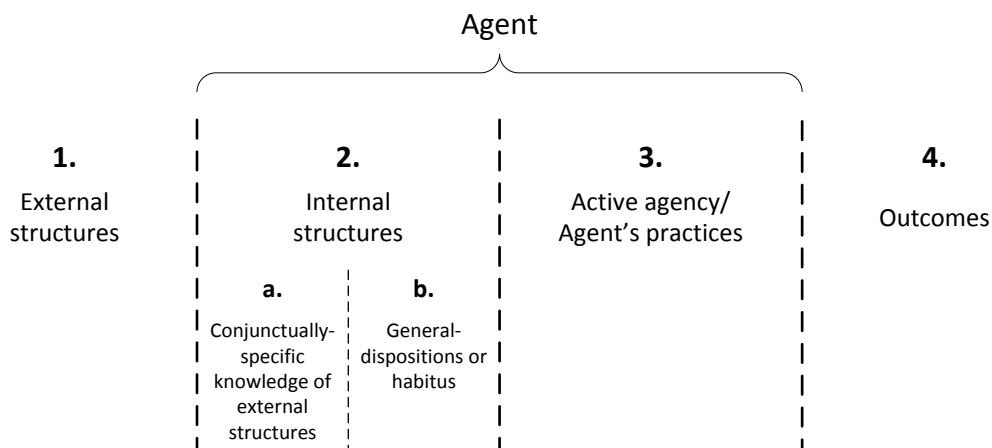


Figure 19. The four-part framework of structuration (adapted from Stones 2005)

In sum, Stones (2005) distinguishes between four separate but inter-linked aspects of the duality of structure (Figure 19). These comprise: (1) external structures that are conditions of action and that have an existence autonomously from the agent; (2) internal structures within the agent that are further divided into conjunctionally specific and general-dispositional internal structures; (3) active agency, including the ways in which agents either routinely or strategically draw upon their internal structures; (4) outcomes, which can result in either change and elaboration or reproduction and preservation of prevailing (internal and external) structures. These additions might be beneficial especially when the analysis is done at the level of individuals as they provide a more detailed image on structuration as a process. On the other hand, some scholars have argued that Stones' (2005) conceptualization may be in conflict with the duality perspective. For instance, Englund and Gerdin (2011) note that according to Giddens (1984), "social structures constitute memory traces in the human mind, and exist only as they are drawn upon and reproduced by human agents in particular time/space locations. Accordingly, everything is internal and local." (p. 585).

The Vicinity of Institutionalization and Structuration

Barley and Tolbert (1997)³⁵ recognize that institutionalization and structuration perspectives are closely related. They both hold that there are linkages between actions and institutions. In addition, they both hold that institutionalization (or structuration) should be studied as dynamic processes. In addition, Barley and Tolbert (1997) note that the perspectives could support each other as they have different strengths and weaknesses. For example, they see structuration theory as advancing a more robust explanation of the institutionalization process than what more traditional institutional perspectives offer. On the other hand, they note that structuration theory is a very abstract process theory, and because of that, it has generated a relatively small number of empirical studies. Structuration theory has also been criticized for its lack of ability to facilitate the exploration of processes of change (Burns and Scapens 2000).

The linking of structuration and institutional theories starts by noting that they have both recognized the duality of the institutional structure (Barley and Tolbert 1997). Institutional theories have highlighted that institutions both arise from and constrain social action. Structuration theory, in turn, recognizes both intervening structural and interaction layers. Barley and Tolbert (1997) also recognize that the concepts of structure, schema, and institution share strong similarities. Thus, they rename the layer, including structures and institutions, the 'institutional realm'. The layer, including the actual behavior of individuals, is in turn named the 'realm of action'. While Giddens (1984) repeatedly mentions that structuration occurs through "time and space", his structuration model remains implicitly temporal, as he especially emphasizes

³⁵ Although, Barley and Tolbert are best known for their NIS writings, in this specific paper, they acknowledge "neither [Meyer and his colleagues or Zucker and her colleagues] has directly investigated the processes by which structures emerge from" (Barley and Tolbert 1997 p. 95-96). Hence, when arguing for the importance to understand institutionalization process, Barley and Tolbert seem to have taken a step back towards the interests of earlier institutional sociologists.

the three dimensions of structuration. Barley and Tolbert (1997) seek to translate Giddens' model of structuration into a more dynamic model that explicitly recognizes the processual and temporal nature of structuration. However, at the same time, they end up losing the dimensions of structuration in their model. Figure 18 represents the sequential model of institutionalization suggested by Barley and Tolbert (Barley 1986, Barley and Tolbert 1997).

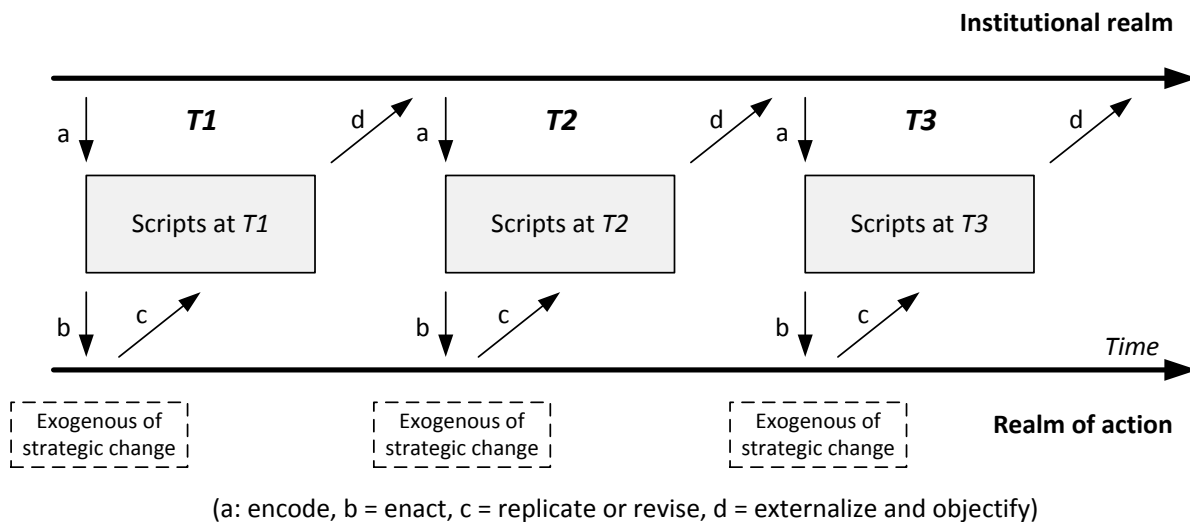


Figure 20. Sequential model of institutionalization (Barley 1986, Barley and Tolbert 1997)

In their model on institutionalization (Figure 18), Barley and Tolbert (1997) substitute Giddens' (1979, 1984) notion of modalities with the concept of a script, which they see as empirically more relevant. In Figure 18, the arrows labeled 'a' involve the *encoding* of institutional principles into scripts. Encoding involves "an individual internalizing rules and interpretation of behavior appropriate for particular settings" (Barley and Tolbert 1997 p. 100). The arrows labeled 'b' involve *enacting*—the degree to which individuals consciously or unconsciously enact the scripts that encode institutions. The actual behaviors of individuals revise and replicate the scripts that inform action. Arrows labeled 'c' illustrate the replication step, which is also called *reproduction* (e.g., Burns and Scapens 2000). Barley and Tolbert (1997) believe that contextual change is usually necessary before actors begin to collectively question the scripted patterns of behavior. Finally, the arrows labeled 'd' involve *institutionalization*, which includes the objectification and externalization of the behavior patterns (Barley and Tolbert 1997).

The Critique of OIS

The OIS stream has also received a fair share of critique, especially from the proponents of NIS. Many early OIS studies held an implicit assumption that institutions challenge rational decisions and actions. Because of this, institutional sociologists were seen to deal with "superficial aspects of non-serious organizations" (Scott 2008 p. 217). Although the interpretation can be seen as a misreading of old texts, the undoing of this interpretation has required a lot of

effort (Scott 2008). OIS has also been criticized as (overly) emphasizing the uniqueness of local organizational institutions (Hirsch 1997). As Powell and DiMaggio (1991) note, in OIS, institutionalization establishes a unique organizational character. Furthermore, as the “character-formation process” operates at the organizational level, it further increases interorganizational diversity. This perspective contends rather strongly with the views held by the proponents of newer versions of sociological institutionalism.

As Scott (1991, 2008) notes, the early (institutional) studies focused virtually exclusively on the inner workings of organizations and the behavior of organizational actors. During the 1960s, the role of the organizational environment became very important in the analysis. This change necessitated the broadening of the traditional view of OIS, which opened the avenue for new—more environmentally focused—institutional approaches. Kraatz and Zajac (1996) remark that although the distancing of the newer institutional perspectives from OIS has supported our knowledge of organization–environment relationships, the views of earlier scholars could still be highly beneficial in building a theoretically and empirically satisfying approach to understand organizational change.

OIS studies are often rather straightforwardly political in their analysis (Powell and DiMaggio 1991). In consequence, some scholars (Perrow 1986, Powell and DiMaggio 1991) contend that OIS studies tend to overemphasize (political) conflicts that stem from differences in vested norms and values. The nature of socialized norms and values is also seen to be overly static (Hirsch 1997). At the same time, while Perrow (1986) acknowledges that OIS “is the closest to a truly sociological view of organizations” (p. 157), he also blames the stream for its short-sightedness that steers the focus of study in the direction of structuralism, and hence, towards population ecology (Hirsch and Lounsbury 1997).

4.3.1.4. New Institutionalism in Sociology

The new institutionalism in sociology and organization sciences focuses on the diffusion of rules, scripts, and models (Nee 2003). The origin of the NIS is often linked (see e.g., Powell and DiMaggio 1991, McKinley et al. 1999) to articles by Meyer (1977) and Meyer and Rowan (1977). As Meyer and Rowan (1977) note in their seminal paper, “institutionalized products, services, techniques, policies, and programs function as powerful myths, and many organizations adopt them ceremonially” (p. 340). Conversely, this “ceremonial conformity” often conflicts severely with organizational efficiency. Meyer and Rowan (1977) further argue that the formal structures of many organizations strongly reflect their institutional environments instead of their efficiency related work activities. By conforming to institutionalized requirements, organizations gain legitimacy, resources, stability, which eventually leads to enhanced survival prospects (Meyer and Rowan 1977).

The new institutionalism in organization theory and sociology rejects the assumption of rational actors, perceives institutions as independent variables, uses cultural and cognitive explanations, and has an interest in “properties of supraindividual units of analysis that cannot

be reduced to aggregation or direct consequences of individuals' attributes or motives" (Powell and DiMaggio 1991 p. 8). Although the 'new' prefix could be assumed to suggest a greater similarity between NIS and NIE, this is not the case. Instead, NIS shares many perspectives and interests with OIS. For instance, the first three of the above-mentioned characteristics of NIS also apply to OIS. Hence, there appears to be no significant difference in terms of how institutions and institutionalization are perceived in these perspectives (Selznick 1996). Nevertheless, NIS takes several new directions.

First, OIS emphasizes the irrationality of actors, and sees their agendas as molded by institutions, eventually leading to less efficient organizational structures when compared with a seemingly rational mission. Conversely, NIS locates irrationality in the formal structure itself, and hence, explains the diffusion of certain operating procedures with inter-organizational influences, conformity, and the persuasiveness of cultural accounts, rather than with rational goals that they are intended to perform. (Meyer and Rowan 1977, Powell and DiMaggio 1991). Second, NIS takes a wider (macro) focus as it is especially interested in non-local environments and their interaction, whereas its older counterpart had a typically narrower scope (Powell and DiMaggio 1991). In other words, the focus of NIS is at the level of organizational sectors, industries, professions, or national societies. Hence, in NIS organizational forms, structural components, and rules—that are not organization specific—are institutionalized. In a sense, in NIS individual action is embedded within the context of collective organizations and institutions (Goodin 1996). Third, NIS differs in its perspective on the consequence of institutionalization. Whereas OIS perceives that institutions establish a unique organizational character, NIS suggests the opposite (Powell and DiMaggio 1991). As institutionalization operates in the NIS stream, it tends to reduce diversity in the organizational field as organizations become increasingly similar. This homogeneity of complex organizations has become one of most interesting and pervasive themes in the NIS literature (Selznick 1996).

Besides these new directions, NIS studies are characterized by their emphasis on the stabilizing and legitimating roles of institutions (cf. Oliver 1991). Various studies show how organizational aspects become resistant to change as a result of conformity to institutional expectations (Tolbert and Zucker 1983, Tolbert 1985). In addition, as institutional theory focuses on the reproduction of organizational structures, activities, and routines (Powell and DiMaggio 1991), it implicitly assumes that institutions, *per se*, are typically relatively stable³⁶. For example, the emphasis on legitimization is highlighted by Selznick (1996) who compares the NIS agenda with that of OIS. From his perspective, the NIS perceives legitimation as a continuous driving force among organizational actors. Legitimacy is essential for organizations as it both provides stability and justifies certain organizational forms and practices.

³⁶ However, on special occasions such as under the circumstances of rapid societal-level cultural change, organizations may incorporate new elements in the institutional environment at a more rapid rate (Powell and DiMaggio 1991).

Isomorphism

The question in NIS is “why there is such startling homogeneity of organizational forms and practices?” (DiMaggio and Powell 1983 p. 148). This question contrasts the question “why are there so many kinds of organizations?” (DiMaggio and Powell 1983 p. 148), which has interested both old institutional sociologists and organization ecologists (Hannan and Freeman 1977, DiMaggio and Powell 1983). Institutional isomorphism has been used to help explain the observation that organizations are becoming more similar. This discussion has been much initiated by Meyer and Rowan (1977) who have argued that organizations are shaped by their environments and thus tend to become isomorphic.

In the NIS literature, Hawley’s (1968) definition of isomorphism is often followed (see e.g., Hannan and Freeman 1977, Meyer and Rowan 1977, DiMaggio and Powell 1983). According to this definition (as in DiMaggio and Powell 1983), isomorphism is “a constraining process that forces one unit in a population to resemble other units that face the same set of environmental conditions” (p. 149). In an organizational context, isomorphism has also been defined as “processes of conformity with the rules of the game and cultural beliefs in organizational field(s)” (Nee 2003 p. 57).

Meyer and Rowan (1977) note that isomorphism with environmental institutions has certain consequences for organizations, all of which support their success and survival. First, through isomorphism organizations incorporate such elements that are legitimated externally, rather than only in terms of internal efficiency. Second, isomorphism steers organizations to employ external or ceremonial assessment criteria to define the value of their structural decisions. Third, dependence on external and relatively stable institutions reduces turbulence, and hence, supports the stability of the organization. Isomorphism can be further divided into competitive and institutional sub-types (DiMaggio and Powell 1983). This distinction highlights the institutional aspect that broadens the traditional neoclassical assumption. It also reminds us that organizations do not only compete for resources and customers, but also for political power and institutional legitimacy (DiMaggio and Powell 1983). However, this distinction does not help us to understand the processes through which organizations become more and more similar. To overcome this problem, DiMaggio and Powell (1983) introduce three isomorphic processes.

Coercive isomorphism results from both formal and informal pressures set by coercive authorities. This authority stems from the organization’s dependency on other organizations and by cultural expectations that prevail in the society where the organization belongs (DiMaggio and Powell 1983). In other words, there are two sources of coercive isomorphism, political influence and the problem of legitimacy (DiMaggio and Powell 1983). DiMaggio and Powell (1983) further note that often, organizational change driven by coercive isomorphism is a direct response to changes in legislation. For example, organizations adapt to new pollution legislation, and the curriculums in schools adapt to new political guidelines. These examples lend

the image that coercive isomorphism directly and explicitly affects dependent organizations. However, it can also be more subtle and less explicit than these examples suggest (DiMaggio and Powell 1983). Meyer and Rowan (1977) and DiMaggio and Powell (1983) have recognized that the adaptation to coercive authorities is often ceremonial. However, DiMaggio and Powell (1983) add that this does not mean that adaptation is inconsequential, but rather that it conveys the supporting message to the stakeholders of the organization in their functions, which can further change the power relations within the organization. In the long run, this compliance with societal preferences helps the organization to secure economic resources, influence and power (Van der Steen 2006).

The second isomorphic process is mimetic isomorphism, i.e., imitation resulting from standard responses to uncertainty (DiMaggio and Powell 1983). That is, when goals are ambiguous, when technologies are poorly understood, and when there is uncertainty related to estimating social desirability, organizations tend to imitate other organizations. To be more specific, organizations tend to model themselves after somewhat similar organizations that they perceive to be more legitimate or successful (DiMaggio and Powell 1983). This modeling is not always intentional and direct, but it can also happen via employee turnover, consultants and industry trade associations (DiMaggio and Powell 1983). Selznick (1996) ponders that this kind of behavior is probably more deeply rooted in the anxiety of actors than in their rational efforts to avoid reinventing the wheel. DiMaggio and Powell (1983) further propose that homogeneity of organizational structures stems from the fact that there are not many different organizational models to imitate.

Lastly, normative isomorphism results largely from professionalization. DiMaggio and Powell (1983) define professionalization as “the collective struggle of members of an occupation to define the conditions and methods of their work, to control ‘the production of producers’, and to establish a cognitive base and legitimation for their occupational autonomy” (p. 152). They further recognize two aspects that are particularly important sources of normative isomorphism. First, formal education (for example in universities) molds the cognitive foundations of individuals. Second, the growth and signification of professional networks allow the diffusion of new practices across organizations. Both these sources are significant vehicles to define the normative rules of organizational and professional behavior (DiMaggio and Powell 1983). As Van der Steen (2006) notes, the notion of normative isomorphism steers our attention to the norms and values embedded in the act of management. He highlights that managers have multiple roles and possess a web of relations with both internal and external stakeholders. Besides professional relations, these other influential stakeholders shape individuals’ ideas of proper behavior (Berger and Luckmann 1966).

Decoupling

NIS makes a strong distinction between the formal structures and the informal activities of organizational behavior. Meyer and Rowan (1977) note that ideally, organizations built for

efficiency attempt to maintain close alignments between structures and activities. This ideal model also makes the evaluation of the organizations' technical performance easier. However, in practice the close coupling of informal and formal domains does not necessarily give rise to efficiency and high organizational performance (Nee 2003). In addition, organizations are "self-conscious" by nature, and they try to sustain their prevailing formal structures that can be threatened by these evaluations (Meyer and Rowan 1977).

In NIS, decoupling and loose coupling³⁷ have been used as concepts to describe divergence between formal structures and informal activities. Meyer and Rowan (1977) highlight that organizations hold various properties that illustrate decoupling. For example, managers outsource responsibility to professionals, goals are made ambiguous and categorical aims are abolished, and human relations—getting along with others—are emphasized. Meyer and Rowan (1977) note that this decoupling of formal structures and informal activities has certain clear advantages. First, the assumption of formal structures buffers organizations from the inconsistencies and anomalies of a technical nature. Second, because of disintegration, the possibility of disagreements and conflicts are minimized, and hence, organizations can gain broader external support. Thus, because of decoupling, organizations can maintain their standardized, legitimate, formal structures while their activities may vary in response to practical considerations (Meyer and Rowan 1977).

The Critique of NIS

Similar to the other institutional perspectives, NIS has been the subject of criticism. NIS analyses are characterized by their focus on explaining the similarity and stability of organizational arrangements by typically concentrating on a certain population of organizations (Greenwood and Hinings 1996). One set of criticisms stems from the fact that while NIS concentrates on the forces that lead to institutional conformity (and hence foster organizational similarity), it does not address the forces that cause institutions to change (Van der Steen 2006). In other words, organizations appear to passively conform to existing societal expectations (Covaleski and Dirsmith 1988). Because of these weaknesses, NIS is not typically seen as a theory of change, but rather, as an explanation of similarity. However, in more microscopic analyses that focus on single organizations, for example, NIS has been seen to provide insights and suggestions to better understand the "change that links organizational context and intraorganizational dynamics" (Greenwood and Hinings 1996 p. 1023).

Another set of criticisms accuse that when NIS studies emphasize structural conformity and isomorphism, they tend to "overlook the role of active agency and resistance in organization–

³⁷ Orton and Weick (1990) note that in the middle of the 1970s, the idea of loose coupling was simultaneously conceptualized in organization sciences by various scholars taking somewhat different perspectives. They review the literature using the concept and find that in general, the concept has been used to overcome the difficulty of thinking simultaneously about rationality and indeterminacy. Here, however, we follow more specific NIS perspectives highlighted in the writings of Meyer and Rowan (1977).

environment relations” (Oliver 1991 p. 151). That is, NIS has neglected the tendency of societal and organizational actors to strive for power and self-interest (Powell 1985, Covaleski and Dirsmith 1988). As a result, NIS has advocated an image of “over-socialized and slavishly devoted” organizational actors (Battilana et al. 2009 p. 67). More recently, NIS scholars have increasingly recognized the complex nature of institutional change and have sought to provide answers to this critique. The notion of ‘institutional entrepreneurship’ has been introduced to the NIS literature by DiMaggio (1988) to acknowledge the possibility of (collective) actors that contribute to institutional change (Leca et al. 2008, Battilana et al. 2009). However, linking institutional entrepreneurship with NIS assumptions has been problematic. Consequently, there is a tension between institutional determinism and voluntaristic agency³⁸ that has been further labeled as “the paradox of embedded agency” (Seo and Creed 2002, Battilana et al. 2009).

4.3.2. Institutional Theory in Management Accounting Research

In recent decades, various researchers have adopted institutional insights to conceptualize and understand accounting practice (Moll et al. 2006). A large body of this research has concentrated on understanding stability and change in management accounting (Burns and Scapens 2000, Ribeiro and Scapens 2006, Dambrin et al. 2007). That is, to explain why MAS either changed or remained unchanged when these systems are seen to be interwoven with their institutional environment.

