

Domain theory and method theory in management accounting research

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Structured Abstract

Purpose: In this paper we distinguish two roles of theories, domain theory and method theory, and examine their relationships in management accounting research. Are these two roles explicitly distinguished in management accounting studies? Can this be achieved in an unambiguous manner? Where do ambitions for theoretical contribution lie in management accounting studies that employ method theories?

Design/methodology/approach: We develop a conceptual framework for analysing possible relationships between domain theories and method theories in studies and illustrate our theoretical arguments with examples from management accounting studies employing ANT as their method theory.

Findings: There can be various types of relationships between domain theories and method theories, and the theoretical ambition of the analysed studies typically focused on domain theories. However, ambiguity can exist with regard to the location of a study's theoretical ambition. Both domain theories and method theories tend to be moving fields, and their interaction can add to this feature.

Research limitations/implications: The suggested conceptual clarification assists in the reconciliation of extreme perspectives that relate to management accounting and theory. It will also help researchers to systematically design their own work and evaluate that of others. An increased understanding of how a field develops as a result of interaction with method theories might perhaps alleviate concerns regarding the value of mobilizing the latter.

Originality/value: Our analysis contributes to the on-going debate on the value and effects of employing method theories, or theoretical lenses, in management accounting research.

Keywords: domain theory, method theory, actor-network theory, management accounting

Article classification: Conceptual paper

1. Introduction

Chair in research seminar: Thanks for your presentation, Lee. It was interesting to learn how your case company went about developing their performance measurement system. Now, does anybody have any questions or comments about the presentation?

Colleague # 1: I have a question about the theory part. Didn't you say that the theory you are using here is Actor-Network Theory?

Presenter: Yes, that's right.

Colleague #1: Okay then, could you tell us how your research actually contributes to ANT? I didn't get that from your presentation.

Presenter: Well, ummm....ANT is a popular theory for studying how innovations are constructed, and I'm trying to show how different interests affected how the system eventually turned out...I'm not sure if this answers your question...

Colleague #1: Actually, what I meant was, what new things did you learn about ANT in this study?

Colleague #2: Is the aim in this research really to develop ANT? Aren't you trying to contribute to the theory on performance measurement?¹

The purpose and function of theories in research are a constant source of inspiration to scholars of management accounting. New or refined frameworks for characterizing a study's contribution to theory have been presented, such as Keating's (1995) taxonomy that categorizes studies according to whether their purpose is to discover, illustrate, specify, or refute theory. However, as such, is the notion of theory sufficient to cover all relevant aspects? In interdisciplinary management accounting studies, theories often appear in two distinct roles, domain theory and method theory – the categorization introduced by Lukka (2005). A domain theory refers to a particular set of knowledge on a substantive topic area situated in a field or domain² such as management accounting, while a method theory can be defined as a meta-level conceptual system for studying the substantive issue(s) of the domain theory at hand. It is important to realize that these definitions of domain theory and method theory are not absolute, but essentially relative; no theory is a domain theory or a method theory *per se* as the label depends on their *role* in the study in question. Moreover, these roles are not static categories as they interact with each other over time.

While the application of method theories, or “theoretical lenses” (e.g. Modell, 2005; Cuganesan & Lee, 2006; Baxter & Chua, 2008; Emsley, 2008; Gurd, 2008), is not a novel phenomenon in management accounting research, their contribution to developing theoretical knowledge is sometimes claimed to be unclear (Humphrey & Scapens, 1996; Vaivio, 2008; Malmi & Granlund, 2009a). In addition, there appear to be two contrasting perspectives on management accounting: At one extreme are scholars who regard management accounting as a purely empirical field, to be studied with theories imported from, for instance, economics, psychology, or sociology (e.g. Krishnan, 2010). The other extreme is represented by researchers who regard management accounting as a distinct domain with its own theories (Malmi & Granlund, 2009a). Therefore it seems that the distinction between a domain theory and a method theory, and the application of method theories in management accounting research, deserve more attention than they have thus far received. Increased awareness of the distinction between domain theories and method theories, and their various types of relationships, can be of great help to our academic community. The conceptual clarification is expected to facilitate communication between researchers, and assist in reconciling the extreme perspectives that relate to management accounting and theory. Through profound consideration of these issues, researchers are also likely to become more conscious of the various types of theoretical ambition and targets of contribution that a particular piece of research includes or can include. This should be useful in helping researchers to systematically design their own work and evaluate that of others. It might also be argued to save researchers' resources by enabling them to clearly articulate their

¹ We thank Latour (2005) for inspiring this dialogue.

² We will henceforth use the terms 'domain' and 'field' interchangeably.

ambitions and contributions, and thus, for instance, decrease submissions to journals of papers with confused theoretical agendas. This line of thinking might be introduced to doctoral students at the outset of their research careers in order to diminish confusion and guide the development of their theoretical thinking. Finally, an increased understanding of how a field develops as a result of interacting with method theories might perhaps alleviate concerns regarding the value of mobilizing the latter.

Our aim in this paper is to analyse and discuss the relationships between domain theories and method theories in management accounting research; an issue that we believe needs considerable clarification. We attempt to accomplish this aim both by analytical reasoning and a thorough exploration of published management accounting studies that apply a method theory. In particular, we will seek to find answers to the following questions: Are the roles of domain theories and method theories explicitly distinguished in management accounting studies? Can this be achieved in an unambiguous manner? Where do the ambitions for theoretical contribution lay in management accounting studies that employ method theories? How does the interaction between domain theories and method theories shape our understanding of the field of management accounting over time?

In particular, we will consider these issues in the case of Actor-Network Theory (ANT) as an *example* of how method theories are mobilized in management accounting studies. Our choice to examine ANT in particular stems from the observation that while it has become a popular and esteemed theoretical lens in management accounting research, sometimes researchers who utilize it do not seem to be clear on where their theoretical ambition lies. There are, for instance, some ANT based studies that, at least initially, seem to lack any ambition to produce a contribution to any domain theory. Are these papers therefore targeted at contributing to the method theory, in this case ANT? Or, do these articles contain a domain theory related ambition, which has simply not been explicated?

Our exploration is conducted with the help of an in-depth analysis of the prior management accounting research literature based on ANT. Although our paper has particular tangential points with that of Justesen & Mouritsen (2011), our aim is not to review ANT inspired management accounting research but to shed light on our questions concerning the relationships between domain theories and method theories, and to illustrate our theoretical arguments with examples from those studies. The starting point for our analysis is the study's research question, which typically is expected to be clearly motivated and based on the problematization of one or more aspects of a specified domain theory in the field of management accounting. We then consider the explication of the domain theory and the article's justification for selecting the method theory. Finally, we analyse the manner in which the method theory is applied in each study. Our analysis reveals five different types of relationship, the most prevalent of which is an instrumental usage of the method theory to produce a contribution to a specific domain theory.

We will also pay attention to the long-term effects of the interaction between domain theories and method theories, again focusing on the example of management accounting and ANT. Our analysis indicates that both domain theories and method theories tend to be moving fields, and that their interaction can add to this feature. However, these effects seem to be asymmetrical as domain theories tend to change more often than method theories in this interaction. In the case of management accounting, various method theories, including ANT, have shaped our understanding of the domain over time, and thereby management accounting knowledge has gradually become what it previously was not (cf. Hopwood, 1983). As such, the particular contribution of ANT is to have opened the eyes of scholars to a world full of possibilities, where actors come in various forms, and stability is always at risk of being only momentary. ANT has also shifted the boundaries of management accounting to the extent that some of its concepts seem to have become, or are in the process of becoming, black boxed, or part of standard vocabulary. For instance, ANT based relationist explanations of management accounting change are nowadays included in several business school textbooks.

The rest of the paper proceeds as follows. Section 2 defines and explains the concepts of domain theory and method theory, especially in the context of management accounting research, and develops our conceptual framework. Section 3 applies the framework to study the recognition and implications of the domain theory/method theory distinction in published management accounting articles that utilize ANT as their method theory. Section 4 discusses the overall findings of the research and the nature of accounting as a platform for domain theories, the nature of ANT as a method theory, and the dynamic relationship between the two. Finally, Section 5 presents our conclusions.

