

A methodological framework for theoretical explanation in performance management and management control systems research

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Abstract

Purpose – The purpose of this paper is to reflect on how to apply the abductive research process for developing a theoretical explanation in studies on performance management and management control systems. This is important because theoretically ambitious research tends to require explanatory study outcomes, but prior research frameworks provide little guidance in this regard, potentially facilitating ill-defined research designs and a lack of common vocabulary and criteria for evaluating studies.

Design/methodology/approach – The authors introduce a methodological framework that distinguishes three interwoven theoretical abstraction levels: descriptive, analytical and explanatory. They use a recently published qualitative field study to illustrate an application of the framework.

Findings – The framework and its illustrated application make the systematic logic of the abductive research process visible and accessible to researchers. The authors explain how the framework supports moving from empirical description to theoretical explanation during the research process and where the three levels might open spaces for the positioning of novel practices and conceptual and theoretical innovations.

Originality/value – The framework provides guidance for an explanatory research design and theory-building purpose and has been developed in response to recent criticism in the field that highlights the wide gap between leading-edge practice and the lagging state of theory. It offers interdisciplinary vocabulary and

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evaluation criteria that can be applied by any accounting and management researcher regardless of whether they pursue critical, interpretive or positivist research and whether they primarily use qualitative or quantitative research methods.

Keywords Theorizing, Methodology, Research process, Abduction, Performance management, Management control systems

Paper type Conceptual paper

1. Introduction

Performance management and management control literature has often suggested the holistic study of management control systems (MCSs) rather than simplistic study designs that ignore important interrelations in the empirical setting (Abernethy and Brownell, 1997; Ahrens, 2017; Chenhall, 2003; Fisher, 1998; Otley, 2016). In this vein, some of the strengths of performance management and management control frameworks and concepts (Ahrens and Chapman, 2004; Ferreira and Otley, 2009; Malmi and Brown, 2008; Merchant, 1985; Merchant and Van der Stede, 2017; Otley, 1999; Simons, 1995) lie in providing an overview of control practices to describe and analyse MCSs holistically, such as considering the linkages between strategic and operational control, integrating measurement as part of the operation of overall control systems and including in the analysis the extent and type of formalization of control.

However, despite these strengths, the literature provides little guidance on how the frameworks and concepts can be mobilized for an explanatory research design and theory-building purpose. This is problematic for two reasons. First, theoretically ambitious research tends to require a strong and well-positioned theoretical motivation, often entailing an implicit or explicit explanatory study design (Lukka and Modell, 2017; Sandberg and Alvesson, 2021; Shepherd and Suddaby, 2017). Second, the performance management and management control literature have been criticized for not diminishing the wide gap between the state of theory and leading-edge practice (Merchant and Otley, 2020), thus creating demand for more theoretically interesting and practically relevant theory-building studies.

This demand poses challenges for researchers. On the one hand, the holistic description and analysis of MCSs creates extensive and complex empirical material that is time-consuming to collect and difficult to present in the limited space of a paper. On the other hand, studies require a focused and novel theoretical argumentation that considers developments in practice without being constrained by the rigid and deductive structure of extant frameworks and concepts. The lack of guidance in this regard can hinder the emergence of new theory and cause ambiguity among scholars evaluating one another's work.

The purpose of this paper is to mitigate the aforementioned challenges by providing a methodological framework that is intended to assist researchers in moving from empirical description to theoretical explanation. The proposed framework draws on the logic of abductive reasoning, which, according to Peirce (1958, p. 216), is "the only logical operation which introduces any new idea; for induction does nothing but determine a value, and deduction merely evolves the necessary consequences of a pure hypothesis". When researchers pursue abductive reasoning, they aim to identify anomalies in the literature which are derived from empirical settings and/or the literature, and to initiate the development of theoretical explanations (Dubois and Gadde, 2002; Lukka, 2014; Lukka and Modell, 2010; Sætre and Van de Ven, 2021; Swedberg, 2014; Timmermans and Tavory, 2012). Abduction triggers the following types of questions to advance understanding about

the phenomenon: Is this an intriguing observation? Why does this occur? How does the domain literature explain this? If it does not, would it be important to explain? What are possible explanations? Which explanation is the most plausible? How can the theoretical lenses and empirical material be mobilized for the explanation?

The methodological framework we propose entails three iteratively applicable analytical abstraction levels connecting the empirical and theoretical perspectives to assist researchers with abductive reasoning during the research process. We label them descriptive, analytical and explanatory levels. The descriptive level builds on a pragmatic overview of management control practices (hereafter, MC practices) which are commonly applied in organizations. The analytical level increases the abstraction level by mobilizing control concepts and perspectives from the literature to offer analytical meaning from a control lens to the MC practices identified at the descriptive level. The explanatory level is key for problematizing the research by identifying an anomaly and developing a theoretical explanation.

We discuss where and how the three abstraction levels might open spaces for the positioning of novel empirical findings, new concepts and/or new theoretical arguments and perspectives. Drawing on abductive reasoning, the framework is designed to take a broad perspective in the analysis, as contemporary management control research demands. At the same time, it assists in problematizing the literature and zooming in to shape a relatively narrow theoretical focus during the research process and the write-up of the study. To illustrate an application of the framework, we reflect on the research process of a recently published qualitative field study by Pfister and Lukka (2019), which is one of the studies through which we developed the logic of the present framework.

This paper contributes to the accounting and management literature in general and the performance management and management control literature in particular by offering a methodological framework to make the abductive research process visible and accessible to researchers. The framework aids in applying descriptive and analytical frameworks and concepts for an explanatory study design, thereby providing interdisciplinary vocabulary and criteria for developing and evaluating studies.