The review above has outlined four different streams of institutionalism. Previously, Rautiainen (2008) has also acknowledged the possibility of a two-dimensional division of institutional theories in the MA context. Nonetheless, MA scholars typically do not distinguish old institutional sociology as an independent branch of institutionalism (e.g., Burns and Scapens 2000, Moll et al. 2006, Van der Steen 2006). Therefore, there are: OIE, “which is concerned with the institutions that shape the actions and thoughts of individual human agents”; NIE, “which is concerned with the structures used to govern economic transactions”; and NIS, “which is concerned with the institutions in the organizational environment that shape organizational structures and systems” (Scapens 2006 p. 11).

A few MA scholars have further suggested alternative and supplementary ways to distinguish the streams of institutional research in the field. Ribeiro and Scapens (2006) acknowledge two streams of institutional research that are well established in MA: NIS and the ‘neo-OIE’ stream. From these, especially the latter requires further explanation. Ribeiro and Scapens (2006) define that in the neo-OIE tradition, the “emphasis is on the potential and gradual institutionalization of rules and routines” (p. 100). They also see that in this stream of research, there is a strong connection with Giddens’ (1979, 1984) structuration theory. The model ex-

³⁸ Alternatively, as Greenwood and Suddaby (2006) put it: “how actors enact chances to the context by which they, as actors, are shaped” (p. 27).

ample of neo-OIE in Ribeiro and Scapens' (2006) study is Burns and Scapens' (2000) process of institutionalization³⁹. In this dissertation, this research stream connects most strongly with the label OIS.

Baxter and Chua (2003) review articles published in the *Accounting, Organizations, and Society* journal from 1976 to 1999 and come across seven alternative schools of MA research. Among these schools are institutional theory and structuration theory. In their language, institutional refers to workings that are influenced especially by the new institutional sociologists, such as Meyer and Rowan (1977), and DiMaggio and Powell (DiMaggio and Powell 1983, Powell and DiMaggio 1991). In management accounting research, this stream has been followed, for example, by Covaleski and Dirsmith (Covaleski and Dirsmith 1983, 1986, Covaleski et al. 1993). Structuration theory, in turn, refers to the work of Giddens (1979, 1984) that has been the source of inspiration, for example, for Roberts and Scapens (1985), and McIntosh and Scapens (1991). Besides these frameworks, various MA scholars have drawn from Burns and Scapens' (2000) process of institutionalization. Acknowledging the popularity of these perspectives, a more general image (acknowledging all four streams) on institutional perspectives in MA research is outlined in the following subsections.

4.3.2.1. Old Institutional Economics in MA Research

Despite the long-established nature of OIE in the field of economics, it did not appear in management accounting studies until the early 1990s (Ahmed and Scapens 2000). Nonetheless, it soon became one of the most widely adopted institutional schools in the MA literature. The heightened popularity owes much to the highly influential writings of Burns and Scapens (e.g., Scapens 1994, Burns and Scapens 2000). Next, the OIE stream in MA studies is illustrated with a few studies seen as reflecting more stringently the ideas of early institutional economists.

Historical OIE in Management Accounting Research

Ahmed and Scapens' (2000) historical institutionalist⁴⁰ paper is a good example of OIE inspired (especially Commons) research in management accounting research. In this paper, OIE is drawn to study the emergence of cost allocation practices in Britain. The authors start by acknowledging the origins of OIE in the works of early American institutional economists, but they also propose that together with more recent developments in the evolutionary economics of Nelson and Winter (1982), OIE provides a potential basis to study the institutional

³⁹ Often, MA scholars have distinguished three branches of institutional theory: old institutional economics, new institutional economics and new institutional sociology (e.g., Burns and Scapens 2000, Moll et al. 2006, Scapens 2006). Burns and Scapens (2000) built their framework on Scapens (1994) which is openly inspired by the thoughts of old institutional economists. However, the framework of Burns and Scapens (2000) ended up being strongly influenced by the works of sociologists, such as Giddens (1979, 1984) and Barley and Tolbert (1997).

⁴⁰ For historical institutionalism, see e.g., Thelen (1999).

nature of organizational behavior. In the introductory part of their study, Ahmed and Scapens (2000) highlight some tenets, which they relate to OIE.

First, by referring to Wilber and Harrison (1978) and Ramstad (1986), Ahmed and Scapens (2000) note that in the OIE tradition, individuals, organizations, and the whole economic system are regarded as parts of a larger social system. Hence, to be able to study organizational behavior, such as cost allocation practices, the starting point should be “an understanding of the constituent elements of the social framework” (Ahmed and Scapens 2000 p. 167). Second, by referring to institutional and evolutionary economic works (Commons 1931, Nelson and Winter 1982, Hodgson 1988), Ahmed and Scapens (2000) note that institutions have both enabling and constraining qualities. Although prevailing routines and institutions create stability, change is also ever-present. In consequence, “new ways of working can emerge from day-to-day activities, as economic actors modify their behaviors to cope with emerging problems and opportunities. Such change, however, will be shaped by the existing rules, routines and institutions.” (Ahmed and Scapens 2000 p. 168) Third, the changes occurring are not necessarily optimal. Hence, when the development of accounting systems is studied, it should be recognized that there is path dependency, rather than a convergence to some optimum (Ahmed and Scapens 2000). To assess this path dependency, Ahmed and Scapens (2000) trace back the historical development of cost allocation practices and rationales in Britain. By adopting the OIE perspective, they seek to explain the evolution of cost allocation systems that have been criticized by economists and academics to be arbitrary and irrational.

With the help of their analysis, Ahmed and Scapens (Ahmed and Scapens 2000) illustrate how certain accounting practices were adopted in Britain by the printing industry. Over the years, these accounting practices have evolved and have become diffused within industries, and finally leading government to use cost allocation as part of its economic control strategy. In consequence, the use of these practices was finally integrated into the framework of the law. Hence, in connection with the development of these accounting systems, “a complex nexus of practices, procedures, institutional arrangements and bodies of knowledge” also flourished (Hopwood 1992 p. 126), and through which cost allocation systems finally became institutionalized (Ahmed and Scapens 2000). That is, the evolution of these accounting systems did not happen only as an outcome of economic or technological change, but also because of broader social and institutional influences. This kind of development has rendered cost allocation systems to remain rather simple, routine, and repetitive, and thus, hold a reason to be criticized as arbitrary and irrational. (Ahmed and Scapens 2000)

Universal Darwinism in Management Accounting Research

Johansson and Siverbo's (2009) paper is another good example of OIE inspired (especially Veblen) theorizing in MA research. Johansson and Siverbo (2009) start by rephrasing Veblen's (1898) question: “Why is economics not an evolutionary science?” (p. 373). Simultaneously, as they argue that evolutionary perspectives should be better acknowledged in MA re-

search, they also recognize that although Veblen brought the key ideas of Darwinian evolutionary theory to economics, he never succeeded in building them into a systematic theoretical approach (Hodgson 2003, Hodgson 2004b). Johansson and Siverbo (2009) also acknowledge that the people (e.g., Hamilton, Commons and Ayers) who later developed American institutional economics did not emphasize evolutionary ideas that strongly. In consequence, after Veblen, evolutionary ideas became almost nonexistent until the 1980s with the publication of Nelson and Winter's (1982) seminal book. Although their work did not explicitly use Veblen's work as inspiration, Johansson and Siverbo (2009) note various significant similarities with the perceptions held by OIE researchers.

Johansson and Siverbo (2009) argue that research on management accounting change should also be based on (universal Darwinist) evolutionary theory. Although, Johansson and Siverbo (2009) acknowledge that a few MA scholars (Burns and Scapens 2000, Coad and Cullen 2006) have already underlined the importance of studying MAS change evolutionary processes, they claim that the full potential of evolutionary theory has not been sufficiently described or used in earlier MA research. To fill this gap, Johansson and Siverbo (2009) propose that management accounting development should be explained "as the interaction between the evolutionary sub processes of retention (inheritance), variation and selection" (p. 147). As the interaction between these sub processes determines MA evolution, both the stability and change of MAS can be seen as evolutionary outcomes (Johansson and Siverbo 2009).

To conclude, Johansson and Siverbo (2009) propose that OIE inspired MA research is still in need of "a higher order rationale, framework or theory that interconnects all the micro, time and context specific results that are produced and that provide us with the aggregated and abstracted coherent causal story as well as reveal common denominators at a higher level" (p. 159). For this purpose, they propose the use of universal Darwinist conceptualizations. Johansson and Siverbo (2009) further elaborate this need by highlighting that MA researchers have had the tendency to complement theories with others without "any overall idea of how these theories are related" (p. 159), thereby risking the development of actual knowledge creation.

4.3.2.2. New Institutional Economics in MA Research

In recent decades, the ideas of NIE have been highly acknowledged in different fields of science. The management accounting literature has been no exception, although the number of papers building on NIE has been, perhaps, slightly smaller than those claiming to draw from the foundations of OIE or NIS. Speklé (2001) suggests that this might be partly due to concerns regarding the level of analysis (typically organizations) in the MA literature. Scapens (2006) has recognized that early MA studies adopting transaction cost economics (a type of NIE) to study accounting related phenomena tended to differ from more recent studies. That is, whereas the early work was more strongly concerned with explaining the historical emer-

gence of accounting systems, more recent studies have drawn from TCE to explain the diversity in these systems. These tendencies can be best illustrated with a few focal MA studies.

Historical NIE in Management Accounting Research

Johnson's (1983) historical institutionalist paper is one of the first MA studies inspired by NIE (especially North, Thomas, and Williamson). Johnson (1983) begins by noting that although the development of accounting systems has been a focal topic in MA research, accounting historians have rarely explored the conditions underlying the emergence of accounting systems. To overcome this challenge, he explains the emergence of business companies and their management accounting practices with the help of self-interested (and boundedly rational) economic actors (North 1993, Williamson 1998b) seeking profit and economic efficiency. Johnson (1983) divides his NIE analysis on the emergence of companies and their accounting practices into four phases.

First, the origin of business companies is explained with the support of North and Thomas' early studies (e.g., North and Thomas 1970) on the economic growth of the western world. Johnson (1983) suggests that the institution of private property gave incentives for individuals to search for profit gaining possibilities, which then led to the development of trading networks. With the development of trading also emerged the need for accounting practices that benefitted the efficiency of transactions. As time passed, increased market demand encouraged merchants to create ways to increase market supply, which finally led to the emergence of factories in which merchants became employees. (Johnson 1983)

Second, factory organizers discovered the need for information on labor and other costs, which were related to their production as the prices were no longer determined by markets (Johnson 1983). Similar to the emergence of earlier accounting practices, this need for internal cost information was promoted by the organizers' self-interest. Internal accounting information presumably further inspired factory organizers to seek new ways to increase productivity.

Third was the emergence of vertically integrated companies, as the organizers acknowledged the potential of streamlining supply chains and controlling distribution markets. In consequence, they also developed new kinds of MA information to support this task, such as budgeting practices and return on investment calculations, which supported the coordination and balanced the operating capabilities of the separate departments. (Johnson 1983)

Fourth, multidivisional companies emerged as organizers searched for ways to improve their efficiency. Compared with earlier organizational forms, multidivisional companies allowed notably better information and controlling possibilities for organizers (Johnson 1983). Inside these multidivisional companies, divisional managers became more responsible for the success of their branches and hence, the multidivisional company itself became a competitive market system (Williamson 1975, Johnson 1983).

Transaction Cost Theory in Management Accounting Research

Speklé's (2001) paper adopts an organizational focus and adapts transaction cost economics to develop the theory on MCS structure. Speklé's (2001) argument is that MCS studies could benefit from stronger and more comprehensive perspectives when addressing the issue of control structure variety. To do this, he draws especially on the TCE writings of Williamson. The focus on TCE is justified because both the TCE and MCS literatures have a common interest in control structures and their choice. Speklé (2001) further notes that TCE has become a highly recognized theoretical perspective, and hence, transferring its insights to MCS research could be worth the effort.

As noted in the earlier review, TCE acknowledges that individuals have a few essential restrictions. That is, they are boundedly rational and susceptible to opportunism (Williamson 1985, Williamson 1994). Speklé (2001) further argues that given these imperfections in actors, the nature of organizational activities can be defined along three dimensions, which are derived from TCE (see e.g., Williamson 1985): the degree of asset specificity, uncertainty (the extent of programmability), and frequency (the intensity of ex post information impactedness). The degree of asset specificity refers to "the presence of opportunity losses that arise if the investments made to support the transaction are to be put to alternative uses or users" (Speklé 2001 p. 241). In general, four sub-types of asset specificity can be identified. These are site specificity, physical specificity, human specificity, and dedicated assets (Williamson 1985). Speklé (2001) connects uncertainty with the extent of programmability and further defines it as "the degree of specifiability of intended performance and predictability of (the influence of) the environment within which the contract is to be executed" (p. 241). Transactional uncertainty can stem, for example, from behavioral, communicational and technological factors (Williamson 1985, Dyer 1996). In general, the frequency of transactions has been seen to affect the benefits of specialized governance structures (Williamson 1985). Speklé (2001) does not provide a precise definition for the concept, but he notes that frequency intensifies the prevailing contraction problems, and thus, adds pressure to find a better solution. On the other hand, in the latter parts of the paper, the dimension of frequency is replaced with information impactedness, which he defines as "the possibility to transform in the process of execution of the activity a condition of ex ante uncertainty into a situation of shared understanding of what constitutes good performance and how such performance can be delivered" (p. 438).

After providing the three dimensions defining the state of organizational activities, Speklé (2001) continues by identifying five archetypes of organizational control: market control, arm's length control, machine control, exploratory control, and boundary control. These control archetypes are further connected with the abovementioned dimensions, by analytically evaluating their fit. As a conclusion, Speklé (2001) argues, for instance, that market control is connected with low asset specificity and it can prevail when uncertainty is either high or low. The arm's length control, in turn, is connected only with high levels of uncertainty. In addi-

tion, Speklé (2001) proposes that the arm's length control is most likely to prevail when the asset specificity is moderate. Machine control is also connected with high uncertainty. However, mechanistic control mechanisms are proposed as probable mainly when asset specificity is high. Exploratory and boundary controls, in turn, are situated in the circumstances characterized by low uncertainty and moderate to high asset specificity. Moreover, Speklé (2001) suggests that exploratory controls are most likely to be found when situations are characterized by low transactional frequency. When the transactions are more frequent, the boundary control archetype typically prevails.

4.3.2.3. Old Institutional Sociology in MA Research

As noted earlier, OIS is not typically recognized as an independent stream of institutional enquiry in the MA literature. Nevertheless, the theories that represent a continuum of the ideas of early institutional sociologists are widely acknowledged in MA. Giddens' structuration theory and the so-called Burns and Scapens model of accounting change have been some of the most widely applied theoretical bases to study MA change and stability from an institutional perspective. In consequence, it is possible to examine these approaches with the help of earlier reviews.

Structuration Theory in Management Accounting Research

Giddens' (1979, 1984) structuration theory has been very influential in MA research (e.g., Macintosh and Scapens 1990, Ahrens and Chapman 2002, Busco 2009). The theory was introduced to the accounting literature by Roberts and Scapens (1985) almost 30 years ago. A paper by Englund et al. (2011) reviews this stream of literature and come across 65 publications in 25 years that have made structuration theory one of the most dominant alternative approaches to study accounting practices. Besides reviewing the current state of the structuration theoretical literature in MA, Englund et al. (2011) address the major achievements and limitations of this literature, and provide some advice on how the stream could be advanced in the future.

Englund et al. (2011) start by pointing out three dominant ways to conceptualize accounting in studies drawing from structuration theory. First, accounting can be viewed as a social structure, which can be analyzed in terms of its signification, legitimation and domination capabilities. Second, accounting can be seen as an artifact when the focus of researchers is a certain accounting system and other artifacts (e.g., manuals, rules and reports) linked to this system. Third, accounting is sometimes seen as an interplay between structures and artifacts. Hence, although retaining some focus on accounting artifacts, the role of accounting as a social structure is also acknowledged. Regardless of the definition followed, MA researchers typically draw on Giddens' (1979, 1984) three general dimensions of structuration. Englund et al. (2011) further point out that in the MA literature, these dimensions have been interpreted in at least six different ways:

Accounting as signification structure

- Perceptual lens: cognitive scheme for interpreting reality
- Constitutive lens: language through which reality is socially constructed

Accounting as legitimation structure

- Window-dressing device: means of reflecting organizational and societal expectations
- Sanctioning device: means of sanctioning certain forms of actions

Accounting as domination structure

- Resource for domination: resource which may be drawn upon in the exercise of power
- Ideological mechanism: mechanism embedded in and constitutive of social relations

In general, studying accounting with the help of structuration theoretical perspectives has supported our understanding of it as an organizational phenomenon (see e.g., Macintosh and Scapens 1990, Granlund 2001, Ahrens and Chapman 2002). Englund et al. (2011) identify three contributions that have been mostly unique to a larger stream of accounting research. First, introducing the duality of structure into accounting research is seen as an important contribution because other attempts to substitute mainstream accounting research typically emphasize the structure of agency alone (Kilfoyle and Richardson 2011). Second, the recognition of three interrelated dimensions of structuration has supported researchers to explore accounting simultaneously as an “interpretive schema, a set of norms and ideals, and as a facilitator for the exercise of power” (Englund et al. 2011 p. 505). Third, they note that structuration theory has provided an ontological basis for theorizing both continuity and change in accounting practices.

In terms of limitations, Englund et al. (2011) especially highlight the lack of empirical achievements in structuration theoretical analyses. Moreover, this is seen as a general challenge with sociological approaches in the area of accounting research. To achieve the full potential of structuration theory, Englund et al. (2011) propose focusing research in three areas. First, they propose that future studies should focus on day-to-day processes where accounting practices are produced and re-produced. Second, researchers are encouraged to explicitly explore the sources of continuity and change in accounting practices. Finally, Englund et al. (2011) propose a greater emphasis on accounting artifacts, which have not typically received much attention.

Barley and Tolbert Framework in Management Accounting Research

Burns and Scapens’ (2000) study has provided an institutional framework that has influenced a number of MA scholars (e.g., Granlund 2001, Busco et al. 2006, Lukka 2007). Albeit drawing inspiration from various sources representing different streams of institutionalism (cf. Ribeiro and Scapens 2006), Burns and Scapens (2000) position their work mainly in the OIE camp. Here, having been informed and guided by the earlier review on the streams of institutionalisms in economics and sociology, this article is used as an example of OIS inspired research in MA. In essence, the paper by Burns and Scapens (2000) starts from a structuration

theoretical perspective (Scapens 2006) and adopts a version of Barley and Tolbert’s (1997) institutional framework to study management accounting change. Above, this branch of institutional research was situated in the OIS stream. Furthermore, the strong interest in institutionalization and the focus on institutions at the micro level both were recognized to characterize the OIS perspective.

Burns and Scapens (2000) conceptualize management accounting change as “change in organizational rules and routines” (p. 21). In other words, management accounting change happens at the level of modalities⁴¹ (cf. Giddens 1979, 1984) or scripts (cf. Barley and Tolbert 1997). Figure 19 represents the Burns and Scapens (2000) sequential model of management accounting change.

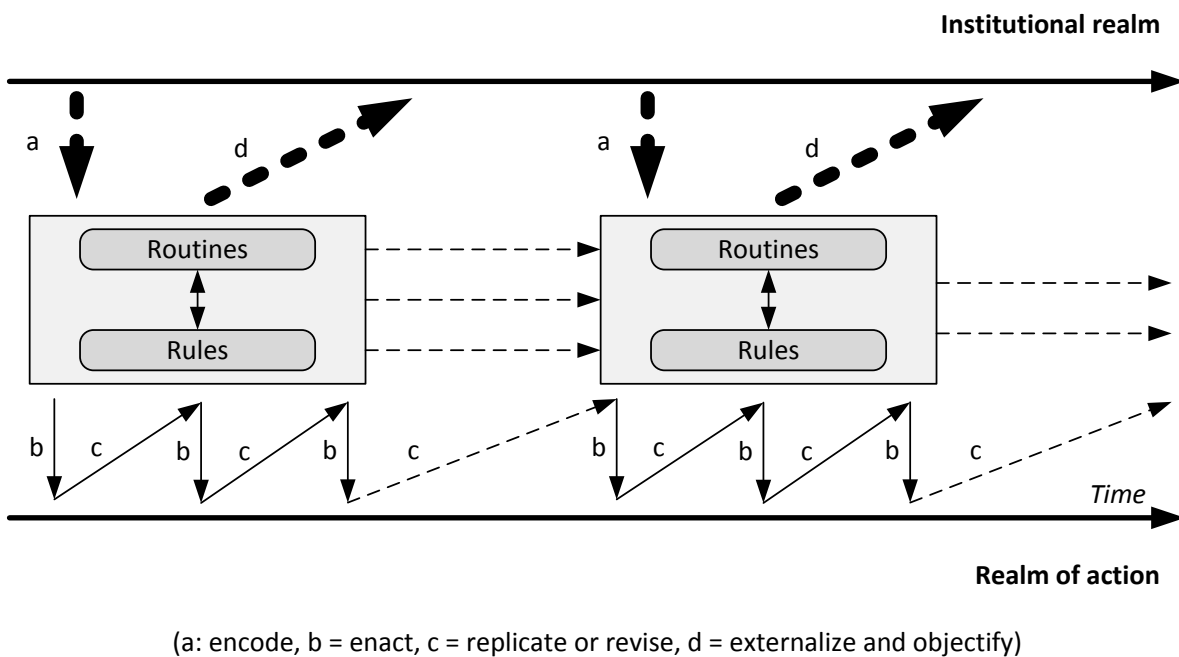


Figure 21. Sequential model of management accounting change (Burns and Scapens 2000)

As noted in Burns and Scapens (2000) definition, management accounting change composes of changes in the routines and rules of conducting MA. As Figure 19 illustrates, this change happens in constant interaction with actions and institutions—the two realms that change through time. The four processes illustrated with arrows are the same as those in Barley and Tolbert’s (1997) model. However, Burns and Scapens (2000) further argue that whereas insti-

⁴¹As Englund and Gerdin (2008) have noted, there is a lack of clarity on how mediating concepts are used in the MA literature. Sometimes, management accounting systems are referred to as modalities, which are drawn by actors to conduct their day-to-day actions. Every now and then, management accounting systems are also viewed as part of observable and recurrent social action. In this dissertation, it is argued that management accounting systems should not be connected solely with specific parts of structural dualism, as this would threaten the whole idea of structuration (cf. Ahrens and Chapman 2002).

tutions constrain and shape action (b and c) “at specific points in time” (p. 9), actions produce and reproduce institutions “through their cumulative influence over time” (p. 10). To illustrate the continuous nature of that interaction, Burns and Scapens (2000) use broad lines in arrows between the institutional realm and modalities (a and d).