2. Domain theories and method theories

2.1 The prior literature

Recent developments in assessing management accounting studies from the theoretical perspective are combined in Lukka's (2005) six item taxonomy of case studies that is grounded on two dimensions, the researcher's empirical intervention and the theory linkage of the study. The theory dimension is a modification of Keating's (1995) framework and categorizes articles depending on whether they aim to discover, illustrate, refine or test theory. Despite such advances, we argue that the notion of theory as such is not specific enough to describe the variety of theoretical frameworks mobilized in research. Theory in itself is such an evasive concept that it is much easier to state what theory is *not* than what it is in actuality (Sutton & Staw, 1995). It has been suggested that such ambiguity arises from the fact that a good theory is a combination of different elements, the mobilization of which necessarily involves trade-offs between various characteristics (DiMaggio, 1995). Moreover, as also Latour (1987) would say, theories are in the hands of later users, which means that brilliant theories might be ruined and poor ones clarified by their inventor's successors over time. The formation of theory is therefore a dynamic phenomenon (Weick, 1995) that is not limited to "grand" theorization of settings and structures, but can also occur at a lower level through the theorization of metaphors, differentiation, or concepts (Llewellyn, 2003).

In the field of management accounting, a debate on the essence of "theory" has persisted for years (see Zimmerman, 2001; Hopwood, 2002; Ittner & Larcker, 2002; Luft & Shields, 2002; Lukka & Mouritsen, 2002; Vaivio, 2008; Quattrone, 2009; Malmi & Granlund, 2009b). The debate was inflamed by Zimmerman's (2001) provocative remarks concerning the lack of theory development in management accounting research. His starting point was Ittner & Larcker's (2001) wide review of empirical management accounting research, in which they noted that most of the research had not proceeded beyond descriptions of accounting practice to the development or testing of theories, thus resulting in an underdeveloped body of knowledge. Zimmerman's interpretation of the foundation of such theories became evident when he stated that "no unifying, economics based theory has developed to guide empirical managerial accounting research" (Zimmerman, 2001, p. 417). Consequently, he recommended that management accounting researchers adopt economics as an underlying discipline to better succeed in theory building.

In the ensuing discussion, Hopwood (2002) indicated that while economics was useful for the investigation of specific types of accounting topic, sociological and organizational modes of explanation were likely to be of more help in investigating social and cultural aspects that relate to the dynamics of calculative systems. Ittner & Larcker (2002) defended the application of non-economics based theories with a parallel example from finance research, showing that the explanatory power of behavioural explanations has been more or less accepted since the mid-1990s. Luft and Shields (2002), as well as Lukka & Mouritsen (2002), in turn applauded the diversity of perspectives and research topics identified by management accounting researchers' utilization of frameworks drawn from social sciences other than economics. It is noteworthy that these responses to Zimmerman did not explicitly mention the existence of independent domain theories in the field of management accounting, but focused on discussing the non-accounting fields from which suitable theories can be drawn. The idea that theories might exist in the field of management accounting seems to have become increasingly employed in the literature since the mid-2000s, with

examples provided in the form of, for instance, management control theory (Ahrens & Chapman, 2006), theory on senior managers' application of monitoring systems (Vaivio, 2008), and cost accounting theory (Malmi & Granlund, 2009a).

The main point of the above debate and discussion from our perspective is that even now uncertainty prevails on what exactly counts as a theory in management accounting. One approach to clarifying the situation is to characterize theories based on the *roles* that they play in a particular piece of research. Lukka (2005), for instance, distinguishes between two types of theory, domain theories in the field of management accounting and method theories. The former concept refers to the understanding that a domain of management accounting³ exists, which consists of several substantive topic areas: for example, budgeting, performance measurement, and cost accounting. A domain theory in the field (or, more briefly, a domain theory) might then be defined as a particular set of knowledge on one of these substantive topic areas⁴. Method theory in turn refers to a meta-level conceptual system, or theoretical lens, which originates from another field such as organization studies or sociology. A method theory offers a vocabulary and syntax, often also substantive propositions, which are, at least with adaptations, applicable to another disciplinary domain. The typical aim of employing applicable parts from a method theory is to offer an alternative perspective and form a lever for gaining new insights, which can be more specific but also lead to more abstract or general conclusions. A method theory is not therefore equal to a method or methodology, as the latter refer to a wide array of choices regarding how to technically conduct research and its process, as well as the philosophical and other assumptions on which it is based (cf. Burrell & Morgan, 1979). Thus, for instance, grounded theory and Multiple Regression Analysis are not method theories, but respectively a methodology and a method⁵.

That which is perceived to have the role of method theory in one field is normally in the role of domain theory in another field. For instance, economics is a very strong and sovereign discipline, but it also offers broad method theories for much of management accounting research. The same can be posited, although on a smaller scale, regarding psychology and sociology. Foucault's theory of power and knowledge, for instance, is a distinct domain theory within the discipline of sociology, but it is also widely employed as a method theory in a number of other fields, such as management accounting. Hence, the role of a theory can vary in different instances, and the application of a particular theory as a method theory is one of the possible roles.

Method theories can function in various ways. Broad method theories are widely and thoroughly integrated with another domain up to the point that they might question the sovereignty of the target field. This is exemplified by the relationship between the theories of economics as method theories and those of management accounting as domain theories. The use of method theories based on economics is a very strong paradigm in management accounting research (e.g. Lukka, 2010) and thus, for many researchers, management accounting related issues only offer research questions to be explored utilizing theories from economics; thereby, the distinction between the two domains becomes indistinct. But there are also far more narrowly employed method theories, which are applied in specified sub-domains and research questions of the domain. Sociological theories (e.g. Miller, Kurunmäki & O'Leary, 2008; Chua, 1995) and psychological theories (e.g. Libby, Salterio & Webb, 2004; Rowe, Shields & Birnberg, 2012) exemplify this option in management accounting. In the case of these more narrowly employed method theories, the distinction between method theories and domain theories is typically more clear-cut than in the case of those that are more broadly employed – as soon as the researcher has become conscious of the possibility

³ We are not attempting to promote a perspective on management accounting as a fixed category, but rather regard it as "a practice and discipline of study without an agreed and widely understood subject matter" (Hopwood, 1985, p. 361).

⁴ E.g. the theory of budgetary processes (Wildavsky, 2002).

⁵ However, in interdisciplinary research, method theories can be claimed to play a corresponding role as their purpose is to assist the researcher to produce a contribution to a domain theory.

of, and even need for, this distinction. However, as will be elaborated later, the interaction between domain theories and method theories can change at least the field over time.

A researcher's decision to apply a method theory in the first instance is most likely affected by both functional and institutional factors (DiMaggio & Powell, 1983); that is, not only because theories have value-in-use but also because their application has become institutionalized – which, however, does not necessarily imply stagnated or static use⁶. In the field of management accounting, the functional application of sociological method theories can be claimed to stem from the observation that concepts and domain theories in the field of management accounting or method theories from economics do not provide sufficient explanations of phenomena involving humans, technical artefacts, or information systems. This perception lies behind the broader call for interdisciplinary research; knowledge cannot be neatly categorized and generated only within the often narrow scopes of various disciplines. For instance, Hopwood (1978, 1985) called for more theories *of* accounting to complement theories *in* accounting. Theories in accounting regard accounting as an independent reflection of social reality, while theories of accounting aim at understanding how accounting participates in the construction of its social and organizational context (Hopwood, 1983; Dent, 1991), or in engendering social emancipation (cf. Burrell & Morgan, 1979; Cooper & Hopper, 1989). As such, the mobilization of method theories in management accounting can be regarded as an interdisciplinary research approach, through which scholars have affected first theories of accounting and, ultimately, also theories in accounting. There is, for instance, a rather wide array of management accounting studies that have been informed by social theories such as Giddens' structuration theory (Roberts & Scapens, 1985; Macintosh & Scapens, 1990; Granlund, 2001; Conrad, 2005), Foucault's notions of governmentality and archaeology (Preston, 1992; Miller & O'Leary, 1994; Cowton & Dopson, 2002), Bourdieu's practice theory (Baxter & Chua, 2008), and Actor-Network Theory (e.g. Chua, 1995; Mouritsen *et al.*, 2001; Hyvönen *et al.*, 2008). The application of method theories such as these has arguably shaped how we perceive management accounting, an issue that we will consider in more detail below.

Despite the prevalence of method theories in management accounting research, their usage has also been considered problematic. The recent literature (e.g. Humphrey & Scapens, 1996; Vaivio, 2008; Malmi & Granlund, 2009a; Richardson, 2012) touches upon the troublesome nature of method theories while addressing the broader issues of management accounting research and theory development. The major concern expressed in these studies is that theories imported from other fields are not unique to management accounting, but are of such a general nature that they can just as well be employed to explain various other social phenomena. This creates ambiguity in terms of whether or not these studies actually contribute to management accounting knowledge (Humphrey & Scapens, 1996). A related issue is the tendency of scholars to continue illustrating the compatibility of an established method theory with management accounting theory without making a contribution to either of them, a phenomenon that Vaivio (2008, p. 77) aptly calls the "it fits, it fits!" problem of research. Both Humphrey & Scapens (1996) and Vaivio (2008) consider it unfortunate that little effort has been made to challenge method theories or modify them to better suit the management accounting context. In the same vein, Richardson (2012) regrets that scholars have not attempted to contribute to the original theories from which they draw their insights, but are merely consumers of these theories. A further concern associated with the application of method theories is that sometimes the pre-adopted theoretical framework overshadows the accounting phenomenon of interest, which can lower the status of a particular study, and management accounting research in general, in the eyes of mainstream academics or practitioners (Malmi & Granlund, 2009a). One explanation for the allegedly inappropriate application of method theories is offered by Malmi & Granlund (2009a), who suggest that domain theories in the field of management accounting have not yet been

⁶ As Lukka & Modell (2010) point out, the perceived validity of knowledge claims depends on the extent to which a particular body of theoretical knowledge has become institutionalised within the belief systems of specific research communities.

granted theory status, and thus an author wishing to be credited for theorizing might feel compelled to apply a theoretical lens, no matter how redundant this might be in terms of his/her research findings.

Although the application of method theories is accepted as a possibility in management accounting research, we feel that there is still considerable uncertainty, if not confusion, regarding their role in the entire storyline of studies. As such, there are likely to be studies that utilize method theories without making any theoretical contribution, while critics such as Humphrey & Scapens (1996) and Vaivio (2008) seem not to have considered the possibility that the interaction between domain theories and method theories can change researchers' perception of a domain over time, even if the method theory were not modified or challenged by the researchers applying it. Therefore we feel that the application of domain theories and method theories in published research merits more attention than it has thus far received. To this end, we will develop and apply a conceptual framework to analyse the interrelationship between domain theories and method theories.

2.2 Conceptual framework

Figure 1 depicts our conceptual framework for analysing possible relationships between domain theories and method theories in studies. The framework is derived from discussions and debates in the extant literature, reviewed in the previous section, regarding the manner in which method theories are applied, and whether or not studies that utilize method theories actually produce contributions to domain theories. Thus, domain theory is examined from the perspective on whether or not it is clearly the target of a study's theoretical ambitions, manifest in the form of well-motivated research questions situated in the domain of management accounting. Method theory in turn is investigated from the perspective of how it is applied in a particular study. Three types of application are considered possible in this context: employing a method theory for the first few times to illustrate its feasibility for the study of domain theory phenomena; utilizing a method theory when it is no longer a novelty in the domain, but without making modifications to it; and refining a method theory, for instance, to better suit the examination of a specific domain theory problem or even more generally. Finally, the lines in the middle of the figure illustrate the relationships that a domain theory and a method theory may have in studies.

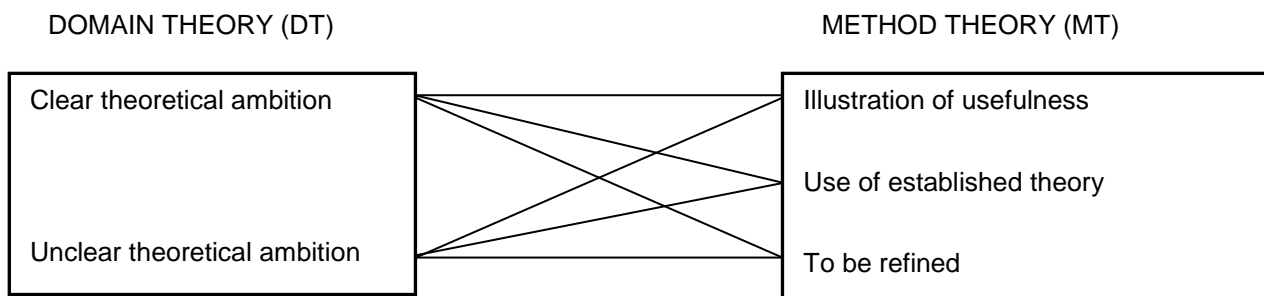


Figure 1. Framework for mapping the relationships between domain theory and method theory.

Based on concerns expressed in the extant literature, our *a priori* expectation is that there are at least some studies in which the domain theory ambition is unclear and the method theory utilized is already established; in other words, the novelty value of the studies would be doubtful. Regarding the five other combinations, we do not hypothesize on their prevalence but simply consider each to be possible. Below, we apply our analytical framework to identify the relationships between domain theories and method theories in published management accounting studies that utilize ANT as their method theory.

As research in a particular field evolves, it is natural that some method theories are discarded after a few attempts, while others continue to thrive and become part of the standard repertoire. Ultimately, particular concepts from method theories which occupy an established position might become embedded to such an extent in the vocabulary of the field that they are no longer accompanied by a reference to the

original source. This indicates that interaction with method theory can expand the boundaries of the field and simultaneously shape our understanding of the latter. That such a phenomenon might occur is illustrated in the second part of our analysis, again utilizing management accounting and ANT as examples.

3. The relationship between domain theories and method theories in the case of ANT

3.1 ANT as a research approach

Actor-Network Theory (ANT) is a research approach developed since the late 1970s, most prominently by Bruno Latour and Michel Callon, but also to some extent by John Law and others, in the field of science and technology studies. The theory was first introduced to management accounting researchers through the pioneering work of Miller (1991), Robson (1992), Preston *et al.* (1992) and Chua (1995). As the usage of ANT as a method theory in management accounting has proliferated, researchers have increasingly opted to draw ideas from the writings of Latour (1987, 2005), while Callon has remained the inspirational source for a considerably smaller circle of scholars (e.g. Christensen & Skaerbaek, 2007; Skaerbaek & Tryggestad, 2010). A possible reason for such a skewed distribution might be that while Latour is a productive author in several empirical fields, Callon's work is more focused on economics and the operations of financial markets. However, as the theoretical ideas of the two authors remain to a great extent consistent, our analysis of ANT as a method theory in management accounting encompasses works citing either of them.

The fundamental premise of ANT can be expressed in terms of four key notions: actors, translation, alliances, and trials of strength. An actor is defined as any human or non-human thing which has an effect on another thing (Latour, 2005, p. 71). This means that, for instance, software, political ideologies, and numerical inscriptions are all considered equally concrete agencies, and as real in an ontological sense as human beings (Harman, 2009). Awarding non-human objects with agency is a much debated but, according to Latour (2005, p. 76), also a gravely misunderstood issue:

“ANT is not, I repeat is not, the establishment of some absurd ‘symmetry between humans and non- humans’. To be symmetric, for us, simply means not to impose a priori some spurious asymmetry among human intentional action and a material world of causal relations.”

Thus, ANT does not claim that non-human actors hold the power of determination, rather that the form assumed by an agency is not relevant as long as it makes a difference in the surrounding world. By taking such a stance, ANT effectively straddles the age-old gap between nature and society, or conscious human subjects and mindless non-human objects. However, it does not follow from this position that the world according to ANT would be filled with simple causal relationships; on the contrary, work needs to be conducted to trace and illustrate translations and trials of strength that occur along the way as a truth, or a black box, is formed. The term translation itself eludes precise definition and differs to some extent by author. For instance, Callon (1986) portrays translation as a process over which one group of actors, employing a variety of tactics, acquires the power to speak on behalf of others; while in his later work, Latour (2005, p. 8) offers the perspective that translation occurs when a new, traceable association between human or non-human elements is produced. An illustrative analogy portrays translation occurring in a similar manner to a bill passing through Congress; modified at each step by a number of actors, and always with uncertainty on whether or not the bill will ultimately become law (Harman, 2009).

For a translation to succeed and a new black box to emerge, an actor needs to form alliances; the more connected an actor, the more powerful and real it is. The most successful innovations are those that manage to convince the greatest number of human and non-human allies of their viability. Consequently, social order, power, truth, or any other seemingly self-evident phenomenon should not be taken as a starting point, but regarded as the result of multifarious trials of strength between actors. Such trials

constantly emerge when actors resist externally imposed definitions of their interests and objectives, and refuse to enrol into a particular network. It then follows that disorder is the norm, whereas the stability of a system is a laboriously achieved state that might collapse at any time. Constant maintenance is needed to keep a network of alliances from dissembling and established truths from being questioned. The processes of fabrication, or construction, are perceived to occur perpetually in the sense that each new element added to make the construction stronger might suddenly generate unexpected effects, sometimes resulting in attempts to regain stability by adding yet more elements.