In addition to adopting Barley and Tolbert’s (1997) model in the MA context, Burns and Scapens (2000) review old institutional economics and the evolutionary economic literature and identify three dichotomies, which are suggested as providing ways to classify and distinguish between different types of change processes: formal vs. informal change, revolutionary vs. evolutionary change, and regressive vs. progressive change. At the same time, they also underline that the highlighted dichotomies by no means constitute an exhaustive list of change mechanisms. Hence, Burns and Scapens (2000) end up providing a process model for MA change and three dichotomies that can be used to characterize the different types of MA change.

4.3.2.4. New Institutional Sociology in MA Research

NIS has become one of the most popular foundations to theorize MA adoption and changes thereafter (cf. Johansson and Siverbo 2009). To be more exact, MA scholars have drawn especially from the NIS literature to explain how the adoption of certain accounting tools and systems can be understood as a way to conform with surrounding institutions (Moll et al. 2006, Scapens 2006). Ribeiro and Scapens (2006) note two streams of NIS inspired MA literature. Whereas the first stream focuses on the issues of power and decoupling, the second stream is especially interested in institutional isomorphism. Once again, the two streams are illustrated with a few examples.

Power and Decoupling in Management Accounting Research

Early MA scholars influenced by NIS (e.g., Covalleski and Dirsmith 1983, 1986, Covalleski et al. 1993) have focused especially on issues of power and decoupling. The advocates of this stream argue that organizations often comply with institutional pressures, for example, by adopting certain accounting practices, in order to gain the legitimacy and hence, to secure their existence (Ribeiro and Scapens 2006). However, sometimes the adaptation is done mainly in order to gain power and achieve a certain political agenda. It is also possible that the adaptation to institutional pressures remains largely superficial, leaving formal and informal organizational facets only loosely coupled. Hence, the meaning of accounting systems can be at least as much in their ritualistic roles as in their ability to foster rationality (Covalleski et al. 1993).

OIS inspired MA research has studied accounting systems as a means to achieve power, for example, in cases of budgeting (Covalleski and Dirsmith 1986) and diagnostic related group (DRG) systems (Covalleski et al. 1993). In general, accounting systems have been found to be closely related to the power and politics of organizational life. By studying the budgeting pro-

cesses of six hospitals, Covaleski and Dirsmith (1986) remark that budgeting systems reflect “interests in political bargaining processes and maintaining existing power relationships” (p. 195). Continuing in the healthcare context, Covaleski et al. (1993) identify both extra and intraorganizational politics and power struggles. The motivation to conform to external pressures by adopting DRGs is seen to lie in the hospitals’ aspiration to secure their resources (i.e., federal and other third-party payments). Inside the hospitals, DRGs are, in turn, used to redistribute power. Whereas physicians have traditionally been highly autonomous, DRGs can now be used to strengthen the power of hospital administration (Covaleski et al. 1993). Nevertheless, as Covaleski and Dirsmith (1986) highlight, the intentional use of accounting systems as political devices is not necessary for their existence.

Loose coupling/decoupling between formal “image structure” and the actual workings of an organization has been another interesting topic in OIS inspired MA research. Generally, rationalized procedures support an organization only by enhancing its appearance if these procedures are not part of the organization’s actual operation structure (Carruthers 1995). In consequence, a decoupled accounting system may have no effect on organizational performance. On the other hand, based on the writings of Meyer and Rowan (1977), Covaleski and Dirsmith (1983) suggest that decoupling may benefit the organization. First, “the presumption that the formal image structure really works is insulated from the anomalies and unstandardized processes peculiar to its technical work processes” (p. 333). Second, “conflicts among subunits and between subunits and the institutional level of the organization are minimized” (p. 333). Hence, Covaleski and Dirsmith (1983) suggest that practitioners should recognize the need for this kind of decoupling and actively seek to maintain it.

Institutional Isomorphism in Management Accounting Research

Some NIS inspired MA scholars (e.g., Granlund and Lukka 1998, Hussain and Hoque 2002, Rautiainen 2008) have drawn more explicitly on DiMaggio and Powel’s (1983) model of institutional isomorphism in their MA studies. In consequence, these authors have focused especially on the coercive, normative and mimetic causes of organizational convergence. In addition, the authors recognize the prevalence of “economic pressures” (Granlund and Lukka 1998), “economic factors” (Hussain and Hoque 2002) or “rational” reasons (Rautiainen 2008) driving accounting change. This stream of research stems at least partially from the fact that when studying organizations, scholars often face more similarities than differences although differences typically receive greater emphasis in analyses (Granlund and Lukka 1998).

Economic pressures are generally seen to have an impact on managers’ needs for accounting information (Granlund and Lukka 1998, Hussain and Hoque 2002, Rautiainen 2008). Granlund and Lukka (1998) have further identified three sources of economic pressures that generate similarities in MA practices, namely, commonly experienced economic fluctuations, intensifying globalization, changes in production and information technology.

In the MA context, DiMaggio and Powell's (1983) three isomorphic processes are studied in light of their effect on accounting practices. In general, coercive pressures for convergence result from the regulatory force of coercive authorities (DiMaggio and Powell 1983). Granlund and Lukka (1998) note that in the case of management accounting practice, the international harmonization of financial accounting legislation and the transnational nature of many corporations have meant that both financial and management accounting practices converge globally.

Mimetic pressures, in turn, are caused by the social-cognitive nature of human behavior, which is emphasized especially under uncertainty as a vehicle to gain legitimacy (DiMaggio and Powell 1983). Granlund and Lukka (1998) suggest that companies working under uncertain conditions copy well-known and appreciated operating methods, especially from companies that are particularly successful.

Finally, normative pressures result from professionalization, which defines certain social obligations and rules for appropriate social conduct (DiMaggio and Powell 1983). According to Granlund and Lukka (1998), the pressures stemming from professionalization are especially important drivers for MA homogenization. Following management accounting professionalization, certain ideas and practices (e.g., activity based costing, balanced scorecards and nonfinancial measures) have been adopted across industries. Granlund and Lukka (1998) further remark that professionalization does not engender similarities between companies, but offers a medium through which that similarity spreads from one organization to another.

4.3.3. Institutional Theory in this Study

In the above presentation, four streams of institutional thought (OIE, NIE, OIS, and NIS) are recognized as particularly influential for management accounting research. Although these approaches share a common interest in institutions, there are also strong differences between them. Therefore, before analyzing MAS usefulness with the help of institutional theory, there is a need to define and justify the institutional approach applied in the remainder of this dissertation.

Much institutional theoretical discussion has drawn its inspirations from the writings of early OIE scholars. OIE emphasizes the naturalist aspects of economic behavior by underlining the importance of studying social institutions shaping that behavior (Moll et al. 2006). At the beginning of the 20th century, OIE managed to gain a very broad endorsement. However, it has been broadly criticized since its early developments. Much of this criticism stems from OIE's claimed inability to provide sufficient theoretical foundations for analysis (cf. Hodgson 1989, Williamson 1998a). In the management accounting literature, OIE traditions tend to follow historical analyses illustrating the development of certain accounting practices (e.g., Ahmed and Scapens 2000). Moreover, as early institutional economists emphasized the evolutionary nature of economic processes, some MA studies (e.g., Johansson and Siverbo 2009) drawing

from evolutionary economics can be seen to continue the OIE tradition. Although OIE clearly provides a natural perspective, its ability to offer tangible support for the analysis of MAS usefulness in organizational settings has been regarded as insufficient. While it is easy to agree on the importance of social institutions and to accept that they are constituted from habits, routines, and rules (cf. Mäki 1993), a definition of MAS usefulness drawing mainly on these concepts would be overly general.

NIE is perhaps the most widely recognized stream of institutional research. This acceptance stems from its compliance, at least in part, with “mainstream” neoclassical economic assumptions. Nevertheless, NIE has managed to push the traditional neoclassical assumptions forward (cf. Langlois 1989, Ménard and Shirley 2005). In the management accounting literature, NIE perspectives have been adopted, for instance, to study the historical development of MA practices (Johnson 1983) and to explain the emergence of certain types of MCS structures by using transaction cost theory (Speklé 2001). Overall, NIE perspectives, in many ways, retain rationalist underpinnings. Hence, although these perspectives have already provided a number of interesting findings, arguably, they do not sufficiently supplement our understandings of the natural aspects of MAS usefulness.

Although the NIS stream is still relatively new, it has become widely adopted both in organization studies and in the management accounting literature. NIS advocates have acknowledged that organizations actually have many similarities, their practices are quite stable, and they aim to gain legitimacy (cf. Oliver 1991, Selznick 1996). In consequence, the homogeneity of organizations has become a peculiar theme in this stream of institutional research. In the MA literature, NIS inspired research has been the most rapidly growing stream of institutional research. With the help of NIS perspectives, MA scholars have, for example, illustrated how formal and informal practices are decoupled from each other (e.g., Covalleski and Dirsmith 1983, 1986, Covalleski et al. 1993) and how accounting practices are becoming increasingly similar (e.g., Granlund and Lukka 1998, Hussain and Hoque 2002, Rautiainen 2008). As NIS inspired research has strongly focused on explaining why organizations and their management accounting practices have become increasingly similar, this theoretical basis does not seem to be appropriate when the aim is to explain why sometimes different management accounting systems can be seen as useful.

OIS comprises of a wide and varied body of research. One reason for this probably stems from the fact that OIS has been primarily defined by what the stream is not about (cf. Powell and DiMaggio 1991). Nevertheless, it has been recognized that OIS studies often share a common emphasis on the natural aspects of organizational behavior (Powell and DiMaggio 1991, Goodin 1996, Scott 2008). As the object of the institutional perspective in this study is to shed light on the natural aspects, this emphasis has been embraced.

In general, the MA change literature aims to create knowledge broadly on “whether management accounting has not changed, has changed, or should change” (Burns and Scapens 2000

p. 3). Much of this literature draws on perspectives that are closely connected with the OIS stream of institutional research. For example, Giddens' (1979, 1984) structuration theory and Burns and Scapens' (Burns and Scapens 2000) framework have been some of the most influential foundations for the MA change literature. Compliance with these well-established streams of research also provide concrete foundations for this dissertation⁴².

In this dissertation, structuration theory is employed in the analysis of MAS usefulness from a natural perspective. Giddens' (1979, 1984) structuration theory is one of the dominant approaches to study different organizational phenomena. In the past, the structuration theoretical basis has been also widely used to examine organizational adoption of different kinds of technologies (see e.g., Barley 1986, Orlikowski 1992, DeSanctis and Poole 1994), including management accounting systems (Englund et al. 2011). While these technologies are a product of human action, they also assume certain structural properties (Orlikowski 1992). From the structuration theoretical perspective, the usefulness of technology, such as MAS, can be seen to relate to their ability to enter into scripts and further to the institutional realm of organization (Barley 1986). In other words, usefulness relates to the ability of MAS to become part of the organizational structure. As the notion of duality indicates, this process can either be fostered or restricted by already established structures (Barley 1986). Because of these structures, "people adapt systems to their particular work needs, or they resist them or fail to use them at all" (DeSanctis and Poole 1994 p. 122).

Although, some recent developments were recognized in the structuration theoretical literature (e.g. Archer 1982, Thompson 1989, Stones 2005), in here, a rather traditional view on structuration theory is adopted. The choice to focus on traditional aspects of structuration theory has been done in an attempt to avoid misleading the discussion of the main argument of this study. That is, structuration theory is drawn here simply to support the analysis of natural aspects of MAS usefulness. Based on structuration theory, people create and recreate the elements of social interaction when they act in organizations (Giddens 1984, Orlikowski 1992). These elements of social interaction can be divided, for analytical purposes, into three dimensions of structuration (signification, legitimation, and domination) (see Figure 17). In this dissertation, these dimensions are used as a lens to examine the natural aspects of MAS usefulness.

⁴² The in-depth analysis reveals that Burns and Scapens' (2000) framework draws strongly on Giddens' ideas about the duality of structure. However, the framework puts further emphasis on the processual nature of institutional change (cf. Barley 1986, Barley and Tolbert 1997, Burns and Scapens 2000).

5. Empirical Examination

This chapter seeks to validate and refine the earlier theoretical conceptualization of MAS⁴³ usefulness with the help of two case studies. In both cases, the usefulness of management accounting systems is examined by drawing from MAS development processes from which the researchers have collaborated with providing companies. The aim of these providers is to develop accounting systems to support discussions with their customers. As the purpose of these systems is primarily to support an understanding of how supplier alternatives would affect customer operations, the potential customer perspective on MAS usefulness is also emphasized.

5.1. Introduction to the Case Studies

In the case analysis, MAS usefulness is examined by recognizing both rational and natural perspectives as formulated in the above chapters. That is, the usefulness of MAS is examined in light of contingency and structuration theoretical aspects in two different contexts. The purpose of this section is to illustrate the actual possibility and feasibility of the theoretical argument of the dissertation, and at the same time, to gain knowledge on management accounting change processes. In addition, the case observations are considered in order to determine the possible weaknesses of the conceptualization.

The case studies originated from work in the Supplier Selection and Profitability Management (SuPro) research project, which commenced at the beginning of 2010 through to September 2012. Both cases were defined by the principal companies, which offer products to customers. The goal of both case companies was to acquire MA systems that could be used to support discussions between their sales functions and customer procurement. Furthermore, in both cases, the author and his colleagues were involved in MAS development from the start, and they were able to follow it until the first phases of adoption. Hence, because of the long collaboration with companies, it was possible to gather in-depth insights on how the usefulness of accounting systems was constructed in sales and procurement contexts. As the empirical part of the dissertation included two cases with various units of analysis, the research can be further labeled an embedded (multiple units of analysis) multiple case study (Yin 1994).

⁴³ As noted in the conceptual analysis, separating management accounting tools and systems is somewhat complicated. When a tool or set of tools are labeled as a system, it appears to be a somewhat arbitrary decision, at least from the perspective of a narrowly limited organizational entity, e.g., sales or procurement. In the empirical analysis of this dissertation, the term “tool” is used to refer to concrete accounting artifacts in the case companies. The use of the term MAS is, in turn, reserved to refer more generally to the idea of such artifacts.

During the project, there was in total 77 recorded events (workshops, interviews and other meetings) on all except three, the author participated by himself. The majority of these events (n=44) related inherently with MAS development work done in case companies. The other project events (n=24) focused on building more general understanding on the context of sales and procurement. In addition, there was a seminar event and eight project steering meetings where the members of the case organizations also participated. Typically, two hours were reserved, in prior, to conduct the workshop meetings and interviews. However, the actual length of these events varied a bit, reaching from little less than one hour to almost two and a half hours, depending on the amount of issues to discuss. Quite often, the discussions began and/or continued in a rather informal manner, for instance, while having coffee or dinner.

Empirically, this dissertation has focused on accounting toolsets that are found at the interface of sales and procurement. In this context, the toolsets can also be seen as customer procurement or provider sales management accounting systems. In practice, the accounting systems were simply collections of calculations in Excel spreadsheets to support communication in different forms in business relationships. In both cases, the systems focused on certain products/services. These will be described in greater detail in connection with the cases. The calculations, in turn, were dedicated to build an understanding of how customer offering affected the economic and qualitative value perceived by customers. As there were slight differences in how the accounting development projects advanced, the steps in the development processes will be displayed in greater detail in the case descriptions presented next.

The cases presented both similarities and differences. First, the organizations and their contexts diverged significantly. Although the common denominator in the cases was that the case products (industrial services, software development tools) could be characterized as services, the relevant product characteristics, customer expectations towards the products and the competitive positions of the case companies differed. Second, the institutional surroundings of the case companies also presented some remarkable differences. Individual habits, organizational culture, and traditions relating to doing business diverged between the cases. On the other hand, both cases were influenced by Finnish culture, and hence, the cases naturally shared some national characteristics. In general, the differences provided a possibility of a case-by-case reflection on the findings, and thus, to understand the usefulness of MAS more profoundly.

5.2. Case A: MAS Usefulness in an Industrial Service Context

The first case introduced an MAS development project, which yielded a supplier evaluation tool that was not adopted. In this case, the rational aspects emphasized the potential usefulness of the evaluation tool. On the other hand, the adoption of the evaluation tool was hindered by the ill-fitting of these new accounting practices with the natural aspects prevailing in the organizational context. Nevertheless, during the development project, the case organiza-

tion began recognizing the growing need for more systematic practices in sales discussions, implying the possibility of institutional changes.

5.2.1. Case Backgrounds

The first case study of this dissertation took place in an industrial service context. The field study on this case started in March of 2010 and continued until April of 2012. The communication between the case company representatives and the researcher continued after the field study, and thus, it was possible to get supplementary data whenever necessary. The empirical data consisted of both formal and informal discussions such as interviews, workshops, e-mails and phone calls with relevant stakeholders (representatives of the principal company and its customers) in the case context and the observations related to these discussions. The number of recorded workshop meetings and interviews regarding accounting development in Case A was 25. Twenty of these meetings and interviews were held with the members of the principal company. These included the CEO, the financial manager, the service development manager, the service development engineer, and a number of salesmen with different areas of expertise. Most of these meetings (n=15) were participated (at least) by the service development manager and/or a sales person focused on industrial maintenance sales. The meetings with customer representatives (n=5) were typically more interview-like. An exception on this was the pilot testing of accounting system, where the principal company's sales person (focusing on industrial maintenance sales) also took part. In addition, the data included archival material, such as related professional literature, masters and MBA theses, sales and marketing material, internal and external presentations. As highlighted earlier, archival data was used by the researcher to become familiar with the case company.

The principal company (IndServ) in the first case was a medium-sized provider of machine tools, industrial automation, and related after sales, operating mainly in Finnish markets. A few years ago, IndServ was mainly a "project house" providing capital goods for its customers. During the past few years, the company endeavored to expand the share of offered services. With the help of industrial maintenance services, the company sought steadier cash flows, which helped it survive in more challenging periods when the demand for capital goods slumped.

Industrial Maintenance Services

The role of maintenance is to keep capital investments running and in competitive shape (Korniloff et al. 2010). In its broader definition, the concept of maintenance includes all the "technical, administrative and managerial actions during the life cycle of an item intended to keep it in, or restore it to a state in which it can perform the required function" (Komonen 2002 p. 15). Often, the distinction is further made between corrective (based on breakups) and preventive maintenance (condition based or scheduled) (Komonen 2002, for conceptualizations of maintenance see e.g., Waeyenbergh and Pintelon 2002).

Globally, maintenance costs constitute a very significant share of nations' GDP. Although the exact numbers are difficult to find, estimates have suggested that globally, the maintenance sector is worth about nine percent of GDP (Tilastokeskus 2012). In Finland, the figure is slightly higher as it has been estimated that the maintenance sector hovers at around 11 percent of GDP (based on 2007 figures, Kunnossapitoyhdistys 2007, Tilastokeskus 2012). However, it should be underlined that maintenance services in an industrial context comprise only about 30 percent of all revenues in maintenance services (including e.g., agriculture, housing and public services) (Kunnossapitoyhdistys 2007). The costs of industrial maintenance have been studied in Finnish industries in more detail by Komonen et al. (2010). The columns of Table 7 illustrate moving averages over four consecutive years. Komonen et al. (2010) have used averaging because the use of moving averages helps filter out random noise from the data. In addition, the use of moving averages shows the changes in trends.

Table 7. Maintenance costs in Finnish industries (adapted from Komonen et al. 2010)

	2000– 2003	2001– 2004	2002– 2005	2003– 2006	2004– 2007	2005– 2008
Maintenance costs / Factory replacement value (%)	3.31	3.35	3.28	3.04	2.76	2.76
Total degree of usability (0–100 %)	89.69	89.14	88.61	87.32	83.73	83.19
Share of preventative maintenance (0–100 %)	37.46	36.98	35.56	36.87	36.65	36.46
Share of maintenance personnel training hours (0–100 %)	2.05	2.20	2.45	2.25	2.42	2.55

As Table 7 illustrates, maintenance costs have typically amounted to about three percent of factory repurchasing value. The numbers also suggest that the share of maintenance costs have been decreasing slightly. The machine manufacturing industry has certain distinctive characteristics. Korniloff et al. (2010) note that the average maintenance costs in machine manufacturing are somewhat lower than in other fields of industry. The share of unscheduled maintenance and the average repair time are also higher in machine manufacturing than the industrial average.

The Aim of the Focal Company

As mentioned, the principal company aimed to expand the relative share of industrial maintenance services in its offering. To succeed in this task, the prevailing customer needs and the characteristics of services provided by IndServ should meet. From the perspective of IndServ, their industrial maintenance services should be very competitive. However, they also acknowledged that not all potential customers shared this view. In order to develop the understanding about their customers' needs and expectations and to argue the value of services to

customers, IndServ aspired to develop management accounting tools that could be used to support discussions with customer companies' procurement function.

Previously, IndServ developed machine tool and industrial automation investment calculations to support discussions with customers. The purpose of this accounting tool was to help customer representatives to highlight and value differences between different investment options and to link these characteristics with their operations and economic performance. At the same time, IndServ could gain an understanding of its customers' needs. Although the actual use of this evaluation tool was quite low, the potential of such practices were recognized in the company. In addition, the evaluation tool already had some positive feedback both internally and from customers. These positive experiences with the tool encouraged the company to develop tools to support the evaluation of industrial maintenance services.

Industrial maintenance services constitute a highly competitive field of business with a wide group of miscellaneous actors operating. Irrespective of the differences dominating maintenance services, the service provider selections of Finnish machine manufacturers are often strongly based on the price. Although the significance of the price element is often emphasized in customers' decision-making, the costs of the maintenance service are typically only a small part of the total costs of the workshop. One of the most important reasons for making decisions based on the (hourly) price is the difficulty of comparing maintenance service providers. Because IndServ's strengths were mainly in other service characteristics than in price, the company perceived that the evaluation tool could be used to highlight these features.

The practical needs for an evaluation tool were disclosed in comments by IndServ's service development and sales personnel. The service development manager wanted to ensure that IndServ was offering the right services for the right customers. "All the customers are looking for different things—we need to make sure that our values match theirs." Sales personnel, on the other hand, thought that "it is depressing just to sell an hourly price." A salesperson also pointed out that some important aspects are neglected in discussions with customers as "nowadays we are jumping straight to operative stuff although we should, once in a while, look at things from the helicopter perspective." As a result, IndServ started to develop an evaluation tool to support procurement decision-making.

5.2.2. Accounting Development

The researchers (including the author) started to develop a supplier evaluation tool filling the prevailing need in collaboration with IndServ personnel. The active participation in MAS development enabled access to observe the development process, not just from a grandstand view, but from the center of the action.

The aim of the research intervention was to gain an in-depth understanding of the possibilities and challenges of accounting information used in an industrial maintenance context. With the help of the study, the researchers were able to build knowledge, for example, on the criteria

related to maintenance provider selection, the methods supporting supplier evaluation and selection, and on the supplier switches in this context. However, in respect of this dissertation, the matter of importance was the nature of MAS usefulness in the case environment.

The research intervention made in this case was the researchers' support in the maintenance supplier evaluation tool development. The development of a new evaluation tool began by analyzing IndServ's experiences from their earlier investment calculation model. However, at the start it was evident that the characteristics of maintenance services were difficult to change into the form of an investment calculation. Instead of providing support for MAS development, the analyses raised new questions. First, what are those characteristics (or attributes) of industrial maintenance services that should be included into the new accounting tool? Second, what kind of technical structure should the tool have in order to be able to include these characteristics?

Phase 1: Creating the Initial Evaluation Tool

There was already a preliminary idea about the answer to the first question at IndServ. The personnel working in interaction with customers identified certain maintenance service characteristics in which customers were typically interested. Earlier, a few masters and MBA theses related to maintenance services were conducted at IndServ, which provided some additional support for answering the question. Besides gathering the ideas that prevailed at IndServ, the researchers acquired customer perspectives by conducting interviews in four customer companies. It was further decided that this empirical material would be supplemented with findings from the broad academic literature on supplier selection attributes (e.g., Parasuraman et al. 1985, Kotler 1997, Şen et al. 2008). To provide a consistent and conclusive image of the characteristics of industrial maintenance services, the researchers further synthesized the findings on the characteristics. Finally, the characteristics included in the evaluation tool were selected in workshops kept with IndServ sales and service development personnel. A distinctive quality of selected characteristics was that many of them (e.g., knowhow, reporting, spare part availability) were very challenging to evaluate and quantify.

Following this, there was a need to develop the evaluation tool calculation structure. In other words, an answer was now being sought for the second question. The researchers supported this step of evaluation tool development by introducing a variety of supplier evaluation methods presented in the supplier selection literature (for supplier selection methods, see e.g., Weber et al. 1991, de Boer et al. 2001, Ho et al. 2010) for IndServ sales and service development personnel. The researchers suggested the possibility of using multi criteria decision-making methods. The researchers prepared examples of the five popular MCDA methods, linear weighting method, weighted product method, analytical hierarchy process, PROMETHEE, and total cost of ownership, by using Microsoft Excel spreadsheets. Once again, the examples were demonstrated in workshop meetings. During the workshops, the data input and calculations related to the utilization of each method, were systematically introduced to workshop

participants. Although, the methods were accessed in three workshops, the comments received and observable behaviors were quite similar.

Based on the workshops, the total maintenance cost estimation, taking advantage of both qualitative and quantitative parameters, was constructed into the form of an evaluation tool. Besides yearly maintenance costs, the evaluation tool constituted of simple (weighted sum method) evaluations focusing solely on qualitative maintenance service characteristics. However, before pilot testing the evaluation tool with actual customers, the tool required various iteration rounds, which were done over three months between April and June of 2011. After careful internal testing, the tool was finally approved for testing in discussions with actual customers.

Phase 2: Pilot Testing and Further Development of Evaluation Tool

The pilot testing of the evaluation tool was done in sales discussions with a medium-sized customer company. The customer company had previously used IndServ's industrial maintenance services in situations in which its old maintenance service provider was not able to provide capacity or the necessary knowledge. Specifically, when this one-man maintenance service provider was retiring, the customer company was in need of other options. As IndServ and the potential customer had already collaborated, the customer was seen as a secure place for testing. In other words, a failed piloting would probably not harm the relationship between the companies. Participation in the pilot included IndServ's salesman and two customer representatives (CEO and development manager of the company). In addition, the two researchers were able to participate.

The pilot testing of the evaluation tool lasted nearly two hours. During the testing, it was also evident that certain elements of the evaluation tool were too complicated to answer without sufficient prerequisites. Overall, it was evident that the evaluation tool required too much customer effort. However, the tool was seen to include "all the right elements."

The experiences from the customer piloting generated large-scale changes to the evaluation tool, which were put in place at the start of 2012. The changes primarily aimed to make the tool simpler and hence faster to use. The general guideline for simplifying the tool was that it should be presentable within the space limits of two A4 pages, as it previously took about five times as much. Simplicity was mainly achieved by reducing the need to customize the evaluation. This, in turn, meant including stronger presumptions into the evaluation tool. For example, the possibility to change the number and type of evaluated maintenance service characteristics was also removed. Customer characteristics such as integrity, openness, and personal relations were discarded from the piloted tool as speaking on them was seen as taboo. As a salesman noted on the nature of services: "It matters that you go to the same trotting races that they [customers] do. There are those other aspects of society. You have, for instance, kids in the same schools." Nevertheless, when acting in their profession, people try to hide these as-

pects. In addition, the salesman noted that in case of machine sales, the decisions are “mostly based on cold facts such as, the price is that, the machine can be used to make those items, the delivery time is...” Perhaps the most obvious change was the transformation of the evaluation tool structure and appearance to resemble “the list of machinery” that had already been used in support of customer discussions. This change emphasized especially the knowhow of service providers, which was evaluated in light of every machine by dividing it further into three sub-areas of maintenance service provider knowhow. In addition, the quality of maintenance provider spare part service was a second item evaluated machine by machine. Although these changes made the evaluation tool more complex, this evaluation tool structure was seen to fit better with routines already prevailing in customer discussions.

Phase 3: The Adoption of the Evaluation Tool

After the changes stemming from the end-user feedback were made, the obvious next step was the use of the tool in customer discussions. The adaption of the evaluation tool was however continuously delayed. When the IndServ sales personnel were asked how they saw the tool and how its use could be promoted, the true nature of MAS usefulness started to emerge. As one salesman stated, “the things in there [evaluation tool]—those are right things, those are important.” When further asked why the evaluation tool was not used, the answer was simply: “I don’t know. Could it be just the nature of people in this field of business that filling the forms does not feel convenient?” This comment, for instance, illustrated that the problem was not simply technical issues related to the evaluation tool, but rather that the use of accounting information did not belong in maintenance service sales discussions.

At the beginning of the evaluation tool development, it was implied that the earlier investment calculation tool was actually adopted to support machine tools and industrial automation sales discussions with customers. In the later phases of the case study, it became evident that the use of the investment calculation tool had also been an exception rather than a common way of conduct. Overall, the challenges of MAS usefulness seemed to extend beyond industrial maintenance services. What follows is a more detailed discussion of the nature of MAS usefulness in this case.

5.2.3. Findings on Usefulness

The Rational Perspective: Internal Contingencies

At the beginning of the development project, adapting the evaluation tool for final use seemed to be an obvious final step in order to capture at least some of the most important aspects related to industrial maintenance provider selection. Importantly, various rational aspects supported the idea of adopting the evaluation tool for actual use. In fact, IndServ perceived the need to invoke the rationality of their customers to get them to acknowledge more broadly the maintenance service characteristics affecting their efficiency. In addition, a significant cluster of customers was considered to be well-suited for the evaluation tool. Table 8 illustrates in

more detail how the three typical (mainly customer related) internal contingencies affected the usefulness of MAS.

Table 8. Internal contingencies related to MAS usefulness in Case A

Technology	Size	Organization structure
<p>When customer machinery mainly constitutes stand-alone machines, breakdowns do not critically affect the entire production process. When <i>machinery is more strongly interrelated</i>, the significance of maintenance breaks, and <i>the potential usefulness of related accounting information, increase</i>.</p> <p>In organizations with excess capacity, for example, machines in reserve, maintenance breaks do not have a significant effect on customers. Especially in such organizations <i>where there are critical (bottleneck) machines</i>, the significance of maintenance breaks and <i>the usefulness of related accounting information increase</i>.</p> <p>When the productivity of individual machines is low, the significance of maintenance breaks is also lower. On the other hand, <i>when there are efficient and fast multi-tasking machines</i>, the significance of maintenance becomes higher as breaks can result in the paralyzation of the entire production system. In this kind of setting, <i>the potential usefulness of accounting information increases</i>.</p>	<p>When the size of an organization is small, the link between maintenance and customer profitability becomes evident. Hence, in order for accounting information to be seen as useful, the organization “needs to be more complex than ten (10) machines.” That is, <i>when the number of machines increases, it also raises the potential usefulness of accounting information</i>.</p> <p>Customers with a small number of personnel (and machines) only contract for basic maintenance, and call for repairs when machines break down. <i>With larger customer organizations</i>, it is more common to have closer relationships. For example, a group of service personnel might be located within a customer’s facility. This requires stronger commitments and larger investments in the relationship from both parties. Hence, when the size of a customer organization is larger, <i>the potential usefulness of accounting information is higher</i>.</p>	<p>When the hierarchy of the organization is low, personnel are better able to make independent decisions. Conversely, in hierarchical organizations there is typically a greater need to justify decisions made. In order for accounting information to be useful, the organization should have “at least separated the tasks of production manager and CEO to different people.” Thus, <i>higher levels of hierarchy increase the potential usefulness of accounting information</i>.</p>

Overall, IndServ’s customers differed significantly when analyzed on the basis of the three organizational contingencies (Table 8). From the perspective of technology, customers differed based on the type of production machinery, the level of automation, and the number of interdependencies in production. Together, these aspects affected the criticality of service breaks, and thus, the importance of maintenance for customers. That is, while the link between the technology of the customer company and the usefulness of the evaluation tool was

not direct, it was mediated through the importance of machinery maintenance. Hence, the evaluation tool was perceived to be useful especially in discussions with customers for whom maintenance was a matter of importance. When the importance of machinery maintenance was insignificant, the choice of the service provider was not that important.

The customers also differed in terms of size, ranging from small entrepreneurs employing themselves and a couple of workers, to large corporations having hundreds or even thousands of workers. In these companies, the number of workers and machines typically coincided. Necessary information for the evaluation tool was typically found in larger companies. In small companies, decision-makers were generally better able to get a rather good image about the usability of machines without the use of specific tools. On the other hand, in larger companies the use of information systems was often needed to form an overview about the situation. In addition, the relationships with large customers were often closer than with smaller ones. For example, the service provider might be obligated to be on duty in the event of machine breakdowns. This kind of arrangement required a strong commitment from both customer and provider, and hence, the provider selection decision should be more careful. Consequently, the evaluation tool was perceived to be more useful with larger customers than with smaller ones.

The complexity of organization structure and the size of the organization seemed to be linked to some extent in the case context. Typically, the larger the customer company the more hierarchical the organization structure. In small organizations managed often by the owner-CEO, it was usually sufficient to convince this one person. In larger organizations, there was typically a need for broader approval, which can be gained, for example, with the use of accounting information. Overall, the evaluation tool supporting industrial maintenance service provider selection was perceived to be useful for customers with a greater hierarchical organization structure.

The Rational Perspective: External Contingencies

The abovementioned illustrated the prevalence of a significant cluster of customers who could perceive the evaluation tool to be useful, and hence, with whom the evaluation tool could be used in sales discussions. In terms of organizational contingencies, especially the customers' high level of technology, large size, and complexity of organizational structure were connected to the potential usefulness of accounting information. On the other hand, the competitive environment affected the usefulness of the industrial maintenance service provider evaluation tool. Table 9 illustrates in more detail the fit of the evaluation tool in the business environment (markets).

Table 9. External contingencies related to MAS usefulness in Case A

Munificence	Dynamism	Complexity
<p><i>When market munificence is low (i.e., the market's ability to sustain growth is small), there is a higher need to stand out from the mass of rivals. When munificence is high, providers do not need to make a great effort to survive. In addition, a large number of alternatives increase customers' need to compare different providers. In turn, when there are merely a few providers, the supplier selection decision becomes easier. Hence, the strength of competition relates to higher accounting information usefulness.</i></p>	<p><i>When market dynamism is high (i.e., market changes that occur unpredictably in the absence of identifiable patterns), there is a constant need for customers to evaluate the feasibility of their current supplier. However, market dynamism—by definition—means that the evaluation cannot provide concrete support for decision-making. In consequence, <i>there does not appear to be a clear connection between market dynamism and the potential usefulness of accounting information.</i></i></p>	<p><i>When market complexity is high (i.e., markets hold a wide variety of heterogeneous actors performing a range of activities), the consequence of selecting one provider over another becomes more crucial for customers. In case of low complexity, service provider selection becomes less important. High complexity also increases a provider's need to demonstrate how its offering is better than that of its rivals. To summarize, higher market complexity increases the usefulness of accounting information.</i></p>

As with internal contingencies, the contingencies of the competitive environment (Table 9) highlighted the usefulness of the industrial maintenance evaluation tool in sales discussions. It was recognized that environmental munificence negatively affected the usefulness of accounting information. Besides a few exceptions, there was strong competition (low munificence) in the industrial maintenance service markets. The strength of competition was also one of the main drivers pushing IndServ to start the tool development evaluation. Typically, strong competition meant that there were many providers in the same market area. The larger number of providers, in turn, resulted in customers' supplier selection challenges, hence increasing the usefulness of accounting information. In line with this logic, the high number of service providers was connected with the usefulness of the evaluation tool. For example, on some occasions when there were local monopolies, the evaluation tool did not provide considerable value for customers. This was further clarified when an IndServ salesman told a story of a certain market area, where a potential customer reported that s/he would gladly select any other supplier except their present one if that were possible at their location. However, this was not possible because of the geographical distance.

In spite of strong competition, the nature of offerings from industrial maintenance services lacked dynamism. Changes mainly occurred when an established customer base was newly distributed by old service providers. In the first instance, industrial maintenance services appeared to have a low arrival threshold, especially when viewed from the perspective of capital intensive investments. On the other hand, industrial maintenance services required professional specialization, identifiable only with a few services. Based on case observations, it was not possible to decipher a clear connection between environmental dynamism and the useful-

ness of accounting information. On the one hand, a dynamic environment could support the usefulness of accounting information—the evaluation tool could help to understand the environment; on the other hand, dynamism challenges the usefulness of accounting information because environmental changes become more unpredictable.

The business environment was quite complex. Especially the diversity in service providers was a source of environmental complexity. IndServ represented an extreme type in these markets. The industrial maintenance service organization of IndServ was quite large and had a wide geographical presence. Then again, a large organization meant that there were various organizational levels. In total, IndServ included four to five levels between the CEO and maintenance workers. At the other extreme, there were some small service providers who were generally called “Hiace guys” in colloquial language⁴⁴. Based on the case findings, environmental complexity positively affected the usefulness of accounting information as the evaluation tool was better able to highlight the differences between the providers.

The abovementioned contingencies examining the industrial maintenance service market environment highlighted the many possibilities that accounting information had in support of customer discussions. In this case, the low levels of munificence and high levels of complexity of markets were most clearly linked with the usefulness of accounting information. From these contingencies, environmental complexity appeared to be one of the most important reasons that evaluation tool development began in the first place. The analyses on environmental contingencies could not show strong evidence for the interactions between the contingencies. However, a tentative interaction was present in environmental munificence and dynamism. Supposedly, a more fruitful (high munificence) environment could lead to slightly faster changes (high dynamism) in markets. On the other hand, the findings illustrated that this was not always the case. The case evidence was not sufficient to prove thick explanations linking internal (customer) and external (market) contingencies.

The Natural Perspective: Dimensions of Structuration

As noted in an earlier part of the case description, the adoption of the evaluation tool became challenging. If the evaluation tool was simply assessed with the help of the above-illustrated (contingency theoretical) rational perspective, the tool would have been perceived as useful. Further, the usefulness of the evaluation tool should have led to its utilization in the case context. However, in practice, the adoption of the evaluation tool as a part of organizational routines appeared to encounter various obstacles. Both the opportunities and challenges of the accounting information in the case setting can be further analyzed with the use of the “structural pillars” of evaluation tool usefulness (Table 10), which hold a natural perspective.

⁴⁴ This set of providers comprises of one or two entrepreneurs who have, besides their knowhow, only a van for moving and storing their tools. Larger providers diverge from these players especially with the help of technical systems that support monitoring and reporting.

Table 10. Structural pillars of MAS usefulness in Case A

Signification	Legitimation	Domination
<p>The use of accounting information to support supplier selection was <i>not routinized as a common code of conduct</i> in the maintenance service business. Typically, the discussions between customers and providers were based on verbal and informal communication. Furthermore, even though the machinery investments were often made without (or minimal) support of accounting information, an understanding of the offering could be achieved without it. In other words, the use of accounting information <i>did not belong to signification structures</i> that the customer or provider representatives hold, <i>which reduced the perceived usefulness of such information</i>.</p> <p>The accuracy of accounting information was challenged because there was a need to make a number of assumptions. However, it was seen that accounting could perhaps work at <i>a higher level of interpretive scheme</i>. Such accounting information could more generally focus on <i>highlighting the mechanisms</i> through which the benefits of maintenance service are realized for customers. Therefore, accounting could also be part of a wider processual model of sales discussions that would be beneficial especially in the case of personnel changes. These issues suggest that heightened signification needs can also <i>promote the usefulness of accounting information</i>.</p>	<p>Especially from the provider's perspective, there can be a need for means to discuss <i>the offering</i> to potential customers. In general, accounting was seen as a possible and useful way to <i>support the legitimation</i> of the offering in the "tendering phase." Nevertheless, the aspects emphasized by the accounting tool were not desired a part of the actual contracts, as this could complicate the juridical aspects of relationships. That is, the accounting information was preferably seen "to support the sales discussions rather than to be an attachment of the maintenance contract." Hence, the usefulness of accounting information was <i>only vaguely connected to rewarding and penalizing</i>.</p> <p>It was seen that in some cases, arguments are caused in business relationships as the parties have different conceptions of what should be achieved. Accounting information could be used to "go back in time" and review what was discussed when the relationship was started, and hence, <i>to resolve the possible dispute</i>. Accounting information <i>could also reveal if the relationship was originally based on flawed assumptions</i>. Hence, both parties could develop their understanding of the reasons why incorrect decisions were made in the first place. These aspects emphasize that <i>much of the usefulness seems to stem from the ability of accounting to legitimate actions</i>.</p>	<p>Accounting tools can be seen as possible <i>means to gain an ability to conduct sales discussions</i>. In general, a need for more clearly structured sales processes was perceived in the provider organization. It was further seen that accounting could be a useful part of these processes. Quite naturally, such processes, together with accounting, <i>would be especially useful for inexperienced workers</i>. <i>That is, accounting could be a useful learning device</i>.</p> <p>Applying accounting to alter power relationships between customers and the provider was possible, but not very feasible. As the lying has short legs, using accounting information in such a manner "would be useful only for the competitors." Hence, <i>it was not seen that accounting information could actually change the power relationships</i> between the parties. In other words, <i>the straightforward exercising of power with the help of accounting was not seen to be that useful</i>.</p> <p>Affecting the power relationships within customer organizations' was seen in a more positive light. It was acknowledged that <i>inside the customer organizations</i>, production managers could, for instance, <i>use accounting to justify to their managerial board why a certain maintenance provider should be selected over others</i>. Hence, <i>the accounting system could be a useful way to effect customers' decision-making from the viewpoint of providers who are confident of their competence</i>.</p>

The roles of accounting information in signification and communication were clearly manifested during the development of the evaluation tool. The primary source of tool usefulness was its ability to support the sales personnel's communication with customers. In addition to assisting with highlighting the relevant product attributes, the tool supported building knowledge on how these attributes affected the benefits perceived by customers. Second, the tool's usefulness stemmed from its ability to offer a general vehicle for customer discussions. Hence, the discussions between the customer and provider could be less dependent on certain individuals and their personal ways of communicating. Third, the more ordered discursive practices were seen to be useful especially for less experienced sales personnel, as they offered a rudimental template to support the sales process.