The overriding interest of ANT researchers lies in studying how black boxes emerge from the dynamics associated with a constellation of actors, becoming at least momentarily interconnected, and with aligned goals. However, to study such events that typically involve both human and non-human entities is challenging as the latter rapidly transform from mediators, which translate the message they are conveying, back into voiceless intermediaries, which are merely invisible transporters of messages. Therefore, ANT is considered suitable for the study of innovations (Latour, 2005) in particular as the number of mediators is large in these situations, and they have not yet become silent. Innovations are also a fruitful target of analysis as they are associated with the emergence of new technologies and the formation of new groups of actors; dynamics that are bound to generate traceable associations.

When considering the nature of ANT as a method theory, as opposed to a sociological domain theory, we can characterize it as a very open research approach, which offers a vocabulary as well as particular rules of method and principles (Latour, 1987) for researchers who wish to explore processes of construction in a specific field. Although these principles might not be considered bona fide propositions, it seems justified to posit that ANT provides one type of *a priori* lens through which the world can be viewed. Herein lies a certain internal paradox, as Latour himself shuns the idea of a researcher imposing predetermined theoretical frameworks or categories on the subjects to be examined:

“Your task is no longer to impose some order, to limit the range of acceptable entities, to teach actors what they are, or to add some reflexivity to blind practices.” (Latour, 2005, p. 12)

According to this perspective, instead of imposing pre-established notions on their subjects, researchers should “just describe” (ibid., p. 144) how actors themselves define and order the social whilst deployed in a range of controversies⁷. This paradox is a rather unique feature of ANT in comparison to other method theories, which usually contain less explicit instructions for researchers applying them. In practice this anomaly has not hindered the adoption of ANT as a method theory in various fields, including organization studies and accounting. It is possible, however, for a researcher to apply ANT to a great extent without employing ANT vocabulary by simply utilizing a selection of its core ideas.

In the field of management accounting, the major achievement of ANT has been to restore the role of numbers and calculations as the focal point of sociologically rooted investigations of accounting phenomena (Mouritsen & Justesen, 2011). Especially Robson’s (1992) seminal work on the application of the concepts of inscriptions and action at a distance has spawned numerous studies on how reports and tables containing accounting figures might be utilized by organizational centres to impose their will on those from which they are separated by a temporal or spatial distance, without resorting to direct intervention. Another branch of ANT inspired management accounting research has investigated processes that relate to the fabrication or implementation of various innovations such as Activity Based Costing (e.g. Briers & Chua, 2001; Jones & Dugdale, 2002), the Balanced Scorecard (Qu & Cooper, 2011) or Enterprise Resource Planning systems (Hyvönen *et al.*, 2008). Our approach to analysing the application of ANT as a method theory in the field of management accounting in such studies is presented in the next section.

⁷ This advice appears to contradict the widely established perspective in the philosophy of science, according to which all our observations are theory laden (e.g. Hanson, 1958; Popper, 1959).

3.2 The data and method of analysis

For the purpose of examining the interrelationships between domain theories and method theories in management accounting research, we analysed articles published in highly recognized accounting journals. At this point, it must be noted that focusing only on published works carries limitations on studying the theoretical ambitions and contributions of a particular piece of research. Such an approach is likely to omit several studies that have not been published as they have been deemed less successful by peers in research seminars, conferences, or in journal review processes. However, the collection of such material would have been complicated as it would have required following the trajectory of particular working papers for several years, and establishing whether or not their ultimate rejection was indeed due to poor application of ANT or perhaps another issue, such as inadequate empirics. Therefore, it was considered reasonable to limit the sample to journal articles, more particularly those published between 1991 and 2011 in the following seven journals (in alphabetical order): *Accounting, Auditing and Accountability Journal (AAAJ)*; *Accounting, Organizations and Society (AOS)*; *Contemporary Accounting Research (CAR)*; *Critical Perspectives on Accounting (CPA)*; *European Accounting Review (EAR)*; *Journal of Management Accounting Research (JMAR)*; *Management Accounting Research (MAR)*. The journal sample comprised high quality journals that were considered likely to publish sociologically oriented management accounting research, such as studies based on ANT. The selection of articles for analysis was based on two criteria: first, that ANT was employed as a method theory to a significant extent; second, that they belong to the field of management accounting. By “significant extent” we mean studies that employ ANT more broadly than simply referring to one or two concepts⁸. Articles were located from scholarly databases with the search terms “Latour”, “Callon”, “Actor-Network Theory”, “ANT”, and “sociology of translation”.

Applying the above criteria, 35 articles were found and subjected to analysis (AAAJ – 4; AOS – 16; CAR – 1; CPA – 4; EAR – 2; MAR – 8; JMAR – 0). The distribution of the examined articles’ publication years suggests that ANT research in management accounting began in the early 1990s, with approximately one published article per year until the mid-2000s. Since 2005, the application of ANT has remained relatively stable with three articles being published annually on average.

In the first part of our analysis we applied our conceptual framework to investigate the relationship between domain theory and method theory in the articles. For this purpose, each article was read with the aim of establishing, first, whether or not it had any clear ambitions regarding a domain theory that would be manifest in the form of a clearly motivated research question, and, to a lesser extent, whether or not its results clearly contributed to the domain theory. We also examined the application of method theory (here ANT) in relation to the domain theory ambition in the articles. In the second part of the analysis, we examined the effects of long-term interaction between domain theories and method theories. In particular, we investigated whether or not the interplay between ANT and theories in the domain of management accounting has resulted in specific ANT concepts becoming part of the standard vocabulary in management accounting research. The concepts chosen for illustrative purposes are *action at a distance* and *fabrication* as there is little ambiguity regarding their usage, in contrast to, for instance, the concept of translation which can also be utilized in studies with reference to the common meaning of the word. The findings from our analysis will be elaborated in the following two sections. For the sake of readability, we do not mention all the articles representative of each analytical category in the text but provide a full list in Appendix 1.

⁸ To provide an example of what such a criterion meant in practice, we excluded for instance the article by Preston et al. (1997) which utilizes Foucault’s theory of governmentality as the main analytical framework, but mentions each of the ANT terms “translation” and “black box” once.

3.3 The role of ANT in management accounting research

First time illustration of method theory

If we consider the mobilization of a method theory such as ANT in a field where it has not been previously employed, a logical justification for its early application is to illustrate and convince other scholars that it will offer useful insights as a theoretical lens on specific types of domain theory problem. This combination forms the first type of relationship between domain theory and method theory that we identified in the analysed articles, and is exemplified in our sample by Miller's (1991) study on the emergence and promotion of Discounted Cash Flow (DCF) techniques in the UK during the 1960s. The broader theme of interest to Miller is the emergence of management accounting innovations, which until then had been explained mostly as practitioner initiated solutions to real life organizational problems. An influential piece of work promoting this perspective had been written by Johnson & Kaplan (1987), and in particular it is their theory that Miller sets out to challenge and refine through his example of DCF. In contrast to being practitioner initiated, DCF techniques resulted from the theoretical musings of business school academics, albeit supported by parallel development work in the oil industry. While Johnson & Kaplan (1987) considered the emergence of DCF as an exception to their otherwise flawless model of accounting innovation, Miller brings to our attention several problematic issues associated with this perspective, such as the influence on innovation of forces and agencies beyond the enterprise. He then indicates that although all of these aspects had to some extent been discussed in the prior literature, no coherent theory or model encompassed all of them. The motivation for his study is therefore to provide more information on the processes of accounting innovation at both micro and macro levels of society, and to add to the theoretical toolbox with which to address such issues. More particularly, his research focuses on how accounting innovations are influenced by various agencies, how the interrelations between these agencies are formed, and the manner in which some innovations become associated with particular roles.

Miller then develops a framework based on the concepts of problematization, programmes, translation, and action at a distance. He argues that these concepts are significant as they focus on a variety of interlinkages and relays between various agencies and forces, which until then had been neglected in the investigation of accounting innovations. He is careful to indicate that ANT concepts are not intended to serve as a formal model:

"The concern here is not with Theory...in a new guise, but with suggesting particular ways of posing questions about accounting innovation." (p. 758)

With the help of his conceptual framework, Miller traces the success of DCF in the UK to the interlinked interests of academics striving for relevance, practitioners attempting to solve practical problems, and the UK central government's programme seeking a solution to its macroeconomic concerns. Through this case exposition, Miller not only illustrates the usefulness of ANT for the study of calculative technologies that would have sufficed as a theoretical contribution at this stage, but he also refines the theory of accounting innovation beyond single agency explanations. It is therefore a beautiful example of an article with a clear domain theory ambition in which the application of a method theory produces a significant contribution at the domain theory level while, at the same time, illustrating the suitability of the method theory to the investigation of particular themes. Other examples of first time illustration of ANT in the context of a clearly articulated domain theory ambition in the field of management accounting include Robson (1992), Preston *et al.* (1992), and Chua (1995).