On the other hand, the discussions and observations during the tool's development highlighted reasons why the accounting evaluation tool did not fit with the prevailing signification structures, and hence, why it was perceived as unuseful. Perhaps, one of the most important aspects was that the prevailing routines or rules did not require the use of accounting information in sales discussions. On the contrary, the discussions between customers and providers were typically based on verbal communication. It also turned out that often, customers did not make actual investment calculations even to support their machine investment decisions. Hence, there were no real requirements for the evaluation tool for either customers or provider. Changing these prevailing (routinized/institutionalized) codes of conduct and including the evaluation tool in these practices was difficult. One reason behind the difficulties was the inevitable uncertainties in estimations that decreased the evaluation tool's potential to support decision-making. Then again, certain elements of the evaluation tool were easier to adopt in sales discussions. The identified industrial maintenance service attributes (e.g., knowhow, response time, spare part availability) were regarded as valid and important to customers. The basic idea of the evaluation tool, the attributes affecting the efficiency and hence the profitability of customers, were also deemed relevant.

The evaluation tool's ability to support the legitimation of IndServ's offering appeared in the case as a reason why the evaluation tool was seen to be slightly useful, especially from the perspective of IndServ. Typically, the need to achieve legitimation was evident in all sales discussions. In these negotiations, IndServ's sales personnel had to assure potential customers of the quality of their maintenance services. As mentioned above, the hourly price was often emphasized. On the other hand, as IndServ's salesman noted: "if the differences are small [between the prices of service providers], then the price does not matter. The most important thing is that you get customers convinced [on the quality of your offering]." Hence, during the development process, it became increasingly clear that IndServ's sales and product development personnel needed some kind of sales pitch tool, which could support the legitimation of their maintenance service and the price asked.

While the evaluation tool was being developed, the possibility of using accounting information to support legitimating activities in later stages of the relationship emerged. Previous-

ly, IndServ had experienced some problems in situations in which a customer was dissatisfied although IndServ's personnel thought that they have acted in the spirit of original agreements. An evaluation conducted in an earlier phase of a relationship could have provided a reference point for later discussions. Hence, the evaluation tool could be useful especially in times of crisis where nowadays, both customers and providers are able to retract earlier statements. Perhaps even more importantly, the evaluation tool could be used to bring up prevailing matters of dissatisfaction, and hence, enable responses on such issues before it is too late. When used accordingly, the evaluation could serve as a follow-up tool. Although, the evaluation tool could be later used to display the assumptions on which the supplier selection decisions were originally built, IndServ evaded the idea of making the evaluation part of maintenance contracts. The reason for this was the rising complexity of contracts, and hence, the multiplicity of risks caused by their openness for interpretations. In addition, the possibility to change the service provider was already regarded as a strong enough threat if the provider's performance did not meet customer expectations.

Underlying rules of legitimation usually guide actors working in business organizations in their decision-making, which besides economic values also reflect the broader underlying social norms and moral codes. These aspects were indeed important in the case and came up during interviews when customers emphasized aspects, such as mutual trust and personal relationships. The importance of these broader social tendencies was also observed by IndServ sales personnel. In consequence, the social legitimation structures were acknowledged as especially important in the context of services, as in the case of industrial maintenance where people are in constant interaction with each other. For example, in machine sales these structures were not regarded as essential because, as a salesman noted, "these products are colder." On the other hand, including the social aspects into the evaluation tool was difficult. First, quantifying social aspects such as trust and importance of personal relationships for evaluation purposes was challenging. Second, evaluating the providers in light of these aspects was perceived to be inappropriate. For instance, it is quite awkward for a customer to disclose that he or she has greater trust in a competitor, and hence, may prefer the "trustworthy" competitor. To conclude, the prevailing norms and moral codes did not require the use of accounting information to support the evaluation and selection of maintenance service providers in the case context. Because competitors did not use any accounting information to legitimate their offering, there was no pressure for IndServ to do this.

One of the leading ideas in the development of the evaluation tool was to offer such information that could support discussions between the customer and provider. The domination perspective was particularly important especially in the form of the challenges involved in using the evaluation tool. In spite of its potential, the evaluation tool did not offer a means to shake the authoritative balances between the players.

In order for an evaluation tool to play a part in the discussions between a customer and a service provider, at least another representative needs to be motivated to actually do this. The

idea to use accounting information can be “inborn”, but often the ideas are adopted from external sources⁴⁵. In this case, the development of an evaluation tool was started by the instigation of the providing company’s service development personnel. Nevertheless, before taking the evaluation tool into sales discussions, it was essential that the salesman mastered it thoroughly. In other words, the gaps in knowhow can weaken the perceived level of expertise and the authoritative position of the salesman. The challenges of the evaluation tool in fulfilling this requirement were manifested clearly when the underlying problems of the usefulness of the evaluation tool were discussed with IndServ sales personnel: “We have not assimilated the evaluation tool by ourselves. The issues in there are clear, it is quite straightforward that there is the price: having experts [getting the machines fixed quickly], and being close [getting to the place quick].” The use of accounting information in order to alter the authoritative position between the customer and provider was acknowledged as a possibility. However, the representatives of IndServ explicitly expressed that talking a customer into an adverse choice by a provider is not beneficial for either of the parties in the long run. This outgrows from the fact, that in the long run, the provider’s actual suitability will be necessarily revealed. In consequence, the evaluation tool did not make changes in the providers’ actual competitive positions. In addition, as the number of industrial maintenance service providers in the market was quite small, a sales strategy based on dishonesty would not be long lasting.

In the discussions with IndServ representatives, the evaluation tool’s ability to affect the power relationships within customer organizations’ was seen in a more positive light. This possibility was especially seen to prevail in the case of more hierarchic organizations (relating with internal contingencies) where sales negotiations were often done with the production manager. However, the actual maintenance provider switching decision was often made by the CEO or even by the board of a company. In such cases, the evaluation tool could facilitate supplier switching decisions by offering production managers a way to select providers that they deemed most feasible.

5.2.4. MAS Usefulness in Case A

In Case A, the principal company aimed to increase the share of industrial services in its offering. The MAS development process aiming to provide tools to support supplier selection began after IndServ observed that the hourly rate was often overemphasized when industrial service providers were selected by potential customers’. Furthermore, IndServ personnel were confident that a larger number of customers would select their offering if they only assessed the different options more carefully. They believed that at the end, the use of accounting information in support of supplier selection decisions would benefit both customers and IndServ. In consequence, especially at the start of the development process, rational aspects

⁴⁵ In the institutional theoretical literature, especially NIS emphasizes the influence of given external institutions and the organization’s tendency to adapt to these.

underlined the potentially useful nature of the MAS that could support the recognition of a wider variety of service characteristics.

As the internal contingencies were examined, it was possible to observe a potential cluster of customers with whom IndServ could justifiably use the MAS. To be more exact, the MAS was regarded as especially useful in the case of customers whose (production) technology made them vulnerable to break-up and maintenance breaks. In addition, the MAS was typically perceived as more useful with larger and more structurally complex customers who were seen to have higher information needs. The analysis of market contingencies also indicated that the MAS could be perceived as useful in Case A. Importantly, the strength of the competition and the complexity of the market were seen to increase the potential usefulness of accounting information as it could be used to structure decisions. The relationship between market dynamism and MAS usefulness was less clear as it required the active following of the market, but it also challenged the validity of the information provided. Hence, a clear connection between these two aspects could not be ascertained.

In the later phases of the development process, the challenges related to MAS adoption became evident. These challenges were manifested especially when the use of the evaluation tool with actual customers started to emerge as the key question. To adapt to these challenges, many changes were made to the evaluation tool. Much of the change meant adopting elements from already established practices and routines highlighting the importance of natural aspects. Nevertheless, introducing accounting into discussions with customers also unveiled a number of previously absent practices.

Structuration theoretical analysis supported our understanding of the issues challenging the usefulness of MAS in Case A. The analysis also highlighted that some issues that made accounting to be seen in a more positive light. For instance, although it was recognized that the evaluation tool could be used to support signification, the central problem was that accounting did not belong to already established discursive practices. At the end, this lack of belongingness to institutionalized structures was significant enough to challenge the adoption of the evaluation tool, although certain aspects of legitimation and domination further suggested that the system was potentially useful.

Even though the developed supplier selection tool was not adopted before the end of the research project, certain features indicated that IndServ's personnel applied some ideas, which were strongly promoted in the MAS development process. For example, the attributes of maintenance service quality that were recognized during the MAS development process could be found in parts of IndServ's sales material. The idea of identifying the joint effect of these attributes on customer profitability was illustrated with a simplified illustration. Nevertheless, as an IndServ salesman commented—the company was still a long way from using actual accounting tools in its discussions with customers.

5.3. Case B: MAS Usefulness in a Software Service Context

The second case represents an MAS development project, which yielded a supplier evaluation tool that was perceived to be applicable. In this case, the institutional compliance of accounting information came out in an early phase of the process. On the other hand, the actual use of accounting information as part of the sales discussions was not confirmed until the underlying rational aspects were clarified for the decision-makers of the case organization.

5.3.1. Case Backgrounds

The second case study took place in a software service context. The field study of this case started in November of 2011 and continued until September of 2012. The researcher has also been in discussions with the case company's representatives after the end of the research project. These discussions shed further light on the actual experiences and potential development needs of the evaluation tool, which provided a clear overall picture of the case. As in the first case, the data on the second case consisted of formal and informal discussions with the principal company and customer representatives (both in-house and external customers) and related observations and archival material. The number of recorded workshop meetings and interviews regarding accounting development in Case B was 19. Sixteen of these meetings and interviews were held with the members of the principal company, including the director of the product line, the product manager, the operations manager, the technical specialist and the development team leader. As in the first case, the role of two individuals, namely the product manager and the technical specialist, was pivotal in the second case. Either or both of them participated in six meetings where they also provided researchers with second hand knowledge on the opinions of SoftDev's salesmen. Customer representatives, including two internal customers, participated in five meetings.

The principal company (SoftDev) in the second case is a large Finnish information technology provider, supplying customer software, hardware and related services globally. In this case, the development focused on a product line that provides an application life cycle management (ALM) software as a service (SaaS) for both internal and external customers. The development of the ALM-system began about ten years ago, when a unit of the principal company experienced an internal need to acquire an affordable and harmonious development platform. At the beginning, SoftDev independently developed tailored software development tools, but little by little, the open source solutions began to play a larger role as part of the ALM-system. A few years ago, the case product was selected as a common system at SoftDev, whereby its user base grew substantially. Recently, the ALM-system was also adopted by a few external customers. Currently, SoftDev aims to expand its external customer base for the ALM-system.

Application Life Cycle Management

Application life cycle management has been defined as the coordination of development life cycle activities to produce software applications (Schwaber et al. 2006). These activities provide means to manage complex software development activities, support traceability of requirements, monitor project process, ensure quality, and achieve predictable delivery (Azoff et al. 2011). Hence, ALM has been generally recognized to have three functions: 1) enforcement of processes, which consists of the development activities; 2) management of relationships between development artifacts used or produced by these activities; and 3) reporting on the progress of the development effort as a whole (Schwaber et al. 2006). Without having some management tools to support these functions, delivering a successful outcome becomes a very laborious and error-prone task once a project size reaches a critical point (Schwaber et al. 2006, Azoff et al. 2011). Whereas a single team working in one location may be able to work without electronic ALM-tools, larger teams and more dispersed organizations working with larger projects benefit greatly from these tools (West et al. 2010).

Globally, the size of ALM markets was estimated at \$1.5 billion in 2011. The markets are projected to grow at an annual rate of 3.9 percent. (Murphy and Duggan 2012) One reason for this growth has been the increasing popularity of Agile software development methods and hence, the rise in the need for ALM tools that support the Agile approach. In the past few years, Agile methods have joined the mainstream development approaches, resulting in increasing adoption levels (West et al. 2010). The findings of a recent survey (Figure 20) by West et al. (2010) revealed that development methods classified under the 'Agile' label are used by 35 percent of companies.

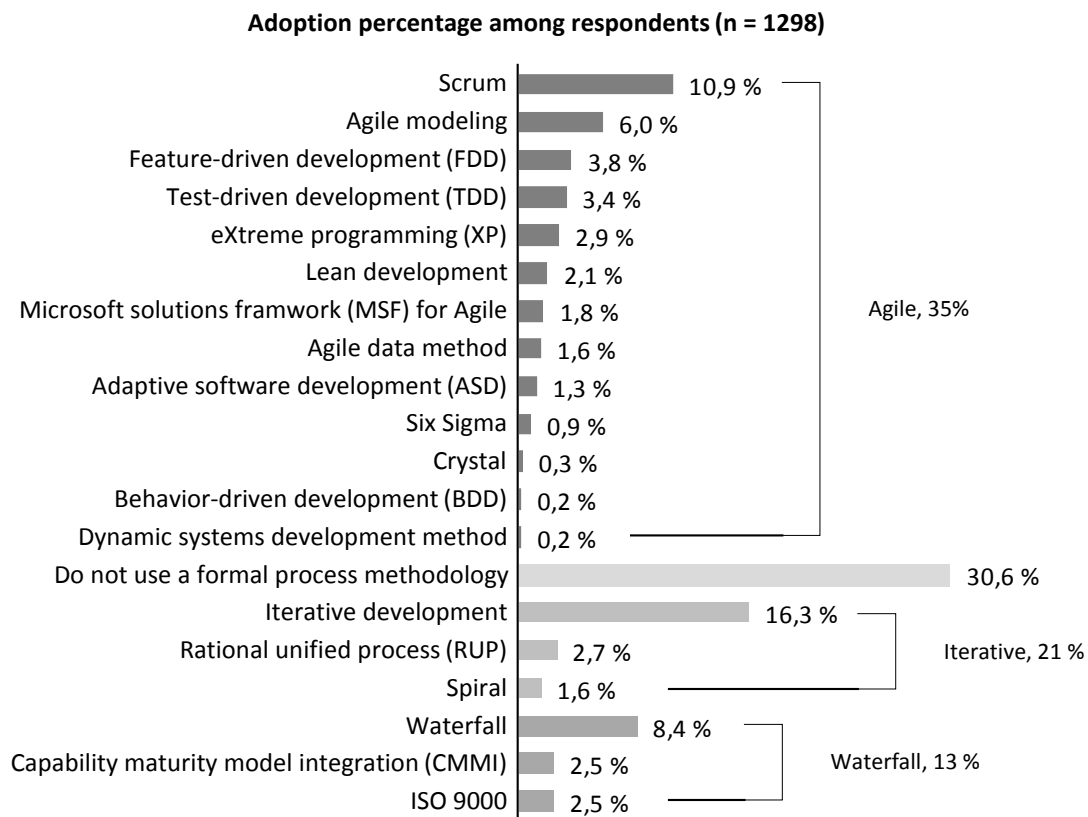


Figure 22. Adoption level of Agile software development (West et al. 2010)

On the other hand, the findings illustrated in Figure 20 also highlight that there is a large number of companies using traditional waterfall methods, which do not use any formal development methodology. That is, market penetration and of ALM is still incomplete. A survey by Schwaber et al. (2006) revealed that about one-thirds of companies were already using ALM. Among those companies that did not already use ALM, 60 percent indicated that they were interested in adopting ALM. The findings of this survey are illustrated in more detail in Figure 21.

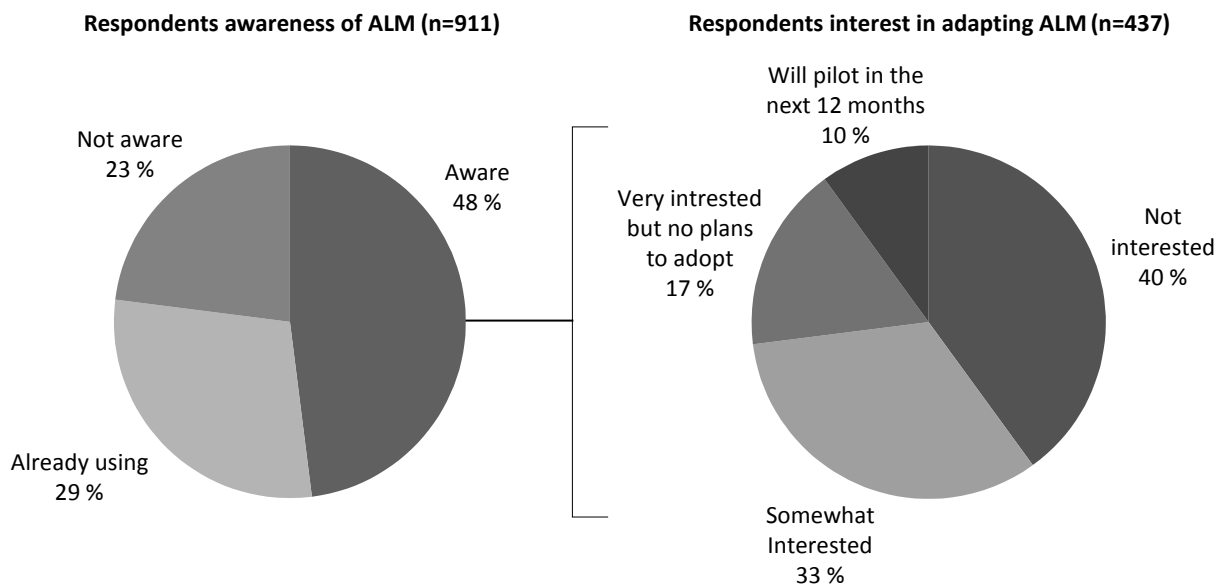


Figure 23. Companies' awareness and interest in ALM (Schwaber et al. 2006)

The strong customer interest (Figure 21) in ALM makes the market accessible to providers to devise a better solution for certain customer needs (Grant et al. 2012). At the moment, various companies operate in the ALM-tool markets, which are dominated by a few larger providers (see e.g., Azoff et al. 2011). However, some statements have reasoned that “best-of-breed” is a misleading term in this context, as the tool best fitting customer needs might not be the best in general (Schwaber et al. 2006). Recently, SaaS ALM has appeared as a new trend (Azoff et al. 2011), which luckily supports the growth aims of SoftDev.

The Aim of the Focal Company

As noted, the aim of SoftDev was to grow its ALM-system customer base. Generally, SoftDev recognized the number of strong competitors operating in the market, and some competitors had already succeeded in establishing their position. On the other hand, SoftDev's managers acknowledged that there were still a number of potential customers. The main strength of SoftDev's ALM-system was its relative affordability, especially in light of the product's versatility and comprehensiveness. On the other hand, SoftDev had also recognized that sometimes, customers did not acknowledge the hidden costs of their own software development, and hence, were unable to perceive the affordability of SoftDev's ALM-system. On these grounds, SoftDev aspired to introduce accounting information as part of discussions with potential customers.

The product line management in this case were familiar with the fact that some of their competitors offered return on investment calculation tools for potential customers. In fact, a competitor (for ALM-product line) had already used an evaluation tool when offering their product for SoftDev. The representatives of SoftDev noted that the evaluation still had certain problems, at least when used by SoftDev, which threatened its credibility. On the other hand, they

also recognized the potential that such evaluation tools could have in sales negotiations. “The best thing would be if a customer decided, on their own, to select our product.” In consequence, the SoftDev representatives were interested in developing somewhat similar evaluation tools to support their own sales ambitions.

The ALM-system market is a highly competitive field of business with a number of international players. Besides commercial providers, customers’ self-developed and administrated systems brought another important set of competitors in the field. As the ALM-system market was still maturing, SoftDev had good prospects to expand its customer base. Because of the maturing state of the business, competing products and related services differed significantly. In practice, these differences affected both customer productivity and cost. Despite the large product differences, linking them to customer profitability remained challenging. As SoftDev was confident in the competitiveness of its product, the company perceived that accounting tools could support its ambitions to become the best choice from the perspective of customers.

The practical needs for an evaluation tool came out clearly from the comments of SoftDev’s ALM-system product line personnel. These comments emphasized especially the need to be able to convince customers of the benefits of its product. As the director of the product line noted, “We have started this thing—I mean, making these [ALM-] tools—from our nerd basis. Always, when we go to meet the customers, they claim that this is too expensive. To support this, we need some kind of [accounting] tool.” A product manager, in turn, noted, “The salesmen have a wide variety of products to sell and now we have aimed generally to say that this is what it [ALM-system] is.” In other words, the product line should be able to better inform the salespersons responsible for customer relationships. Thus, with better information, customers could make more enlightened decisions. On the other hand, as the product manager noted: “it would be valuable to better identify prevailing customer needs.” Overall, the recognition of these needs propelled the need to develop an accounting tool in this case.

5.3.2. Accounting Development

As in the first case, the research intervention in the second case aimed to provide a profound understanding of the possibilities and limits of accounting information, but this time the study took place in a software development context. On the whole, the second case supported wide ranging knowledge building on aspects related to the development of an evaluation tool in a case context, such as the criteria of ALM-system provider selection, the applicability of supplier evaluation and selection methods, and more generally on supplier switches in this context. In this case, the nature of MAS usefulness was also examined with the help of the case findings. The research intervention in SoftDev’s case mainly followed the same steps as those of IndServ. That is, an actual research intervention comprised of the researchers providing ideas and some extra labor to support the development of the ALM-system evaluation tool. The development work was mainly done in workshops, and aimed to establish the core structure of the evaluation tool to support discussions with customers. Hence, the questions dealt

were similar to those in the first case: What are those characteristics (or attributes) of the ALM-system that should be included in the accounting tool? What kind of technical structure should the tool have in order to take these characteristics into account?

Phase 1: Creating the Initial Evaluation Tool

The development of the evaluation tool to support discussions with customers using the ALM-system began by analyzing the product characteristics to be included in the evaluation tool. There were also some preliminary ideas about these characteristics within SoftDev. Gathering these ideas was first done by becoming familiar with existing ALM-system sales material and discussing with the product line representatives who gave a preliminary idea of the required ALM-system characteristics. To broaden the view, the researchers interviewed two internal customers and two external customers. As in the first case, the empirical material was supplemented by the findings from the academic literature on supplier selection attributes in the software business (e.g., Gustin et al. 1997, Sahay and Gupta 2003). Following this, the findings on possible software service product characteristics were synthesized by the researchers. Finally, the characteristics included into the evaluation tool were chosen in two phases. First, the tentative characteristics were selected by the product manager and a technical specialist of ALM-system. A larger workshop was held, and the opinions of product line personnel were taken into consideration. In this case, the selected characteristics emphasized cost considerations slightly more than in the first case.

Also in the second case, the next step of the development process was the construction of a calculation structure. Once again, the researchers introduced different kinds of supplier evaluation methods for SoftDev's product line personnel. In this case, four different methods were prepared by the researchers and presented on Microsoft Excel spreadsheets. From the methods presented in the decision-making literature, linear weighted and outranking methods were demonstrated. From the more traditional cost accounting methods, the simplified total cost of ownership method and calculations of net present value were highlighted. Although the workshop participants showed some interest in all the methods, it was again evident that the linear weighted and the total cost of ownership methods were the two potential solutions.

Based on a workshop in which SoftDev's product manager and technical specialist participated (besides the researchers), the decision was taken to create a two-part tool comprising separate economic and qualitative evaluations. Before testing the evaluation tool with actual customers, it required various iteration rounds performed between June and September of 2012. Surprisingly, while preparing the tool for customer use it appeared that a competing company had approached SoftDev and presented their own ALM-system investment calculation tool. This coincidence supported the development work by providing some ideas. Finally, before using the tool in actual discussions with customers, the tool structure was approved (with minor changes) by the broader ensemble of ALM-system product line personnel.

Phase 2: Pilot Testing and Further Development of Evaluation Tool

The pilot testing of the evaluation tool was conducted in sales discussions with a large customer company. Previously, the customer had acquired other services from SoftDev and had also shown interest in SoftDev's ALM-system. This customer company was selected as a subject for pilot testing as it happened to indicate its interest in the case product at the right time, that is, just after the pilot version of the evaluation tool was completed. The pilot testing was participated by SoftDev's salesman and customer's managers responding to their organization's information system acquisitions. Unfortunately, the researchers were not able to participate.

After the pilot testing, the impressions of the evaluation tool were conveyed to the researchers. Generally, the evaluation tool was seen to fit discussions quite well. SoftDev's representatives showed a positive interest in the tool as it helped them to highlight the advantages of their offering to customer(s): "At first, there was some discussion that we already have such and such tools. However, when our salesman presented this evaluation in a way that by using this, you can make the costs of doing it by yourself visible...After that, they received our offer, at least, until further notice. It might be that when we start preparing the contract, these discussions rise again. Anyways, this helped us a lot." But then again, SoftDev representatives also saw that some aspects of the tool required some fine-tuning. A section of the tool was perceived to be especially troublesome, as it required making an efficiency assumption on how the ALM-system would affect customers' work. Making this kind of assumption was problematic because there was not enough information to rationalize it. Therefore, some guideline or model was needed to support the making of this assumption.

Phase 3: The Adoption of the Evaluation Tool

As the salesmen operated at the level of sales segments and represented all of SoftDev's product lines, the ALM-system product line management could only include the evaluation in the sales material provided to salesmen. Therefore, the final decision on the use of the tool depended on the opinions of the salesmen. In general, the prospects of the evaluation tool appeared promising. Soon after the pilot testing, the representatives of SoftDev sought other possible customer cases in which the evaluation tool could be applied.

Overall, SoftDev clearly perceived that the usefulness of the evaluation tool was higher than in the early phases of the development process. Having an evaluation tool was no longer justified only on the basis of conforming to prevailing business practices in the field, and SoftDev also saw that the tool could support its growth ambitions. The construction of the evaluation tool's usefulness is addressed in more detail in this case.

5.3.3. Findings on Usefulness

The Natural Perspective: Dimensions of Structuration

At the beginning of the development project, the potential adoption of the evaluation tool did not appear too promising. It seemed presumable that the project on accounting development would not have begun at SoftDev without external intervention. However, it was recognized that customer companies did not often acknowledge the actual expenditure related to their ALM-system administration and development. It was also identified that some competitors already used accounting information to support their sales efforts. Then again, SoftDev's own experiences with these evaluation tools highlighted that there were also some challenges that threatened their usefulness. With the help of Giddens' pillars of structuration, Table 11 illustrates the natural aspects of usefulness highlighted during the development process.

Table 11. Structural pillars of MAS usefulness in Case B

Signification	Legitimation	Domination
<p>It appears that <i>the familiarity of accounting can support the use of such information</i> in business discussions. Although accounting did not previously belong to the signification practices of the principal company's salesmen, many customers were already familiar with the idea. In other words, <i>when accounting belongs (even to some extent) to established signification structures, its usefulness rises.</i></p> <p><i>Accounting information can highlight some of the very basic aspects</i> of sales discussions. For instance, the overall affordability and cost savings stemming from increased work performance could be better understood. This can be seen as a major benefit, especially when compared with situations in which "there are price tags on the table" and no consideration is given to indirect costs and savings potential. In other words, accounting information can <i>provide a useful interpretive scheme through which knowledge can be built.</i></p>	<p>Accounting can be <i>used to justify</i>, for example, the price that a provider asks for software development and administration. However, this <i>requires accounting to claim legitimacy</i>. If accounting is seen to contain flawed assumptions, it <i>can also destroy the legitimacy</i> of the company that provided it. That is, <i>the lower the risk of becoming sanctioned, the more useful accounting appears to be.</i></p> <p>When the use of accounting tools becomes more widely established, having one becomes a stronger necessity. In turn, if there is no "peer pressure" to introduce accounting tools, having them becomes less probable. This kind of adoption is probable especially when there is a need to adapt to new kinds of situations. Generally, <i>the more widely used accounting is among peers, the more legitimation it can offer. The stronger the legitimating ability, the more useful accounting becomes.</i></p>	<p>Accounting is useful only if users know how to use it. On the other hand, although accounting tools could be mastered by potential users, that does not necessarily make them useful. That is, <i>having knowledge "on how to operate" accounting is merely a precondition for usefulness.</i></p> <p>When accounting is used in discussions between customers and providers, the information provided <i>can be used to shake the prevailing power relationships</i>. However, <i>often the other allocative resources are considerably more important</i> vehicles than accounting. For instance, a customer's general attitude towards the provider and his product often determines the prevailing power relationship more strongly than any piece of information that can be brought out in later phases of the discussions. That is, <i>altering the power balance with accounting was not seen to be that useful.</i></p>

Certain ways of organizing seem to support more formal practices of communication, hence the idea of introducing accounting in sales discussions. In a case setting, the provider's sales function was separated to an independent entity, and the salesmen operated based on the material provided by the product lines. Hence, accounting information supplemented the sales material that was used to communicate with customers. In other words, *the more indirect the channel of communication is, the more useful accounting becomes in supporting signification.*

Social norms and codes can, in general, limit or necessitate the involvement of other parties to certain organizational (and personal) situations. This also has some implications for the use of accounting information. That is, *the more accounting fits into prevailing norms and codes, the higher the potential usefulness of accounting.*

When accounting tools are provided for customers, they can be used as devices that are drawn to exercise power inside their own organizations. Although this might be beneficial, sometimes also from the perspective of suppliers, *such altering of power relations in customer organizations is not necessary.* Occasionally, discussions are held with customers' actual decision-makers, and hence, there is no need to "sell the idea" further. In other words, *the more indirect the connection to the actual decision-makers is, the more useful accounting appears to be.*

The construction of MAS usefulness through signification was evident in the case. At the start, SoftDev recognized that one of the most important competitive strengths of its ALM-system was its affordability, especially from the perspective of competing solutions. The system was also recognized to support customers' efficiency improvement aims. Although the mechanisms through which SoftDev's ALM-system could reduce the costs or improve the efficiency of customer's were obvious, evaluating the actual economic impacts was challenging. The evaluation tool answered this challenge by providing interpretive schemes to both understand and communicate how the ALM-system affected customer profitability.

The relevance of elements included in the evaluation tool affected its ability to work as a signification device. In this case, the elements included were, in general, seen to be the right ones, and were processed in such a way that underlying decisions could be understood better than before. As a salesman who had used the tool in discussions with a customer noted: "The underlying situation suited the division [of the evaluation tool]. There was some function, which provided the server capacity. Some other function provided these system administrators and developers. The software licenses were bought by some kind of centralized purchasing. But those expenditures didn't meet at any row, and hence, they started to figure out how high those really are. The tool really hit the mark there." Gaining a broad perspective on the customers' software development cost elements was seen as important because, based on earlier experiences, it was recognized that sometimes competitors deliberately avoid highlighting these. By bringing out these elements, the evaluation tool was seen to concentrate on important "basic things", which are essential to decision-making. Although the use of accounting information in the discussions with customers was not previously routinized as part of discursive practices, SoftDev's salesmen received the evaluation tool positively, and hence, made it possible to adapt in practice.

At the beginning of the development process, the potential usefulness of accounting information was supported especially by dynamics related to legitimation. As remarked above, SoftDev's product line management acknowledged that some of their competitors were already using evaluation tools to support discussions with customers. To some extent, this propelled SoftDev to include similar tools in their "offering" to assure their legitimacy to customers. One of the main benefits of these tools was also their ability to legitimate the price asked. The legitimation was especially sought by highlighting the cost savings and performance gains that the ALM-system could provide. At the same time, SoftDev acknowledged that sometimes these tools were apparently based on flawed assumptions, which could destroy the legitimacy of both the evaluated product and the providing company in the eyes of potential customers.

During the development process, the representatives of SoftDev identified the use of accounting information to be wider than they had previously acknowledged. Importantly, the fact that some of the largest players used evaluation tools gave an impression that the use of these calculations in discussions with customer was a vested practice in the business. In addition, as the case product was relatively new and differed from the rest of SoftDev's offering, the sales personnel operating at the customer interface did not have established routines for selling the product. At first hand, the absence of these sales routines made the ALM-system sales appear more difficult, as the salesmen could no longer rely on "learned smooth talking and knowhow", and new ways to gain legitimation were needed. On the other hand, the evaluation was seen as just the right kind of tool to fulfill this need.

The importance of legitimation in a wider social context was also apparent in SoftDev's case. Although the evaluation was seen as potentially supporting the discussions with customers, the members of the organization also identified that the use of such a tool was not feasible in all occasions, although it could serve the rational aims of both customer and provider organizations. For example, a potential customer company had some financial problems and a clear need for spending cuts. SoftDev's managers perceived that it would be somewhat immoral in this situation to bring in discussions about how their system could enable the customer company to cut the number of employees. Thus, accounting information could lead to unfortunate results at the individual level. The evaluation tool was seen potentially more useful in situations that were more conventional.

As in the first case, the main driver for the development of the evaluation tool was the endeavor to provide information that could facilitate discussions with customers. However, whereas the aspects appointed by the domination dimension were important in the first case, their importance appeared to be low in SoftDev's case.

Although many of SoftDev's competitors offered different kinds of accounting tools, customers did not strictly require this one. Hence, the tool development process was started by SoftDev. However, in this case the sales personnel adopted the tool to their use more willingly

than in the first case. The evaluation tool was regarded as easy enough to use, and thus, potentially useful for users. One reason for the better acceptance was the fact that differences between the ALM-systems were easier to perceive (and measure) than those that prevailed in the first case context. The control of the technical aspects of the evaluation tool was only an initial condition in the perception of the tool's usefulness.

It was not possible to perceive a clear connection between the usefulness and the ability of the tool to affect power relationships. First, the SoftDev product line management did not consider it possible to be able to notably affect the prevailing power relationships between them and the customers. In order to start discussions with customers on the product, the customers should already be interested in the product and hence, receptive to information on it. If not, accounting information cannot substantially change the existing state of affairs. In respect of prevailing power relationships between customers and providers, SoftDev's product line management highlighted the importance of products' overall position in the market, and thus, their visibility in surveys conducted by consultancy companies that examine the ALM-business.

Secondly, related to power relationships prevailing within customer companies, the representatives of SoftDev did not perceive supporting discussions in customer companies as an important aspect. This mainly originated from the fact that the representatives of SoftDev often had direct communication links with their customers' top management. On the other hand, it was also recognized that especially in smaller customer companies, top management did not necessarily make effective decisions independent of others. Instead, they acted as gatekeepers. In this kind of situations, the actual decision to adopt a system occurs at lower levels of the organization, for example, by the specialists of customer product development. Typically, these stakeholders emphasized the technical aspects of the product over their straightforward cost-effectiveness.

The Rational Perspective: Internal Contingencies

The natural aspects emphasized the potential usefulness of accounting. Nevertheless, for quite some time, the development of the accounting tool was mainly carried out by a small group of individuals. Perhaps, this was a sign of suspicion, which still prevailed in relation to MAS usefulness. During the development process, the rational aspects supporting the usefulness of the evaluation tool were better recognized than before. In consequence, a broader assemble of SoftDev personnel was also involved in the development process. Table 12 illustrates the findings on the linkages between three typical internal contingencies and MAS usefulness from SoftDev's case.

Table 12. Internal contingencies related to MAS usefulness in Case B

Technology	Size	Organization structure
<p><i>When adopting Agile software development methods, ALM tools become more and more essential. Naturally, this also increases the interest in related accounting information. Hence, the more a customer invests in new technology the more useful accounting becomes.</i></p> <p><i>When software development platforms are developed and administered by the customers themselves, the actual costs involved are often ambiguous. Accounting information can be used to shed light on these actual costs. In other words, the more strongly the software development system is developed and administered by the customer itself, the higher the potential usefulness of accounting information.</i></p> <p><i>Economic figures can be difficult to assimilate if there is no benchmark. Existing software development platforms can offer such benchmarks to compare the costs of alternative solutions. That is, the earlier existence of a software development platform increases its usefulness.</i></p>	<p><i>When the size of the customer is smaller, the tasks are typically less dispersed. Hence, software development can be done, to a greater degree, without formal systems. In consequence, accounting is more likely to be useful when the size of the customer company is larger.</i></p>	<p><i>The higher number of hierarchies in a customer organization often means that decisions need to be more robustly justifiable. However, in software development organizations the direction of justification can sometimes be top-down. Nevertheless, accounting can also be used for this purpose. To sum up, the higher number of hierarchies increases the potential usefulness of accounting.</i></p> <p><i>When the organization increases or aims to increase its level of horizontal integration, it commonly introduces systems to support this. ALM-systems can also be seen as a way to integrate different subunits and development teams within the company. Therefore, the higher the aspired level of horizontal integration, the more useful the accounting relating to these systems is.</i></p>

Customers differed quite significantly from the perspectives of technology, size and organizational structure in the software development context. On the basis of technology, it was recognized that ALM-systems were most needed when Agile software development methods were adopted. In consequence, the evaluation tool was also seen as potentially more useful in cases in which customers had already implemented, or were about to adopt these kinds of methods. Customers' software development platform was also more generally linked to the usefulness of accounting. The evaluation tool was seen as useful especially in discussions with customers who already had some kind of development platform, which could be used as a benchmark. In practice, the only customers that fell out of this frame were either start-ups or

companies whose software development was entirely outsourced. On the other hand, in the absence of a benchmark, the evaluation of SoftDev's ALM-system's benefits was more challenging, thereby threatening the usefulness of the evaluation tool. The evaluation tool was regarded as useful for customers who already had a development platform, especially when these customers developed and administered their own platforms. This was so because it appeared more probable that the costs related to the development platform were not recognized in such cases.

The size of customer companies was perceived as constraining the usefulness of the evaluation tool, as opposed to directly influencing it. As SoftDev's product management noted, the evaluation tool could be used in discussions with both large and small customers, but the product on which it was focused did not make it appropriate for smaller customers. Fundamentally, larger organizations were seen as better able to realize the tangible benefits of SoftDev's ALM-system. Whereas a development team composed of a few dozen individuals could be managed relatively easily with informal procedures, larger development organizations benefited more from common practices such as a formal development platform. Thus, the evaluation tool was seen as potentially more useful for larger customers. SoftDev also recognized the trend of larger customers to centralize their software development. This trend towards larger software development organizations further supported the usefulness of the evaluation tool in discussions with larger customers.

The connection between organization structure and evaluation tool usefulness was more straightforward. In the discussions, the number of hierarchies and the state of horizontal integration were both seen to support the usefulness of accounting information. In terms of the environment, a hierarchical organization structure was connected with the usefulness of the evaluation tool by recognizing that the tasks were often more specified in hierarchical companies. The usefulness of the evaluation tool stemmed further from its ability to support discussions with economically specialized customer representatives, such as financial and product development managers. It was also recognized that in more hierarchical organizations, there was usually a focus on core business, thereby supporting the feasibility of SoftDev's product development platform. Horizontal integration was used to determine the level of software development centralization in customer organizations. The evaluation tool was regarded as useful especially for customers who either had a relatively centralized software development organization or aimed to arrange their organization in a more centralized manner. When the function of software development was dispersed, development units typically aimed to do various tasks independently, and hence, sought to assure their survival. The development and administration of an own development platform partially allowed development units to employ themselves. In cases of greater centralization, development and administration were more explicit with certain associated costs.

From the above-mentioned contingencies, size and organizational structure were seen to have certain linkages between them. In general, more hierarchies can be found in larger companies.

In addition, it was recognized that especially larger companies aimed to increase the level of horizontal integration with the help of different systems. These linkages emphasized the importance of the size of customer organizations as a driver of MAS usefulness.

The Rational Perspective: External Contingencies

The analysis of internal contingencies illustrated that SoftDev had many customers with whom the evaluation tool could be useful. From the previously mentioned features, the prevalence of (own) product development environment, large size of development units, and highly centralized decision-making were seen to support the usefulness of the evaluation tool. These features were characteristic of a large proportion of SoftDev's customer base. Besides customer companies' internal contingencies, the market environment's external contingencies affected the evaluation tool's potential usefulness in support of customer discussions. Table 13 illustrates the contingencies prevailing in the competitive market environment of ALM-systems.

Table 13. External contingencies related to MAS usefulness in Case B

Munificence	Dynamism	Complexity
<p><i>When there are multiple competing solutions, the need to make comparisons between alternatives becomes greater. These comparisons often benefit from accounting information. That is, higher levels of competition increase the potential usefulness of accounting.</i></p>	<p>Slow changes in the market, i.e. stability and low turbulence, mean that less intensive following of the market is possible. However, <i>although lower levels of dynamism do not promote the usefulness of accounting information, they do not seem to lower it either.</i> In consequence, <i>a clear connection between market dynamism and the potential usefulness of accounting is not evident.</i></p>	<p><i>When the market is highly complex, choosing the right ALM system/provider becomes more essential.</i> Naturally, if the features of systems and providers are highly homogeneous, the need to choose is less significant. The importance stemming from environmental complexity can be further connected to the usefulness of accounting information. That is, <i>higher environmental complexity increases the potential usefulness of accounting.</i></p>

Overall, there are many growth opportunities in the ALM-system market. In spite of a number of competing providers, some potential customers still operate with rather modest software development tools. It is even possible to find a segment of customers who operate without an actual software development platform. On the other hand, strong market competition means that when procuring an ALM-system, customers usually compare competing products, or their independently developed system. The prevalence of this competitive situation underlines the potential usefulness of the evaluation tool in sales discussions with customers.

The ALM-system market is quite stable. The market is dominated by a few large providers whose products result from decades of development. In addition, there is a group of (often smaller and newer) providers, to which SoftDev and its ALM-system belong. Changes in competitive positions are relatively slow, which can be partly explained by the difficulty involved in system changes. Conversely, customer needs are in constant flux, thereby introducing “turbulence” to the software development business. One of the most important recent changes has been the rising popularity of Agile software development methods, thereby increasing the demand for ALM-systems. However, changes in customer needs are typically notably smaller than this. In respect of these smaller changes, providers (including SoftDev) have learnt to be more flexible.

In the case context, market dynamism was generally quite low. Low levels of market dynamism do not seem to necessitate accounting, but they are not either lower its usefulness, if the other contingencies promote it. Higher dynamism would probably have supported the usefulness of accounting information also in SoftDev’s case (as in the previous case), but at the same time, producing such information would have been more challenging. To summarize, as in the first case it was not possible to perceive a clear connection between environmental dynamism and the evaluation tool’s usefulness.

ALM-tool markets are relatively heterogeneous, which supports the potential usefulness of accounting information. At one extreme, markets are comprised from simple Excel spreadsheets that are independently administrated and developed alongside other work, by the (potential) customers themselves. At the other extreme, there are extensive (and expensive) dedicated systems provided by commercial vendors. SoftDev’s offering situates it between these extremes. In general, one of the most important attributes highlighting SoftDev’s competitiveness was simply its affordable price. In addition to differences in software, the ALM-system providers differed in light of their services. Some providers specialized in tailoring ALM-software after which customers take care of administration and maintenance of the systems themselves. At the other end, there are providers who have specialized in services and help customers with service needs. SoftDev’s offering includes both, it offers the ALM-system and other services, and hence, provides a complete product development platform to work with.

One aspect explaining the heterogeneity and range of activities in the ALM-system markets relates to the differences in customer aims. Software development is done by both public and business organizations. SoftDev’s ALM-system product line management, however, could not see that an evaluation tool based on economic discussion would be useful with both kinds of customers. Whereas business companies strive to maintain and improve their profitability, public organizations aim to make savings and are obliged to answer to constant budget scrutiny.