The second type of domain theory-method theory relationship that we identified also relates to the early stages of introducing a method theory to a new field. At that point in time it is quite understandable that the main driving force for some researchers is illustration of the method theory's feasibility, without specified research questions, by telling an empirically interesting story. For instance, Lawrence *et al.* (1994) mobilize ANT in their investigation of the financial management reform in New Zealand, motivated by their

rather broadly expressed interest in the “context for change and the construction of new technologies” (p. 70). Other than that, there is no clearly articulated research question and domain theory problematization. In addition, the paper cannot be considered to express an explicit justification for the usage of ANT or develop a specific ANT based conceptual or analytical framework. According to the authors, such vagueness is intentional as it helps avoid any imposition of their own values on readers.

The events narrated in Lawrence *et al.* (1994) occur on both macro and micro levels of society, beginning with an extensive description of healthcare reform implemented by the New Zealand government as part of the wider political movement towards the commercialization of public services. The paper then descends to the micro level to consider, relatively briefly, the construction of new management accounting systems in the Waikato Area Health Board before returning to describe society-level concerns regarding the commoditization of healthcare. In the concluding sections, the authors explain the conduct of their study in terms of ANT – following the actors, tracing various networks, and observing problems involved in system construction. Even though the paper seems to lack a clear domain theory ambition, it can be argued that it is by no means void of motivation. The delicate wording throughout the paper appears to embrace a critical agenda; the authors’ sympathies might be said to lay with those who fear the consequences of imposing profit orientation and other commercial values on the public sector:

“Ultimately, the accounting which is enacted is a reflection of who we are, who we want to be, what kind of a society we wish to realize.” (p. 93)

This notion is further evidenced in the discussion by Lawrence *et al.* (1994) on the empirical similarities between their and other ANT inspired studies on healthcare reforms that point to implementation difficulties (Preston *et al.*, 1992) or express outright criticism (Chua, 1995). It can therefore be posited that the implicit justification of Lawrence *et al.* (1994) for employing ANT is that it provides a legitimate outlet for the researchers’ concerns on public well-being, even though this interpretation clashes with their explicit claim to avoid imposition of personal values. We therefore hold the paper by Lawrence *et al.* (1994) as a fine example of an unclear domain theory ambition combined with the purpose of illustrating the usefulness of the method theory for critical studies on management accounting in action⁹.

Use of established method theory

The third category of domain theory-method theory relations is prevalent in articles written after a method theory has become established, when researchers have no longer felt compelled to demonstrate its applicability, but simply used it as a lens through which to explore particular domain theory phenomena. This research category was the most populous in our analysis and is exhibited, for instance, in Mouritsen (1999), Mouritsen, Larsen & Bukh (2001), McNamara *et al.* (2004), Quattrone & Hopper (2005), Cuganesan & Lee (2006), Mouritsen & Thrane (2006), Lowe & Koh (2007), Hyvönen *et al.* (2008) and Arnaboldi & Azzone (2010). As a recent example, consider Arnaboldi & Azzone’s (2010) account of the introduction of performance measurement in the Italian university sector. They begin their domain theory development by reviewing the extant literature, explaining how performance measurement in the public sector differs from the private sector context, and is thus worth studying context-specifically. Arnaboldi & Azzone then indicate gaps in understanding how performance measures are operationalized, specifically in terms of the heterogeneity of actions involved with various public sector and reform settings. Their research intends to increase understanding of such issues, and of public sector accounting change more generally, by studying how a group of Italian universities worked to implement a performance measurement system (PMS).

⁹ While critical intention is often absent from ANT research (see Whittle & Spicer, 2008), we do not consider the study by Lawrence *et al.* (1994) to represent theory refinement. This is because the authors do exactly what Latour (2005) recommends, that is, they illustrate how power differentials have come about as the reform in New Zealand has unfolded.

Arnaboldi & Azzone's analysis is structured around the four stages of translation as described by Latour (1987), the focal point being three different groups of actors as identified by the researchers. The reason for applying ANT is not explicit in the paper; an explanation for which might be the established nature of the method theory. Arnaboldi & Azzone then recount the story of the 11 year project to implement performance measures in a group of Italian universities. The paper offers two types of contribution to the extant literature on performance measurement and management accounting change in the public sector. First, the authors argue that controversies form the crux of PMS translation as they simultaneously maintain various actors' interests in the measurement and management of public services, and pose a threat to the continuation of the implementation process. Their second contribution is to illustrate the heterogeneity of the ploys and strategies employed by three groups of actors associated with the network, the roles that they assigned to PMS, and the types of controversy they created. We can therefore characterize Arnaboldi & Azzone's article as a well-structured example of a clear domain theory ambition that is addressed through the application of an established method theory, resulting in contributions to the domain theory.

The fourth type of domain theory-method theory relation identified in the analysed ANT articles is the combination in which ambition regarding domain theory is less clear and ANT is employed as an established lens. For instance, we refer to Lowe's (2000) article on healthcare reform in New Zealand, examined from the perspective of a large hospital implementing case-mix accounting. While the paper is of accounting change and/or the role of accounting in organizational change, the prior literature that relates to this domain theory is reviewed very concisely, and the research questions are in essence implicit. The motivation for the study is presented at the end of the paper in terms of empirical gaps in the extant studies on accounting change in the healthcare sector, such as concentrating on a different organizational level. It seems that the paper merely employs the vocabulary of ANT to recount a story concerning the implementation of a new management accounting system in an organization.

Lowe's main justification for employing ANT is that the principle of symmetric treatment enables the conceptualization of management accounting systems as quasi-objects comprising both humans and non-humans, such as software. The paper offers as a contribution the observation that these systems, through the cost and profit information they produced, played a significant role in motivating the hospital staff to support the change. However, compared to previous findings, this insight is not developed further or taken to a more general level. Published almost a decade after the first ANT articles in management accounting, Lowe's paper exhibits a combination of an unclear domain theory ambition and an illustration of an established method theory. A similar combination of domain theory and method theory can be identified in Pipan & Czarniawska's (2010) rather brief account of the translation of management accounting in Italy. These observations indicate certain ambiguity regarding the ultimate rationale of this type of research. However, we need to emphasize that an unclear domain theory ambition does not automatically exclude the possibility of having a rationale in the paper; this might, for instance, be the illustration of an as yet unestablished method theory (such as in Lawrence *et al.*, 1994).

Refining method theory

A fifth type of relationship between domain theories and method theories can be identified in articles that contain ambitions which relate to them both. A pertinent example of this is the paper by Briers & Chua (2001), who explore how accounting change occurs and is put into effect. In terms of domain theory development, they suggest that in order to understand the simultaneous ubiquity and irregularity of accounting change that has increased since the early 1990s, it is necessary to investigate the preconditions and processes of change and how they result in success or failure. As previous studies on the complexity of change tended to focus on the interests of a few powerful groups or to emphasize the happenstance nature of change, the motivation for Briers & Chua's research is to investigate the purposeful actions of a variety of heterogeneous actors and the role played by so-called boundary objects. They state their

justification for the application of ANT as the wish to offer less socially laden explanations of the success of innovations than those suggested, for instance, by diffusion theories of innovation.

Briers & Chua's ambition in terms of domain theory is therefore to refine the theory of accounting change, and for this purpose they also refine ANT by complementing it with Star and Griesemer's (1989) concept of boundary objects. This framework is then applied to the study of the implementation of ABC in the business unit of an Australian manufacturing company, Alroll. Briers & Chua's analysis validates their application of ANT and brings to the fore three types of contribution to the literature. First, they show that accounting change at Alroll was a result of top management commitment as well as the exertions of a variety of local and cosmopolitan actants, actors, and allies with varying degrees of power and willingness to participate in the process. Briers & Chua especially highlight the insights offered by the symmetrical treatment of humans and non-humans¹⁰:

“Actants – both local and cosmopolitan, were clearly crucial at Alroll. And it is here that actor network theory is distinctive – by enabling us to focus on the role of technological, non-human actors in change processes. In our narrative, there was computer hardware and software that was no longer able to cope with the size of information databases and the complexity of the manipulations required... Apart from computerized actants, there were the giant hot mill and plate itself – neither liked the other... Were it not for the specific behaviours of these actants, the path to accounting change would have been quite different at Alroll.” (Briers & Chua, 2001: 264).

As a second contribution, Briers & Chua illustrate the usefulness of refining ANT to include the analysis of boundary objects while successfully avoiding theoretical eclecticism. The significance of boundary objects, especially those that are ideal and visionary, is that they create connections between various groups of actors, and facilitate the comparison of snippets of information across space and time. Thirdly, in contrast to prior management accounting studies, but echoing Latour, Briers & Chua suggest that the survival of an accounting innovation cannot be credited to its inherent, superior properties but to the deliberate actions of various actants whose interests and beliefs are tied together by the innovation. These links are so strong that they make the innovation succeed even when difficulties such as data deficiencies and “soft numbers” (ibid., p. 267) are encountered. Correspondingly, failure occurs when actors do not perceive an innovation as an obligatory point of passage to achieving their goals, and therefore do not attempt to make the innovation succeed. Briers & Chua's article is clearly ambitious and successful in terms of refining and contributing to both the domain theory and the method theory. Another paper in the same vein is Andon *et al.* (2007), which complements ANT with Quattrone & Hopper's (2001) idea of drift to conceptualize accounting change as relational drifting.

The articles by Briers & Chua (2001) and Andon *et al.* (2007) are examples of studies in which method theory has been refined by borrowing concepts from other (method) theories. However, method theory development can also take place through empirically informed, creative thinking within the theory itself. An example of such creative refinement is the article on short and long translations by Mouritsen, Hansen & Hansen (2009). In terms of domain theory, Mouritsen *et al.* (2009) situate their study within the broader literature on management accounting calculations and innovation management. They then set out to explore how management accounting calculations mobilise innovation activities, through multiple case studies involving three companies which prioritized and invested heavily in innovation. The contribution of Mouritsen *et al.* (2009) in terms of domain theory is to illustrate that instead of providing representations of innovation activities, management accounting calculations in fact connect innovations to firm-wide concerns, affecting how intensely innovation activities are pursued and in which direction they are developed. While their original ambition was mainly directed at domain theory, Mouritsen *et al.* also end up contributing to ANT by proposing that the translations which mediate between innovations and wider

¹⁰ Interestingly, this perspective is the complete opposite of an earlier opinion voiced by Chua (1995), in which she refuses to grant interests or agency to non-humans.

concerns occur in two different forms, short ones and long ones. Short translations involve a single calculation, which links the innovation to a budget, a standard cost or a contribution margin, and can thus result in either an increase or a decrease in innovation activities. Long translations in contrast comprise multiple calculations involving a number of actants and connections. In line with the ontological principles of ANT, Mouritsen *et al.* (2009) also conclude that reality, in this case the different propositions about innovations, is not independent of the management accounting calculations utilized to uncover it:

“The calculations provide these justifications [for choosing one technical component over another] which are inside the process of translation rather than outside it. The management accounting calculation does not judge the relative merits of different propositions about innovation; the management accounting calculation is part of the proposition that it mediates.” (ibid., p. 751)

The article by Mouritsen *et al.* (2009) is therefore a good illustrative example of a clear domain theory ambition combined with method theory refinement through empirically informed creative thinking.

In addition to the types of research exemplified above, a sixth possibility as indicated also in Figure 1 is that the main ambition of a paper is the further development of an established method theory and not domain theory, although in our sample of articles we did not find any examples that could be placed in this category.

3.4 The long-term impact of ANT on theories of management accounting

As one of the method theories applied in management accounting, ANT has had a distinct effect on the manner in which researchers consider and study the field. It has equipped scholars with a conceptual and methodological toolbox with which to analyse possible paths of development and how accounting becomes what it previously was not (Hopwood, 1983). First, this is because everything is in principle possible a priori from the ANT perspective, and it is not possible to predict how matters might unfold. Thus, researchers applying ANT are able to study a wide variety of ways in which management accounting systems and numbers are constructed. Secondly, ANT has introduced a definition of actors as any things which have an impact on the action of some other agents, regardless of whether they are human beings or not. This has broadened the scope of management accounting research to include analysis of the integral role that calculations and other inscriptions might play in, for instance, enabling action at a distance. Very recently, we have also seen the emergence of studies that focus on unexpected effects of technologies instead of the instrumental employment of technologies by human actors (e.g. Vinnari & Skaerbaek, 2014; Qu & Cooper, 2011; Skaerbaek & Tryggestad, 2010). Finally, ANT has turned the research setting around in that its focus is on the investigation of how constructions emerge out of momentarily aligned interests, and how such constructions might collapse at any moment. This has enabled management accounting scholars to provide broader and more nuanced analyses of how various accounting innovations might succeed, and highlight the amount of effort that is needed to stabilize these innovations. That such ideas and notions appear to have gradually become black boxed, or established parts of management accounting thinking and knowledge, is suggested by the manner in which particular ANT concepts such as action at a distance and fabrication seem to have become part of the standard vocabulary of the field, and also by the inclusion of ANT in management accounting textbooks.

The Latourian concept of “*action at a distance*” was first utilized in management accounting research by Miller¹¹ (1991) when analysing the proliferation of the DCF method in the UK. His article illustrates how the calculative technology enabled action at a distance at two levels: First, by bridging the temporal gap between the present and the future, so that individual organizations might assess the impact of their investment decisions. Second, through the establishment of an economic norm that enabled government agencies to influence the investment decisions of both nationalized industries and private companies

¹¹ Coincidentally, similar thoughts to Latour (1987) were presented by Roberts & Scapens (1985).

without directly intervening in their decision making. While Miller analysed action at a distance alongside three other concepts, Robson (1992) focused his full attention on the power of inscriptions in the context of long distance control. In his study of the emergence of accounting as a technology of quantification, Robson (*ibid.*) posits that the dominant position of accounting and other numerical forms of knowledge development is based specifically on inscriptions being mobile, stable, and combinable; qualities that facilitate their usage in acting at a distance.

The trailblazing articles by Miller and Robson have been followed by a number of others, which also contain references to Latour as the original source of the concept action at a distance (e.g. McNamara *et al.*, 2004; Quattrone & Hopper, 2005; Lowe & Koh, 2007). However, as management accounting research has evolved, studies of action at a distance have begun to emerge in which reference is no longer made to Latour, but instead to Miller, Robson, or nobody at all. For instance, Vollmer's (2007) article on the use of numbers in ordering social activity contains the following sentence:

"In sum, mobility, stability, and combinability of financial numbers generate opportunities for 'action at a distance' (Miller & Rose, 1990, pp. 9–11; Robson, 1992, pp. 690–691) which participants would otherwise not be able to access." (p. 580).

Although earlier in the article Vollmer mentions Robson's work as an example of management accounting research that builds on ANT, nothing in the text preceding the above sentence implies to a reader unacquainted with ANT that action at a distance might have been coined by someone other than Miller or Robson. Further examples of this phenomenon include articles by Neu and Graham (2006), Hooper & Kearins (2009), and Pitkänen and Lukka (2011).

In a slightly different vein, Dechow and Mouritsen (2005, p. 728) in their investigation of the implementation of an ERP system invoke the term 'action at a distance' when contrasting their findings with those of earlier research:

"Our cases also help us to say that ERP systems change the meaning of organizational visibility. Often, the notion of visibility is the panoptic, centralised action form, something executed as 'action at a distance'. But, with ERP another notion of visibility becomes possible."

Although at the beginning of the article the authors profess their use of ANT as a research approach and outline key concepts, action at a distance is not mentioned until towards the end of the article. Although the term is placed inside quotation marks, no reference to a specific author is made here or in other instances in which it is utilized. This implies that readers of the article are expected to be familiar with the term to such an extent that reference or explanation is no longer required; in other words, the term appears to have become a black box. Furthermore, Dechow and Mouritsen (2005) allude to explanations that are based on action at a distance being the norm, and their findings present an interesting deviation from, or even a challenge to, such conventional perspectives. There are thus indications that a method theory concept that was originally introduced to provide an alternative explanation to prevailing theoretical views might itself have become part of doctrine in the domain.

Another ANT concept which seems to have become part of management accounting vocabulary is "*fabrication*"¹². It was first analysed by Preston *et al.* (1992) and Chua (1995) in the empirical context of

¹² The term fabrication is also employed by Goffman (1974) and Knorr-Cetina (1981). However, Goffman's use of the term entails a clear connotation of manipulation, while Latour (2005) emphasizes that, in the ANT vocabulary, fabrication and its synonym construction have always been unequivocally neutral concepts. Knorr-Cetina (1981) also employs fabrication in a neutral sense and refers to Latour & Woolgar (1979), Latour (1980), and personal discussions with Latour. However, Knorr-Cetina seems to employ the word in the social constructivist sense of Berger & Luckmann (1966), whereas Latour (2005) clarifies that, in contrast to traditional constructivist notions, his use of construction/fabrication always involves non-human actors.

introducing respectively budgeting and costing systems to the healthcare sectors of the UK and Australia. With the purpose of observing accounting in the making, Preston *et al.* and Chua analyse proponents' efforts to enrol other actors behind these innovations, and conclude that success and failure are not determined by the innovations' techno-economic characteristics but result from the collective fabrication efforts of a group of actors. These studies also illustrate the inevitable and perpetual effort to refabricate that follows when unexpected consequences emerge and actors' interests are no longer aligned.