From the abovementioned market environmental contingencies, especially munificence and complexity appeared to be linked with the usefulness of accounting information. In SoftDev's case, high munificence appeared as a relatively significant market potential, thus positively affecting the possibilities of accounting information. Then again, there was intense competition in the ALM-system markets, which could be seen to lower munificence, which also affected positively on accounting information. Despite their implicit contradictions, both aspects of munificence emphasized the usefulness of accounting information in the market environment. The analyses of environmental contingencies suggest some weak linkages between the elements. The heterogeneity prevailing in ALM-tool markets can be, at least partially, promoted by the fact that the markets were not yet fully saturated, i.e., because of high munificence. However, the actual level of munificence in the case remained debatable as there are already a rather high number of providers, suggesting also a higher level of competition.

5.3.4. MAS Usefulness in Case B

As in Case A, the aim of the principal company in Case B was to increase its customer base. Although the company did not use accounting information in discussions with customers, the product line management recognized that some of their competitors used this practice. As the managers had confidence in the competitiveness of their product, they saw that such tools could also support the principal company. Overall, at the start of the development process, especially the natural aspects of MAS usefulness were emphasized. However, the start of the MAS development process was relatively challenging.

With the help of structural theoretical analysis, the natural aspects affecting MAS usefulness were highlighted. In Case B, the use of accounting information was already established, at least to some degree, to aid discussions between customers and suppliers. This belongingness to common signification structures further enabled usefulness stemming from the use of accounting in order to gain legitimation or domination. That is, because it was already common practice to use accounting to communicate, the principal company had a greater need to legitimate itself and its product by introducing accounting. Because of the nature of their acceptance, accounting systems could also be used to exercise power within customer organizations. Together, the structural theoretical aspects suggested the potential usefulness of MAS.

Some rational aspects of MAS usefulness were undoubtedly already present at the start of the development process. Arguably, the aim to expand the customer base was quite rationalistic. Nevertheless, the knowledge of these rational aspects remained at a superficial level. During the process, as the understanding of the roles of MAS in customer discussions grew, the rational aspects were increasingly emphasized. At the same time, the development process intensified and a growing number of actors was involved.

The analysis of internal contingencies revealed that also in Case B, there was a potential cluster of customers with whom the MAS could have been useful to support discussions. From the

perspective of technology, this cluster was characterized by the adoption of Agile development methods and by the use of software development platforms. In addition, the customers' large size and the high complexity of their organization structure were found to positively affect potential MAS usefulness. Between these two contingencies, the organizational structure was observed to be, at least to some extent, dependent on size. The analysis of external, i.e., market contingencies further contributed to our understanding of MAS usefulness. Similar to Case A, munificence and complexity contingencies could be linked to MAS usefulness. Furthermore, the effect of market dynamism on MAS usefulness also remained unclear in Case B.

Although the research project supporting MAS development ended, SoftDev continued with the adoption of the evaluation tool. A few months after the official end of the project, the researchers once again caught up with SoftDev's product line management. In this discussion, the managers reported that the tool had already been used in a couple of customer cases with promising results. They had also recognized a few new cases in which the tool could be used in the future. At the same time, when they now had a tool, it was recognized that in the case of public procurement, for instance, other discussion strategies could be more appropriate. At the end of the meeting, the SoftDev's representatives also asked whether the researchers could provide additional assistance to help them to further develop the evaluation tool. That is, they wanted to ensure that the evaluation tool remained neutral, and hence legitimate, from the perspective of customers.

6. Discussion

In this chapter, the research findings of the dissertation are discussed in more detail. The aim of this dissertation was to examine the nature of the usefulness of management accounting systems at the interface of sales and procurement. To support the examination, answers to question: “What makes management accounting systems to be perceived as useful at the interface of sales and procurement?” were sought. The examination was further divided into a conceptual development, empirical validation and refinement, and relevant sub-questions. The answers to these questions are provided and elaborated in two sections.

6.1. On Theoretical Development

The purpose of the conceptual analysis part of the dissertation was to provide foundations and offer conceptualizations, i.e., a theoretical framework, on usefulness that would capture the organizational realities connected with MAS design⁴⁶. To lay the foundations for the framework, the dissertation reviewed the related literature. The conceptual analysis part of the dissertation began by reviewing the literature on different organizational perspectives that could explain usefulness. Based on the insights gained, the analysis then focused more specifically on two streams of theoretical thought and the definitions on which the argued perspective on MAS usefulness would be based.

6.1.1. Perspectives on MAS Usefulness

Question 1.1 required an exploration of the prevailing literature related to MAS usefulness by asking: What kinds of perspectives there are on the usefulness of management accounting systems?

The field of organizational studies and the management accounting literature drawing from these studies is very heterogeneous. Different schools of research have their distinct styles,

⁴⁶ The dissertation was motivated by the fact that although the notion of ‘usefulness’ has been widely used in the accounting literature, our understanding on its actual nature and aspects affecting it in management accounting systems have remained insufficient. The conceptual analysis of the study further highlighted the variety of terms and the meanings connected to them in the related literature. Besides the notion of usefulness, especially two other concepts, sophistication and usefulness, were sometimes used with similar connotations in accounting research. A common denominator between these concepts was that they were all used to describe something desirable in the MAS. Regardless of their wide use, it was evident that all of these concepts were ambiguous as they were often used relatively thoughtlessly and without sufficient justification, although they defined the foundations for much of the research. This finding stemming from the conceptual analysis further confirmed the concerns that motivated the dissertation. Hence, continuing the examination by following the concept of usefulness was also seen as a justifiable choice.

orientations and beliefs that direct the research (March 2007). In consequence, there is a plethora of theories explaining the usefulness of MAS. The field of organizational studies is so diverse that Koontz (1961, 1980) has even labeled it as a “management theory jungle.” When reading the literature, the strength of prevailing polarities—mechanistic or organic, rational or symbolic, normative or descriptive—becomes evident (Jönsson 1987). In the MA literature, three distinctions—structural or behavioral (Ansari 1977), objective or subjective (Cooper 1983), functionalist or interpretive (Chua 1988)—have been, perhaps, the most prominent.

In this dissertation, it was recognized that much of these polarities can be summed up as the distinction between the rational and natural perspectives⁴⁷. In general, whereas the rational perspective focuses on structural aspects of organizing, the natural perspective sees the effect of behavioral elements on organizing as a matter of importance. In consequence, the explanations of MAS usefulness that these perspectives provide are also quite varied. It is recognized that other dichotomies could have also provided frames of reference to illustrate the prevailing segregation between theoretical and paradigmatic perspectives. Nevertheless, following this distinction can be seen as a justifiable choice as the distinction has strong roots both in organization studies (Gouldner 1959, Thompson 1967, Scott 1981) and the MA literature (Boland and Pondy 1983, Chua 1988, Dent 1990). At the same time, the distinction can be able to provide some new insights as it has remained extremely scarcely applied in the empirical MA literature (cf. Boland and Pondy 1986, Jönsson 1987).

In general, the segregation of the organizational perspectives was found to lead to two sets of problems. The first and more easily debatable set of problems was found to stem from the rivalry between the paradigms (Pfeffer 1993, Scott 2003). Without a doubt, the collaboration between people, organizations and paradigms can be highly beneficial. On the other hand, competition can also foster the development of scientific research. However, the notion of “paradigm wars” as such suggests that the rivalry has been intense. To support this perspective, various scholars (for arguments in the MA literature see e.g., Boland and Pondy 1983, Hopper et al. 1987, Hopper and Major 2007) have suggested ending the juxtaposition.

The second set of problems was found to stem from the fact that while they both emphasized their own aspects, they ignored the existence of each other (Gouldner 1959, Scott 2003). This threatens the sufficiency of explanations that the perspectives provide. Hempel and Oppenheim’s (1948) division of scientific explanations into explanandum and explanans can be further followed to understand the abovementioned problemacy. According to their definition, explanandum refers to “the sentence describing the phenomenon to be explained (not that phenomenon itself)” and the explanans are “the class of those sentences which are adduced to

⁴⁷ For instance, Scott acknowledges in his introduction to Thompson’s (1967) classic book reprint that Gouldner’s (1959) recognition of “two underlying models...went far to account for much of the confusion and conflict among students of organizations” (p. xvii).

account for the phenomenon” (p. 137). Furthermore, as Hempel and Oppenheim (1948) note, “an explanation is not fully adequate unless its explanans, if taken account of in time, could have served as a basis for predicting the phenomenon under consideration” (p. 138). In light of the aim of this study, the usefulness of management accounting systems can be seen as an explanandum. The rational and natural perspectives, in turn, can be seen to represent two distinct sets of explanans.

6.1.2. Definitions of MAS Usefulness

Question 1.2 necessitated further elaboration on MAS usefulness by asking: Based on these perspectives (highlighted by answer on Question 1.1.), how can the usefulness of management accounting systems be conceptualized?

In general, neither rational nor natural perspectives, as such, provided detailed enough conceptualizations that could be followed to study organizational phenomena. To circumvent this challenge, two representative streams of research were outlined. To understand MAS usefulness from the rational perspective, the contingency theoretical literature was studied. To understand the natural perspective, the institutional theoretical literature was explored. The choice of these two theoretical streams was justified on the basis of their past and relevant importance, both in organizational studies and in the MA literature. Overall, the purpose was not to refine or present new versions of the theories, but rather to understand the theories in order to be able to use them as analytical and explanatory tools (cf. use of the NIS in Granlund and Lukka 1998).

MAS Usefulness from the Perspective of Contingency Theory

The study on the contingency theoretical literature revealed the varied nature of these studies, which necessitated a more detailed definition of how the rational perspective was understood in this study. Generally, contingency theories were identified to vary based on three main features: main contingency variables, conception of fit, and the type of underlying contingency explanation. By comprehensively reviewing the literature in light of these aspects, a number of challenges related to contingency theories were considered.

Although certain contingency variables have become dominant in both organization studies and management accounting (Donaldson 2001, Chenhall 2003), there appears to be much variation on variables used. Moreover, the operationalization of these contingencies into practical research instruments has been recognized to vary greatly from one study to another (Pennings 1992, Bisbe et al. 2007). To clarify the selection of variables, some of the most established sets of variables were illustrated with the help landmark studies from the areas of organizational studies (Child 1972, Dess and Beard 1984, Donaldson 2001) and management accounting (Otley 1980, Chenhall 2003).

The review on the conceptualizations of contingency fit revealed confusing overlaps to still prevail in the terminology of the main writers even though the importance of concept clarity has generally been emphasized both in organization studies and management accounting research (Van de Ven and Drazin 1985, Gerdin and Greve 2004). To clarify the understanding of the topic, different types of fit were suggested to vary based on three levels of choices. These were the type of dependent variable (congruency and contingency fit), the number of essential contingency variables (Cartesian and configuration fit), and the complexity of interactions assumed (selection, interaction and systems fit).

The review on contingency explanations highlighted three established models, namely, the contingency determinism model, the strategic choice model (Child 1972), and the structural adjustment model (Donaldson 1987). These explanations were further recognized to differ based on their level of detail, and hence, based on their complexities. Moreover, the review revealed that especially in the MA literature, contingency explanations have often been dealt with only implicitly, although the importance of assessing them has been variously acknowledged (e.g., Otley 1980, Hartmann 2005, Chenhall 2007).

In this dissertation, MAS usefulness was seen (from rational perspective) to result from the fit between the MAS and the contingencies in an organizational context. That is, a certain accounting system was more useful in particular settings than in others. The usefulness of the MAS was connected to three internal (technology, size, and organization structure) and three external (munificence, dynamism and complexity) contingency variables. As MAS usefulness was recognized to be a complex phenomenon, it was seen to necessitate the adoption of a configurational (cf. Donaldson 2001, 2006) and a systems perspective on fit (cf. Drazin and Van de Ven 1985, Van de Ven and Drazin 1985). Furthermore, as the goal was to understand MAS usefulness (the fit between the contingencies and MAS, not the performance that the possible fit yields), the type of fit in this study was congruent (cf. Fry and Smith 1987). As managers' ability to affect the organizational environment was perceived as limited, the structural adjustment model was seen to be the most logical choice in the contingency explanation.

MAS Usefulness from the Perspective of Giddens' Structuration Theory

Similarly than contingency theory, institutional theory was found to comprise from various theories, which required defining more exactly, how the natural perspective is comprehended in this study. In general, two disciplinary streams of institutional theory were recognized as particularly influential for MA research. In consequence, the review concentrated especially on economic and sociological institutionalisms, which were both further divided into old and new variants. Hence, the study outlined old institutional economics, new institutional economics, old institutional sociology, and new institutional sociology. Although, much variation can also be found within these schools, the review clarified the very basic suppositions that the different approaches on institutionalism held.

Old institutional economics stems much from the criticisms of orthodox (especially neoclassical but also the Austrian school) economic theories. OIE scholars see that orthodox economic theories hold unrealistic assumptions and lack attention to historical change. OIE theorists also emphasize the importance of individual tastes and preferences. (cf. Scott 2008) Hence, it is perceived to be important to take account the influences that shape these tastes and preferences in the studies assessing them (Moll et al. 2006). To tackle this challenge, OIE scholars take the ‘settled habits’, ‘established routines’ and ‘rules of conduct’ explicitly into consideration (Mäki 1993, Scott 2008). Furthermore, they often emphasize the evolutionary nature of change (Hodgson 1999, Scott 2008).

New institutional economics can be seen as a countermovement of a countermovement. That is, whereas OIE has been the countermovement of orthodox economic theories, NIE was developed as an extension of these thoughts (Hodgson 1989, Mäki 1993). Because of these roots and its tendency to retain a notion of (limitedly) rational actors, NIE strongly differentiates itself from other institutional approaches (Scapens 1994). As Langlois (1986) notes, “it is perhaps fair to say that this modern institutionalism reflects less the ideas of early institutionalists than it does those of their opponents” (p. 2). In general, NIE theorists seek to explain the existence of some institutions and the non-existence of some others (Moll et al. 2006).

Old institutional sociology represents the earlier steps of sociologists to study societies and organizations with the help of institutional aspects (Scott 1987, Scott 2008). The early institutional sociologists viewed society as an organic system evolving through time (Scott 2008). Although the later generations of sociologist discarded the strong biological and evolutionary analogies, they recognized the importance of institutions as a sociological focus. When organizations became the interest of study in the late 1940s, institutional sociologists also entered the field (Scott 2008). Although OIS includes a varied body of research, the research shares, for example, a common interest in institutionalization and institutional change (see e.g., Selznick 1957, Berger and Luckmann 1966, Giddens 1979).

New institutional sociology is distinguished from OIS with its emphasis on macro level cognitive frames and cultural frameworks, rather than micro level normative systems (Powell and DiMaggio 1991, Scott 2008). Whereas OIS emphasizes institutional differentiation, NIS seeks to explain why organizations in particular fields appear to be similar (Scapens 2006). Further, NIS considers the institutionalization process to be more active, whereas in OIS the compliance with institutions is more taken for granted (Oliver 1991).

In this dissertation, Giddens’ (1979, 1984) structuration theory was adopted to study MAS usefulness from a natural perspective. This stream of the literature was found to be the most closely related with respect to the old institutional sociological tradition. From a structuration theoretical perspective, MAS usefulness was seen to result from the fit (cf. Donaldson 2008b) between the MAS and prevailing institutional conditions (Orlikowski 1992). Moreover, it was

seen that MAS usefulness could be studied from the perspective of the three structuration processes (signification, legitimation, and domination).

6.1.3. Proposed Conceptualization of MAS Usefulness

Question 1 synthesized the two above sub-questions (Question 1.1 and 1.2) by asking: What kind of conceptualization of usefulness would capture the organizational realities connected to management accounting systems design?

Based on the earlier literature, both organizational studies and MA research are divided into two dominating paradigmatic streams. The perspectives of these streams and the theories representing them were found to emphasize very different aspects. Whereas the rational perspective sees the organization as a purposeful instrument, the natural perspective perceives the organization as a behavioral whole. The review of earlier literature also revealed various calls to end the juxtaposition and suggestions to combine the perspectives, and that the differences among the perspectives should be seen as complementary and not as contradictory.

This dissertation argues that MAS usefulness could be best understood as a union of rational and natural perspectives. In essence, this dissertation revises and revitalizes the 30-year old argument by Boland and Pondy (1983): “the use of accounting in organizations is both a rational and a natural process” (p. 224). This is seen as particularly appropriate as although this remark has been widely cited, it appeared to have been somewhat neglected in empirical MA research. A possible reason for the absence of these kinds of studies has been the lack of clarity concerning how such research enquiry could actually be pursued (Chua 1986). Based on these perspectives, Boland and Pondy (1983, 1986) end up providing rather descriptive analyses. At the same time, they fail to provide concrete enough conceptualizations that could be used to give answers to practical questions.

A possible solution to combine rational and natural perspectives could be a theoretical standpoint that would, as such, cover both rational and natural perspectives. However, the argument of two distinct organizational perspectives is as such highlighting that such theories do not generally exist. On the other hand, if the perspectives could be combined, why not combine established theories that already represent the standpoints?

A central argument in this dissertation is that combining rational and natural perspectives could be achieved with theoretical triangulation⁴⁸. In the past, the application of multiple theories to answer a certain question has been encouraged both in organization studies and in

⁴⁸ Recently in the MA literature, Vaivio and Siren (2010) and Modell (2010) have suggested that paradigms could be combined with the help of methodological triangulation. This dissertation joins this discussion by further proposing the use of theoretical triangulation. In the MA literature, Hopper and Hoque (2006) have already acknowledged the possibility of combining theories that have fundamentally different assumptions. However, they also recognize that this kind of triangulation is relatively more ambitious and difficult to conduct than such that operate within a certain paradigm.

MA research (cf. Denzin 1970, Hopper and Hoque 2006). This multi-theoretical and pluralistic view acknowledges that “theories are not statements of some ultimate ‘truth’ but rather are alternative cuts of a multifaceted reality” (Poole and Van de Ven 1989 p. 563). Alternatively, as Hopper and Hoque (2006) note, “theory triangulation can help one to take advantage of the complementarities of different theories and gain alternative interpretations of the same phenomena” (p. 479). In addition, it is further seen that “comparing and contrasting multiple models that reflect different perspectives is essential for discriminating among error, noise, and robust information about a complex problem being investigated” (Van de Ven and Johnson 2006 p. 814).

In this dissertation, MAS usefulness was examined with the help of contingency and institutional theoretical frameworks. The choice of these theoretical foundations was based on their wide acknowledgement in MA research. It was also recognized that the two theoretical streams had already been combined with success in the past in organizational studies (Gupta et al. 1994, Ketokivi and Schroeder 2004, Donaldson 2008b). In a management accounting context, Alam’s (1997) study represents an example of the possibility of merging the theories. As Modell (2009) has recognized, some endeavors to join “institutional theory with functionalist approaches, such as contingency theory” (p. 215) can be also found from the studies of (e.g., Covaeski and Dirsmith 1983, Hoque and Hopper 1994, 1997). To my knowledge, this dissertation is, however, the first full representation of the research process required to combine rational and natural perspectives with theoretical triangulation.

6.2. On Empirical Examination

The purpose of the empirical part of the dissertation was to further validate and refine the proposed theoretical conceptualization. To do this, both the rational and natural aspects of MAS usefulness were analyzed in two case settings. In both cases, accounting development focused on introducing such systems that could be used at the interface of customers’ procurement and suppliers’ sales functions. Despite similarities in the aims of development processes, there were major differences in organizational settings between the cases.

6.2.1. MAS Usefulness in the Case Contexts

Question 2.1 steered the study towards an empirical examination by asking: How is management accounting systems usefulness constructed in the context of sales and procurement?

In Case A, the MAS development process was mainly initiated because of rationalist pressures suggesting potential usefulness. First, the principal company aimed to expand the share of industrial services in its offering and saw that providing accounting tools for customers could be a way to achieve this aim. In other words, the company recognized that other ways of organizing customer discussions could be more effective to achieve desired performance (cf. Galbraith 1973). As the case was being investigated, a significant cluster of customers

who could perceive the system as useful was recognized. In addition, the features of the prevailing market environment were also recognized to emphasize MAS usefulness. In other words, introducing MAS to facilitate supplier evaluation was seen to fit well with prevailing contingencies.

In the later phases of the MAS development process in Case A, the importance of natural aspects was emphasized. However, whereas the rational perspective promoted the potential usefulness of MAS, the natural perspective highlighted especially the challenges limiting it. The mismatch between the established structures and the new practices related to MAS use were perhaps the most important factors restricting adoption. That is, although MAS was tailored to make the appearance and the terminology to match better with existing discursive practices, the use of accounting was not seen to fit with prevailing structures.

In Case B, the MAS development process was started to a large extent because of naturalist pressures. Nevertheless, the principal company also held a rational goal to expand its business. During the early phases of the development process, the link between MAS development and business performance was, however, quite unclear. Simultaneously, a number of competing providers already used accounting tools to facilitate discussions with their customers. In consequence, the principal company had a greater need to gain legitimation and exercise power with the help of MAS. Hence, having MAS to support customer discussions seemed especially useful when the dimensions of structuration were analyzed⁴⁹.

The fact that the development process advanced somewhat sluggishly in Case B, although MAS was acknowledged to be useful from the natural perspective, is well in line with earlier findings. As Thompson (1967) has remarked, “organizations strive to be rational although they are natural (and open) systems” (as condensed by Scott 2003 p. 106 [brackets added]). The uncertainty in the rationality of developing MAS to support discussions with customers meant that at the beginning, not too much noise was made about the project. During the development process, these aspects were gradually recognized as developers’ understanding of the possibilities of such systems and their potential role in customer discussions grew. After the MAS was recognized to be useful from a rational perspective, promoting the project became easier. These rational elements could be assessed with the help of contingency theory.