Similarly, as in the case of action at a distance, studies on fabrication initially cited Latour as their source but, as time has passed, more and more references are made to the early article of Preston *et al.* (1992). For instance, Jones & Mellett (2007, p. 93) motivate their longitudinal analysis of accounting change by explaining that:

"The creation of 'accounting facts' which emerge from the process of organizational change are an end result of a fabrication process rooted in political, social and economic condition." (Preston *et al.*, 1992, p. 566)

Jones & Mellett further posit that tracing the genealogy of such conditions is a prerequisite for understanding how sometimes seemingly irrelevant actions might in retrospect become significant contributions to processes of change. However, despite the application of ANT ideas to justify their research, the method theory applied by Jones & Mellett is not ANT but the Social Forces Model, which is contrary to the principles of ANT in that it associates accounting developments with particular institutional and organizational structures and forces. That the concept of fabrication is thus utilized in connection with a method theory other than ANT provides in our view another illustration of how some concepts appear to have grown independent from ANT.

In addition to ANT concepts becoming embedded in management accounting vocabulary, ANT has also made its way into graduate level textbooks. For example, Macintosh & Quattrone (2010) and Wickramasinghe & Alawattage (2007) present ANT as a relationist perspective for understanding management accounting and control system change, and controlling at a distance. Alongside other sociological method theories, ANT has thus contributed to changing our understanding of management accounting from the consideration of only technical and functional system characteristics to the study of social and organizational contexts in which management accounting operates. However, as mentioned above, it is possible to profoundly apply ANT in the spirit apparently intended by Latour; that is, without utilizing its vocabulary while merely observing and describing events as they unfold.

In addition to ANT expanding the boundaries of management accounting knowledge as described above, it is also possible that ANT itself might change as a result of interacting with domain theories. Management accounting has at least been acknowledged as a suitable field for ANT application, as evidenced for instance by Michel Callon's (1998) inclusion of Peter Miller's (1998) article in his book, and by Latour's (2005) references to studies by Quattrone (2004), Power (1996), and Suzuki (2003). However, in the articles that we analysed, any evidence of ANT changing as a result of interacting with management accounting was distinctively exhibited in only a few instances, some of which refined ANT by incorporating elements from other method theories (e.g. Briers & Chua, 2001; Andon *et al.*, 2007) and others which developed it through creative thinking (e.g. Mouritsen *et al.*, 2009). This suggests that, at least in published management accounting studies, the researchers' theoretical ambitions and contributions are mostly targeted at domain theories.

4. Theorizing a moving empirical field

The domain theory – method theory distinction is grounded on the idea that theories can be conceived in terms of the roles they play in particular fields of research. A theory that is identified as a domain theory in one field might typically be applied, at least with modifications, in other domains in which its role can

transform into that of a method theory. Dependent on the extent to which a method theory is perceived to have colonized its host domain, it can be characterized as either broad or narrow. Broad method theories can pervade their target fields so thoroughly that they undermine the independence of those fields, while narrow method theories are usually applied in a more precise fashion; for instance, in the context of distinct sub-domains or research questions of the domain field. These differences can sometimes result in an indistinct boundary between domain theories and method theories, as in the case of economics and mainstream accounting research. In North America, for instance, there appears to be a tendency to represent theories from economics, psychology, or sociology as options that a management accounting researcher can apply while, simultaneously, theories on accounting are staged rather weakly and ambiguously: accounting is often merely a loose area of issues in which the research question lies. Such staging of the relations between fields has not tended to offer a strong basis for building a sovereign identity for accounting scholars, and undermines the idea of accounting as a domain theory platform in itself.

While we subscribe to the relativist idea that drawing definite boundaries between scholarly fields is difficult, and perhaps at times even dysfunctional, and recent academic debates clearly indicate that the nature of theory remains a relatively open and debated issue (e.g. DiMaggio, 1995; Sutton & Staw, 1995; Weick, 1995; Malmi & Granlund, 2009a, 2009b; Quattrone, 2009), we defend the idea that accounting can be regarded as a separate field, and hence forms a platform for various domain theories. A strong pragmatist testimony for this is, for instance, the fact that there are numerous accounting research journals which, according to their editorial policies, function on the basis that the domain of accounting exists and hence, for example, dismiss manuscripts that are not regarded as addressing accounting issues¹³. This could hardly be an established condition if accounting did not possess sufficient characteristics of a sovereign scholarly domain, including a distinct conceptual system and vocabulary, and a specific doctrine of established knowledge of relations between the major themes and issues that are addressed by these concepts.

Concerns expressed in the extant literature indicate the need to clarify the relationships between domain theories and method theories in management accounting research. The analysis of the previous sections illustrates how domain theories and method theories, although not by employing these terms, are distinguished and utilized by researchers in practice. We investigated researchers' stated motivations for mobilizing a specific method theory in their studies, and illuminated how the method theory and some domain theories relate to each other in terms of theoretical ambitions and contributions (Fig. 1). In a typical case, such ambitions and contributions were clearly targeted at a domain theory, while the method theory played a more instrumental role in interpreting the findings. However, a few of the analysed studies also aimed at, and succeeded in, developing the method theory, and it can be claimed that in such instances theoretical advances also contributed to the same theory in its domain theory role. For instance, there seems to be no logical reason to dispute that Briers & Chua's (2001) incorporation of ANT with the concept of boundary objects was a contribution to ANT as a domain theory in the field of sociology, in addition to offering novel insights on the study of management accounting change. Some scholars, such as Peter Miller, also appear to contribute directly to ANT as a domain theory by publishing their writings in sociological journals (e.g. Rose & Miller, 2010).

While we are willing to accept that management accounting scholars have the option to try to contribute to the method theory they are applying, we are hesitant to go as far as Richardson (2012) when he insists that they *should* do that. Hence, we adhere to the idea that the natural and primary task of management accounting scholars is to contribute to their own field and it is, in our opinion, completely acceptable for them to only utilize their chosen method theories. However, on our part, we insist that researchers should be clearly aware of, and report explicitly on, the target of their theoretical contributions, be that a domain

¹³ These journals might naturally regard the domain of management accounting from differing perspectives; however, this does not by default preclude the existence of the domain.

theory, a method theory, or both. As indicated by our analysis of the literature, this is not always the case even in published works, although these articles would have appeared in distinguished scientific journals. Furthermore, it must be remembered that papers with confused theoretical agendas appear often in conferences, workshops, and research journals' review processes while seldom being published. We believe that some of the time spent on rewriting rejected papers might be saved if researchers clearly understand the target of their contribution at the outset.

Although our main argument is that distinguishing between domain theories and method theories is helpful for researchers to better design their research, locate their theoretical ambitions, and identify their contributions, we feel that a qualification regarding this distinction is required. There is a challenge relating to the intermingling of domain theory and method theory in terms of being able to ascertain where one stops and the other begins; that is, the distinction is not absolute. An illustration of such interlacing is the article by McNamara *et al.* (2004), which states as its aim the critical study of how organisational knowledge is constructed, and concludes (p. 73):

"Consistent with actor-network theory, the construction of these organisational knowledges was inseparable from the processes underlying their constitution, and the specific knowledge networks giving rise to them...More particularly, this research...suggests a need to investigate the constellation of organisational knowledges and accounting's place within it."

This excerpt is representative of the language utilized throughout the whole of McNamara *et al.*'s article, which is imbued with ANT concepts and propositions, and thus exemplifies the difficulty of expressing domain theory ambitions or contributions by only utilizing management accounting terminology. Nevertheless, this does not reduce the significance of being aware of the distinction between a method theory and a domain theory. ANT has been applied in management accounting research for two decades during which it has become to some extent integrated into particular domain theories. However, new method theories will undoubtedly emerge that will be more distinguishable from domain theories in the early stages of their application.

We also investigated the effects of prolonged interplay between domain theories and method theories through the example of management accounting and ANT. As we have illustrated, employing the concepts of action at a distance and fabrication as examples, there are indications that specific concepts that originate from a method theory might become such an established part of researchers' vocabulary in a field that they become black boxed; that is, they are sometimes employed without reference to the original author or even considered to represent conventional explanations that can and need to be challenged. Furthermore, established method theory concepts can be utilized in combination with other method theories and, more generally, irrespective of whether or not a particular method theory is explicitly mentioned in the same context. In our case, ANT concepts appear to have begun to take on their own identity in management accounting literature independent of ANT. Furthermore, the results of ANT inspired research are currently featured in several management accounting textbooks. This illustrates how continued interaction with a method theory can shift the boundaries of a domain, even though the method theory was not specifically modified to that particular context.

In addition to our main argument, there is an issue worthy of consideration when analysing, in particular, ANT as an example of method theory usage in management accounting research. As discussed earlier, Latour (2005) abhors up front theoretical framing of actors and events as he believes such an approach will never fail to find an explanation. Moreover, the need to accompany a description of events with a theoretical interpretation is considered an indication of agencies being suppressed instead of being included in the description. Alternatively, not even ANT can escape the fact that every theory is bound to define the concepts that it applies, implying necessarily categorizations and boundaries. Moreover, the central ideas of ANT offer a model, albeit one that is loosely sketched, on how facts, machines, and power differentials occur. Therefore, despite Latour's forewarnings, ANT could in any case be regarded as an a

priori framework for exploring how the world is continuously being constructed and reconstructed. What is even more paradoxical in this context is that, with its success as a method theory in various fields, ANT has illustrated the benefits accruing from the application of such frameworks.

5. Concluding comments

The nature and essence of differing types of theory continue to kindle debate and discussion among scholars in various fields. The nature of theory is especially debated in management accounting where studies often relate to both domain theories that address substantive issues and conceptual method theories that originate in other fields, representing an important form of conducting interdisciplinary research. Domain theory and method theory are essentially relative concepts; indeed, they are specific roles assumed by theories. Hence, for instance, ANT can be regarded as a domain theory in sociology, while in accounting studies it is cast in the role of method theory.

In this paper, we argue for the usefulness of increasing accounting researchers' awareness of the distinction and relationships between domain theories and method theories. Its primary benefit is to help researchers make conscious choices regarding the location of their theoretical ambition when designing their studies, adding to the clarity of their contributions. A similar thought process is useful, we argue, when studies are evaluated in various contexts; for example, in review processes of journals. Making this distinction visible at an early stage of training doctoral students would assist in the development of their understanding of how accounting research can be conducted and in reporting results in a solid, lucid, and productive manner. Method theories are not a novelty in accounting research; yet their role in developing theoretical contributions to accounting knowledge has remained somewhat ambiguous. Thus, we felt that the distinction between method theories and domain theories, as well as the manner in which method theories are applied, required further clarification. The purpose of this paper is to study the relationships between domain theories and method theories in published management accounting studies. We maintain that the key results of the analysis are also more widely applicable in accounting, and most likely also in other social sciences.

Our literature analysis, focusing on the example of how ANT has been employed as a method theory in the domain of management accounting, revealed five types of relationship between domain theories and method theories. In most articles, the theoretical ambitions and contributions were clearly targeted at a domain theory, while method theory was utilized as an auxiliary to produce such contributions. In contrast, we found instances, although considerably fewer, of the method theory being further developed to produce domain theory contributions, and of ambiguous theoretical ambitions.

The prior literature has at times harboured a rather suspicious attitude towards the application of method theories in (management) accounting research. It has been suggested that scholars who utilize method theories are unable to produce contributions to domain theories, and that method theories are often employed as somewhat ritualistic flagging of sophisticated theorizing. In the case of ANT, this claim does not appear to receive support, as the absolute majority of articles analysed in this paper contained a well-justified research question based on a domain theory, and were also able to add to the corresponding body of knowledge. Our results indicate that management accounting scholars have mostly an instrumental perspective on ANT; that is, it is simply employed as a tool. However, in some cases we were unable to detect any theoretical or other ambitions, while ANT provided the appropriate language with which to express an empirical story. Although there were only a few such articles in our sample, they necessarily raised some concerns regarding the ultimate purpose of such research.

Both domain theories and method theories tend to be moving fields, and their interaction can add to this feature. Hence, their interaction can also generate long-term effects, especially by expanding the boundaries of the domain field. In the case of management accounting, various method theories have shaped our understanding of the domain over time, and thereby accounting knowledge has gradually

become what it was not (Hopwood, 1983). Such effects were identified by our analysis, again focusing on the example of ANT. The particular contribution of ANT in this sense is to have opened the eyes of scholars to a world full of possibilities, where actors come in various forms, and stability is always at risk of being momentary. ANT has also shifted the borderlines of management accounting to the extent that some of its concepts have become part of the standard vocabulary; for instance, as evidenced by their emergence in management accounting textbooks. “Action at a distance” and “fabrication” are examples of such ANT based concepts that have gradually become normal parts of the management accounting vocabulary. This effect illustrates how interdisciplinary research actually functions over time, and how the mobilization of method theories can advance the development of knowledge in a particular field even though the method theories themselves were only applied and not modified.

Two potential implications arise from the analysis of our study. The first relates to the observation that sometimes a domain theory and a method theory are intermingled to the extent that distinguishing between them is a real challenge. For instance, theories from economics have strongly affected the thinking, conceptual base, and research on accounting to such an extent that the two fields are at times almost integrated. If the distinction between domain theories and method theories in this case is not acknowledged, it might be that economics based studies are regarded as representative of all accounting research without the need to apply other approaches, leading to increasing homogeneity of research. As our analysis of ANT indicates, something similar – although most likely on a much smaller scale – can also occur over time in the case of other method theories, even though their application would be originally narrower and easier to distinguish than in the case of economics theories vis-à-vis accounting theories. Increasing researchers’ awareness of the distinction between domain theories and method theories is therefore important as it is likely to increase their susceptibility and capability to identify the opportunities of, and justification for, theoretical pluralism (Lukka & Mouritsen, 2002), while trying to avoid ungrounded theoretical eclecticism; in other words, the self-serving combination of several theoretical lenses.

The second implication of our study concerns the motivations for which various method theories are applied in accounting research. Informal discussions among academics sometimes reflect an attitude that particular method theories are now “in” and others “already out”, even though these perspectives are not based on any epistemological grounds. The danger that lies therein is that researchers do not really explore and adopt the method theories they are applying in a thorough scholarly manner, but only superficially in a “social theory of the month” spirit. Such a transient perspective and application of method theories can effectively reduce them to fads or fashions (Abrahamson & Fairchild, 1999), a phenomenon that arguably diminishes the ability of social sciences, including accounting, to accumulate knowledge and develop comprehensive theories (Flyvbjerg, 2001). A reverse phenomenon would also seem possible in the sense that some scholars might tend to repeatedly apply the method theory with which they are most familiar, instead of considering alternatives that might better suit the research problem at hand.

In sum, our analysis illustrates how the roles of domain theories and method theories in published studies can be identified, and that different forms of interplay between them can be observed. Such results are most likely observable also in the case of other method theories utilized in accounting research in addition to ANT. However, further research is needed to confirm whether this is in fact the case. Another issue worthy of study is an investigation of the criteria that researchers actually employ when selecting a particular method theory to inform their theoretical elaborations and to analyse their empirical data.

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APPENDIX 1 Table of analysed ANT articles and their placement within the three analytical categories.

<i>First time illustration of usefulness</i>	<i>Use of established method theory</i>	<i>Refining method theory</i>
Miller (1991)	Mouritsen (1999)	Briers & Chua (2001)
Robson (1992)	Lowe (2000)	Dechow & Mouritsen (2005)
Preston, Cooper & Coombs (1992)	Mouritsen, Hansen & Hansen (2001)	Andon, Baxter & Chua (2007)
Lawrence, Alam & Lowe (1994)	Mouritsen, Larsen & Bukh (2001)	Mouritsen, Hansen & Hansen (2009)
Chua (1995)	Jones & Dugdale (2002)	Dambrin & Robson (2011)
	Lodh & Gaffikin (2003)	
	McNamara, Baxter & Chua (2004)	
	Skaerbaek & Melander (2004)	
	Quattrone & Hopper (2005)	
	Cuganesan & Lee (2006)	
	Mouritsen & Thrane (2006)	
	Thrane & Hald (2006)	
	Lowe & Koh (2007)	
	Chua & Mahama (2007)	
	Hyvönen, Järvinen & Pellinen (2008)	
	Alcouffe, Berland & Levant (2008)	
	Revellino & Mouritsen (2009)	
	Arnaboldi & Azzone (2010)	
	Whittle & Mueller (2010)	
	Skaerbaek & Tryggestad (2010)	
	Christensen & Skaerbaek (2010)	
	Pipan & Czarniawska (2010)	
	Arnaboldi & Palermo (2011)	
	Muniesa & Linhardt (2011)	
	Qu & Cooper (2011)	