Undoubtedly, both rational and natural perspectives provided interesting insights on organizational phenomena. Although a few authors (e.g., Ansari 1977, Boland and Pondy 1983, Cooper 1983) have suggested combining the rivaling perspectives, such research has re-

⁴⁹ Structuration theoretical analysis clearly highlights how “modes of discourse are interwoven with forms of domination and legitimation” (Giddens 1979 p. 107). In Case A, the challenges related to signification also eliminated the potential of MAS in terms of legitimation and domination. On the other hand, in Case B, the use of accounting information to support business discussions was already seen as a somewhat established way of signification, which provided support for the role of MAS in the sense of legitimation and domination.

mained scarce in management accounting research. The empirical evidence of this dissertation provided further support for these arguments. In addition to highlighting the importance of these perspectives, the case studies illustrated that both institutional theoretical and contingency theoretical lenses could be used to highlight the aspects affecting MAS usefulness from their relevant perspectives. Nonetheless, there are still a number of other theoretical foundations that could have been used to provide rationalist and naturalist perspectives for the analysis. For example, Zhang and Dhaliwal (2009) have conducted an analysis by combining resource based and new institutional sociological views.

In addition, the case studies highlighted that neither rational nor natural aspects were alone sufficient to explain the observed behavior in the case environments. In Case A, rational aspects succeeded in providing rather good explanations on why MAS development emerged. Nevertheless, their ability to describe why the adoption of the system was finally challenged was limited. On the other hand, although the natural aspects provided better explanations for issues that challenged the adoption of the system, the image they provided on the reasons for MAS development initiators remained somewhat incomplete. In Case B, the natural aspects highlighted the main reasons that MAS development was initiated. At the same time, these aspects alone were insufficient to describe why adopting such a new practice (for the principal company) was seen as feasible. Introducing rational aspects into the case analysis provided further insights that supplemented our understanding of why MAS was seen as useful in this case.

The cases also highlighted how the prominence and significance of rational and natural explanations can vary between cases and different phases of the development process. In Case A, rationalist explanations demonstrated an initial dominance, but in the later phases the importance of natural aspects became evident. In Case B, the relative importance of these explanations was vastly different. The findings suggested that MAS usefulness is a dynamic phenomenon in which the relative importance of rational and natural aspects changes in time and space. At the same time, it should be emphasized that in practice, rational and natural aspects often have concurrent effects on MAS usefulness. Acknowledging the dynamic nature of organizational phenomena, such as MAS usefulness, adds to existing literature that has recognized the importance of connecting the two perspectives (Boland and Pondy 1983, Boland and Pondy 1986, Jönsson 1987).

6.2.2. Proposed Conceptualization in the Case Analysis

Question 2.2 required further evaluation of the benefits and disadvantages of the proposed conceptualization in light of empirical evidence by asking: How does the proposed conceptualization help us to explore and analyze the construction of management accounting systems usefulness?

As some earlier scholars (Boland and Pondy 1983, 1986, Jönsson 1987) have noted, both rational and natural aspects can be enlightening, but as such, they are threatened to provide somewhat inconclusive explanations. The case studies presented in this dissertation lent further support for this viewpoint.

In the prevailing MA literature the rational perspective on MAS usefulness has been perhaps somewhat emphasized. MA scholars following the rationalist paradigm have sought to understand the nature of MAS usefulness especially with different kinds of contingency theoretical formulations. The results from contingency studies have been found, however, to be somewhat fragmented and even contradictory (Waterhouse and Tiessen 1978, Otley 1980, Gerdin and Greve 2004, 2008). One explanation for this problem has been the inconsistency in the selection and operationalization of contingency variables (Waterhouse and Tiessen 1978, Pennings 1992). Other explanations have blamed the differences in how the contingency fit has been operationalized (Gerdin and Greve 2004) and what statistical methods have been used (Gerdin and Greve 2008). The findings of this dissertation suggest that a reason for the inconsistency can stem from an ignorance of natural aspects, which has been common with contingency theoretical formulations. However, whereas Boland and Pondy (1983) propose a genuine union of rational and natural systems theories as an alternative to contingency theory, this dissertation advocates the combination of these streams as a more general approach for organizational enquiry.

The finding that the importance of rational aspects are not necessarily dominating organizational behavior is especially interesting, as it essentially challenges the basic suppositions of a rather large body of research that has studied the usefulness of accounting systems (e.g., Chenhall and Morris 1986, Mia and Goyal 1991, Mia and Chenhall 1994). In both empirical cases, rational aspects supported MAS usefulness. However, in Case B natural aspects were against usefulness and hence, the adoption of MAS was restricted. This dissertation is not alone acknowledging the limitations of purely rationalist perspectives. For instance, already over 25 years ago, Ansari and Euske (1987) noted that sometimes there is not much “technical rationale” for the system. In addition, a large body of (naturalist) research showing criticism on rational perspectives has also highlighted this challenge (see e.g., Hopwood 1987, Baker and Bettner 1997, Ahrens and Chapman 2007).

On the other hand, the study of accounting systems from a one-sided natural perspective would not be any better an alternative to adopting a strictly rational perspective. In both case studies, natural perspectives alone would have provided an insufficient picture of perceived MAS usefulness. This threat related especially to those phases in which rational aspects were strongly present. The importance of acknowledging also the rational aspects of organizing has been earlier pointed out, for instance, by Carruthers (1995). When analyzing NIS contributions to the MA literature, he acknowledges that the theoretical stream typically emphasizes natural aspects. However, “when organizational output is easily measurable, when productive

technologies are well defined, and when criteria of success are unambiguous, then technical efficiency matters” (Carruthers 1995 p. 316).

6.2.3. Viability of Proposed Conceptualization

Question 2 requested a synthesis of the empirical examination (Questions 2.1 and 2.2) by asking: How does the proposed conceptualization of usefulness capture the organizational realities related to management accounting systems design?

The conceptualization provided in this dissertation suggested that MAS usefulness could be best understood as a union of rational and natural perspectives. It was further argued that the union of perspectives could be achieved by adopting theoretical lenses that represent the relevant paradigms. The empirical case evidence provided support for the results of the conceptual development. Acknowledging supplementary theories succeeded in delivering a more comprehensive and conclusive understanding of the studied organizational phenomena, i.e., MAS usefulness at the interface of sales and procurement. Recently, the strengths of theoretical triangulation have been acknowledged in the MA literature, for example, by Modell (2005) and Hopper and Hoque (2006). In addition, the empirical evidence was able to offer some insights to support our understanding of the reason/s the extant literature has occasionally attained contradictory results even inside specific theoretical streams. These findings further encourage analyzing different organizational phenomena as a union of rational and natural aspects.

Studying organizational phenomena by combining paradigmatic perspectives with the help of theoretical triangulation can be recognized to involve some challenges. These challenges, which were clearly manifested also in the research process of this dissertation, can explain the scarcity of this kind of research in the MA literature.

In order to conduct paradigmatic triangulation with the help of multiple theories, researcher needs to have extensive knowledge of different theoretical streams. Although mastering multiple theories is an attribute of a good researcher, in practice this is not necessarily always the case. On the contrary, it might appear to be a more prominent way to promote an academic career, at least in the short run, by solely concentrating on a certain theoretical stream. This could happen because getting familiar with multiple theoretical perspectives requires plenty of effort and time. These practical limitations have also affected this dissertation despite from the start the aim has been to build sufficiently strong foundations for the study.

Choosing streams of scientific enquiry⁵⁰ to represent rational and natural perspectives represents another challenge. This choice ends up being somewhat arbitrary as there is no universal best theory base that could be chosen (cf. Thorngate 1976, Weick 1979, Kuhn 1989). In this

⁵⁰ Morgan (1980) has labeled the “basis of schools of thought” as ‘metaphors’. These metaphors are something narrower than paradigms representing “alternative realities”, but at the same time broader than specific puzzle-solving activities that are “based on specific tools and texts” (Morgan 1980).

dissertation, contingency and institutional theoretical schools were chosen because they were recognized as highly established streams, and the possibility of combining them successfully was already demonstrated by earlier scholars. These schools are not complete mirrors of the paradigms they represent, but they were found to provide appropriate sets of lenses to study different phenomena in organizational settings. Hence, some other sets of theories could provide equally good foundations for the analysis of MAS usefulness at the interface of sales and procurement.

Perhaps the most commonly recognized challenge of theoretical triangulation relates to the choice of specific theoretical lenses that appropriately supplement each other (Modell 2005, Hopper and Hoque 2006, Hopper and Major 2007). In this dissertation, a broad literature review was conducted on contingency and institutional theoretical streams of study to provide a concrete conceptualization of MAS usefulness for the empirical analysis. This review illustrated that theoretical streams divide into various sub-theories, among which the differences can even be greater than between the theoretical streams. Acknowledging these nuances further highlights the necessity for caution when selecting the theoretical lenses⁵¹.

Finally, adopting two sets of theoretical lenses means, at least, twice the work with the empirical analysis. As the researchers' work is often task-laden, settling on a single analytical lens is often a justifiable strategy. In addition, the monistic approach removes (at least to some extent) the need to reflect the findings that different theoretical lenses provide. As far as there is no any greater demand for pluralistic studies, their numbers in the MA literature are deemed to be relatively small.

⁵¹ Despite the diligence in the choice of theoretical lenses, a few issues caused some minor challenges. For example, the notion of structure has been widely used both in contingency and structuration theoretical research. The meanings that this notion carries in these perspectives are rather different, thereby requiring constant attention.

7. Conclusions

This concluding chapter presents a synthesis of the preceding six chapters to highlight the merits and limitations of the study. The chapter begins by focusing on the academic contributions of the study. Following from this, the chapter focuses on the practical implications, which provides another important domain for the study's contributions. The research ends with a critical examination of the limitations and provides some recommendations for further research.

7.1. Theoretical Contributions

The ultimate objective of this dissertation was to clarify the unclear and ambiguous notion of 'management accounting systems usefulness' in its organizational context at the interface of sales and procurement. With the help of theoretical conceptualization and empirical examination, *the study has argued and illustrated that MAS usefulness could be better understood as a union of rational and natural perspectives rather than by relying on either of these perspectives alone*. In general, the distinct character of rational and natural perspectives in organizational studies was recognized already over 50 years ago by Gouldner (1959). The argument emphasizing the importance to study accounting practices as a union of rational and natural perspectives has also been long-standing (Boland and Pondy 1983, Tomkins and Groves 1983, Hopper et al. 1987) and well-known in the MA literature (see e.g., Chua 1988, Baxter and Chua 2003, Ahrens 2008). Nevertheless, such a dialectic perspective has been seldom adopted in empirical MA research. Hence, this dissertation has *contributed to the current MA literature by revitalizing the argument for pluralistic studies*⁵².

This dissertation has been one of the first studies in the MA literature to *answer the calls to study MA and related systems as a union of the distinct paradigmatic perspectives*. To my knowledge, so far the studies by Boland and Pondy (1986) and Jönsson (1987) are the only examples of MA research in which accounting practices are actually studied as a union of the perspectives in an explicit way. In addition to representing an empirical examination, this dissertation has provided *an illustration of a research process, which can be further applied to make theory-informed pluralistic research*. The illustration of the research process has also shed some light on the reasons of why this kind of research has been rare in the MA literature. To begin with, to study MAS usefulness as a union of rational and natural perspectives, re-

⁵² It is acknowledged that various studies use more than one theory. Nonetheless, having multiple theories does not necessarily mean that the studies are truly pluralistic at their philosophical stance.

searchers are required to have broad knowledge or a willingness to achieve that knowledge of different theoretical streams. In addition, choosing appropriate streams of enquiry and theoretical lenses to represent rational and natural perspectives were found to represent another challenge that requires time and effort. Finally, the effort needed to analyze empirical data with multiple perspectives was recognized to be significantly greater than in monistic approaches.

The study illustrated the possibility of using a pluralistic perspective to understand MAS usefulness at the interface of sales and procurement. In general, there is growing interest to understand the uses and usefulness of MAS in inter-organizational relations (Meira et al. 2010). However, much of this inter-organizational discussion has focused on inter-organizational cost management having an emphasis on cost reduction aspect (Ellram 1996, Kulmala 2004, Anderson and Dekker 2009). Here, *the objective was to understand MAS usefulness more broadly at the interface of sales and procurement—a contextual setting that was still novel for pluralistic research*. Although combining rational and natural perspectives has been suggested generally, the applicability of such approach in this contextual setting has not been confirmed before. Moreover, MAS usefulness, *per se*, has remained a largely unexplored topic in inter-organizational studies.

The theoretical conceptualization required a clarification of how the selected theoretical bases were understood in this study. *The reviews on contingency and institutional theoretical streams of research have yielded some findings that can be seen to contribute to academic discussion*. The examination of the contingency theoretical literature illustrated the varied nature of contingency theories. With the help of the review, it was suggested that contingency theories differ based on three main aspects: the contingency variables applied, the conception of fit, and the type of contingency explanation adopted (cf. Van de Ven and Drazin 1985, Dent 1990, Pennings 1992). These fundamental assumptions have rarely been discussed in the MA literature to this extent. Recognizing the central choices associated with contingency theorizing could support our understanding of the causes of some contradictions⁵³ that exist in the literature. In other words, it is hardly a surprise that fundamentally different contingency formulations end up with different conclusions.

The institutional theoretical literature was also revealed to be highly diverse, although sometimes the term ‘institutional theory’ seems to be used as if it was self-explanatory. Hence, a decision was made to concentrate on institutional thought in the fields of economics and sociology, as they were identified as the most influential for MA research. It was also recognized that both in sociology and in economics, institutional schools are often further divided into old and new variants (see e.g., Hodgson 1989, Powell and DiMaggio 1991). The different streams of institutional thought seem to be increasingly recognized in the MA literature. However, for some unknown reason, old institutional sociology is not typically distinguished as its own

⁵³ The contradictory (and complementary) findings of contingency theoretical MA studies are discussed in more detail, for example, by Otley (1980), Fisher (1995), and Langfield-Smith (2007).

branch of institutionalism in the MA literature (see e.g., Burns and Scapens 2000, Moll et al. 2006, Van der Steen 2006). This perhaps indicates (at the minimum) the prevalence of some conceptual differences between broader organizational enquiries and the MA literature that should be solved. For instance, the way that OIE is understood in the MA literature seems to diverge slightly⁵⁴ from the more generally established understandings.

7.2. Practical Implications

It is generally acknowledged that studies in the applied fields of science, such as in management accounting, should be useful for individuals, organizations and societies under study (Ittner and Larcker 2002, Malmi and Granlund 2009). Although this dissertation has focused mainly on supporting our conceptual understanding of MAS usefulness, its findings also have practical implications.

From a pragmatic perspective, an important message of this dissertation has been to emphasize the need to *recognize and admit the importance of both rational and natural aspects of usefulness when designing, developing and obtaining accounting systems and tools*. If rational perspectives are overemphasized, the accounting systems may fail to become useful, as they may not fit naturalistic needs that convey our everyday interactions in business organizations as well as in any other contexts. On the other hand, if natural perspectives are overly emphasized, the systems may fail to fulfill the desired rational purposes. In this light, the gap between the accounting practices preferred by managers and those fostered in the management literature and by consultants arguably stems either from managers under-rationality or from the tendency of the management literature and consultants to undermine natural aspects. The fact that sometimes organizations introduce an MAS that ends up being unuseful highlights an organizational inability to balance the importance of rational and natural aspects in accounting development projects, or that the organizational context has changed in such way that the old systems no longer fulfill their purpose. *Recognizing the (altering) importance of both perspectives may help avoid (at least some of) the situations in which accounting systems “surprisingly” end up being unused* because they are seen as unuseful.

As noted by Ittner and Larcker (2001, 2002), the management accounting literature and accounting tools and methods promoted by business consultants are strongly driven by different managerial fads and fashions (see also Abrahamson 1991, 1996). *Based on the theoretically informed analysis, an aggressive following of such (managerial) fashions does not necessarily lead to useful accounting practices*. From a contingency theoretical perspective, large-scale

⁵⁴ Whereas in economics the term OIE is typically associated with the ideas of early institutional economists in management accounting, Burns and Scapens' (2000) model of institutional change is, for instance, referred to as an OIE framework. Based on the review presented in this dissertation, that specific model much more strongly represents the ideas of the sociological tradition than those of early institutional economists. Although there has admittedly been some interplay between the disciplines, the term OIE seems to have become over-extended by MA scholars.

modifications to accounting practices should only occur if they actually increase the efficacy of organizational work. From an institutional perspective, changes in accounting can also be justified with the possibility to achieve higher institutional compliance. As the term fashion implies, sometimes institutional compliance is emphasized in organizational decision-making. From the managerial perspective, the interesting question then becomes: To what degree is it reasonable to follow the trends, even at the expense of organizational efficiency? It is possible that in some cases, developing a current, or adopting a new, MAS is justifiable both from rational and natural perspectives. However, in such cases the question is not only about following the fashion.

In general, it seems likely that there is no ultimate list of criteria that could be used to provide a detailed description of the usefulness of MAS. Nevertheless, the theoretical conceptualization of this dissertation can *provide some very basic terminology to explain why certain kinds of MAS are perceived to be useful in specific organizational settings*. From a contingency theoretical (rational) perspective, MAS usefulness was seen to result from the fit between the MAS and the organizational context, which was assessed by recognizing three internal/organizational (technology, size, and organization structure) and three external/market related (munificence, dynamism and complexity) contingency variables. From a structuration theoretical (natural) perspective, MAS usefulness resulted from the fit between the MAS and the prevailing institutional surroundings, which was assessed by acknowledging three structuration processes (signification, legitimation, and domination). Although usefulness was operationalized in this dissertation with the abovementioned criteria drawn from contingency and institutional theoretical writings, other sets of variables—perhaps drawn from a different theoretical basis—could be justified as well. Sets of criteria could also be refined by considering MAS design choices in more detail (cf. Chenhall and Morris 1986, DeLone and McLean 1992, Reeves and Bednar 1994). However, recognizing both rational and natural facets of MAS usefulness remains essential.

7.3. Limitations

This dissertation is essentially a conceptual study although it also includes an empirical component. While conducting research, one is faced with a variety of choices that lead to different strengths and limitations. Guba and Lincoln (1994), for instance, suggest that choices are made on the levels of ontology, epistemology and methodology of a study. On the other hand, sometimes the importance of methodological issues and activities, such as sampling, data collection, and data analysis, are particularly stressed (e.g., Van de Ven and Drazin 1985, Ferreira and Merchant 1992, Kauranen et al. 1992). In this dissertation, the strengths and limitations of research design were discussed at a general level in Chapter 2. In this chapter, the focus is more specifically on the choices made during the research process that presented certain limitations.

The theoretical conceptualization of MAS usefulness in this dissertation was based on the earlier discussion about the importance of studying organizations as a union of rational and natural perspectives. *While such a pluralistic approach was argued to provide an appropriate basis to study MAS usefulness, the viability of specific theoretical foundations adopted as the domains of the rational and natural standpoints could be challenged.* In this study, the contingency and institution theoretical streams of organizational enquiry were selected because of their broad acceptance and legacy both in organizational research and in management accounting. It was recognized, however, that some other streams of research could have equally reflected the two organizational perspectives. That is, some other choices could have been just as appropriate as contingency and institutional theoretical streams to supplement each other's views. Hence, it is possible that some other theoretical choices could have also provided lucrative foundations for empirical illustration. However, with the prevailing knowledge, the contingency and institutional streams were the most feasible choices. Nevertheless, in future studies inspiration could be drawn from a multitude of theoretical streams. Perhaps these studies can shed light if some other foundations could help us understand accounting practices better in their organizational context.

The manner in which the theories were understood and operationalized in the empirical examination can also be contemplated. During the process, contingency and institutional theoretical streams of enquiry were both recognized as relatively diverse. Much of the discussion within these streams (and about the nature of these streams) has also highlighted the prevalence of various complications. The potential challenges were arguably avoided with the help of the detailed reviews on the contingency and institutional theoretical streams of enquiry. Adopting a pluralistic perspective, however, necessitated a somewhat unorthodox operationalization of the theories. This does not mean that the theories were understood or operationalized in a wrong way. Rather, it highlights that there were some peculiar characteristics in their adoption.

In relation to the empirical examination, the study can be argued to lean a bit on the naturalist side. The qualitative case study methodology is in general more accepted by naturalists. This does not necessarily mean that this study would be dictated by the naturalist perspective. In essence, as argued by Guba and Lincoln (1994) and Hunt (1994), certain methodological choices, i.e., the quantification of data or size of the sample, are not restricted only to certain paradigmatic perspectives. Generally, I would like to encourage a relaxation of some assumptions that often bond theoretical perspectives and adopted research designs. For example, why don't we have more qualitative contingency studies? As such, there does not seem to be any restrictions in this sense (for more about the foundations of contingency theory, please refer to Section 4.2.1).

Finally, *a reliance on two empirical cases may provide a somewhat limited understanding of MAS usefulness* (for more about the generalizability of case studies, please refer to Section 2.3.2). With the help of the case evidence, it was possible to illustrate that purely rational and

natural perspectives can be insufficient to define MAS usefulness at the interface of sales and procurement. However, this does not mean that the explanations provided by extreme perspectives are always misleading. As the number of organizations is extremely high, it is possible—if not probable—that in some organizational settings, MAS usefulness is dictated purely by natural aspects, for instance. To expand our understanding of the potential differences of how MAS usefulness forms in different organizational settings, studies with larger samples are needed. Such studies could reveal, for example, whether rational aspects dominate the natural ones or *vice versa*.

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