The framework can be applied by any accounting and management scholar regardless of whether they pursue critical, interpretive or positivist research and whether they primarily use qualitative or quantitative research methods. Contrary to what is sometimes believed due to historical paradigmatic and methodological debates (Burrell and Morgan, 1979; Chua, 1986, 2019; Hopwood, 2007; Lukka, 2010; Merchant, 2010), in our view, many key elements of studies (e.g. the motivation, the implicit or explicit explanatory purpose and the analytical toolset) do not differ as much as tends to be preconceived.

2. Conceptual background

2.1 Definition and purpose of performance management and management control systems

More than half a century ago, Anthony (1965) introduced management control as a separate phenomenon for inquiry. At the time, he defined the term rather narrowly and emphasized accounting-related controls, positioning management control between strategic planning and operational control. Nowadays, it is widely accepted that “management control” covers a broad strategic and operational spectrum of managerial practices that steer, influence and/or monitor the behaviour of organizational members to align the different interests within (and sometimes beyond) the organization towards a common purpose and objective. Importantly, the terms “management control systems” (MCSs) and “performance management systems” (PMSs) tend to be used interchangeably as markers for similar (or closely related) phenomena in contemporary research. The latter term emerged in the 1990s

as a main marker in the field to distinguish it from the narrower thinking that stemmed from the origins of the field. Following the contemporary approach, we view MCSs (and PMSs) similarly to [Ferreira and Otley \(2009, p. 264\)](#) as entailing practices that relate to “the evolving formal and informal mechanisms, processes, systems, and networks used by organizations for conveying the key objectives and goals elicited by management, for assisting the strategic process and ongoing management through analysis, planning, measurement, control, rewarding, and broadly managing performance, and for supporting and facilitating organizational learning and change”.

Several characteristics of this definition must be specified. First, although the definition covers a broad range of MC practices, it is important to highlight that at the core of MCS research remains a behavioural focus, referring to any organizational setting where somebody (i.e. superiors, managers) seeks to control the behaviour of another (i.e. subordinates, employees); that is, they aim to manage their performance ([Abernethy and Chua, 1996](#); [Cooper, 2015](#); [Merchant and Van der Stede, 2017](#)). Given the behavioural focus, as [Otley \(1999\)](#) notes, it is important to understand what performance means both in the empirical setting and from the theoretical angle taken. For example, performance can relate to the individual or the collective, to financial and non-financial dimensions, as well as to sociological and psychological aspects.

Second, and closely related to the first point, a key problem of the behavioural focus is the alignment of different interests of actors to achieve overall goal congruence ([Flamholtz et al., 1985](#)). It is increasingly noticed that a study of MCSs solely in terms of the alignment between self-interested individuals and organizational interests is not enough. One must also investigate how these interests align with societal interests – that is, how the organization establishes prosocial behaviour and protects the interests of humanity and nature in light of a sustainable future ([Atkins et al., 2019](#)). MCS research therefore requires an in-depth analysis and/or reflection of the behavioural assumptions of the people being studied.

Third, as mentioned in the introduction, MCSs must be studied in combination with other MC practices to understand how those practices are intended, perceived and interrelated in the empirical setting. Although MC practices entail technical systems (i.e. a digital platform), the use of the term “system” in connection with the word “management control” is not to be interpreted as a “technical”, “functional” or “mechanistic” system but a term indicating that different informal and/or formal parts interrelate and form a complex whole. In the literature, this complex whole has sometimes been explored by distinguishing between systems (which are intentionally designed by managers) and more all-encompassing control packages ([Malmi and Brown, 2008](#); [Merchant and Otley, 2020](#); [Otley, 1980](#)) entailing several more or less loosely coupled systems ([Bedford et al., 2016](#); [Demartini and Otley, 2020](#); [Grabner and Moers, 2013](#)). Other researchers mobilize similar or differently refined theoretical and conceptual nuances to explore how and why specific MC practices are designed, used and interrelated ([Friis et al., 2015](#); [Gerdin, 2020](#); [van der Kolk et al., 2020](#)). Whichever terminology is used, a holistic view should be taken.

Fourth, MCSs are broad and include not only formalized policies and procedures to achieve control but also informal (e.g. social and cultural) forms of control ([Alvesson and Kärreman, 2004](#); [Collier, 2005](#); [Merchant, 1985](#); [Ouchi, 1979](#)). Hence, our definition goes beyond the “formal, information-based routines and procedures managers use to maintain or alter patterns in organizational activities” ([Simons, 1995, p. 5](#)). MCSs create social order and cohesion independently of the extent of formalization in their design and use ([Chenhall et al., 2017](#); [Kraus et al., 2017](#)). As such, the distinction between formal and informal control can be misleading, creating the impression that “social” is only related to informal control. As

the term “practices” indicates, MCSs are fundamentally social, producing and reproducing the values and social norms within an organization (i.e. the culture and underlying meaning structures), according to which the work ethos is shaped and constantly in flux (Ahrens, 2017; Ahrens and Chapman, 2007; Ahrens and Mollona, 2007). For the same reason, a management control lens integrates both managerial and leadership activities (Bassani *et al.*, 2021). For example, setting up a performance measure is a managerial activity, whereas defining how it is used is often about leadership, such that employees understand how and why performance has been assessed in a particular way (Hopwood, 1974).

Finally, the behavioural focus we take here potentially includes several systems that are not considered as MCSs in some of the prior literature. Specifically, decision-support systems are sometimes distinguished from MCSs (Malmi and Brown, 2008; Zimmerman, 2009). However, in our view, these systems constitute control because managers can principally influence how and what kind of information is shared with employees, which in turn affects how information, communication and decisions flow throughout the organization (Mintzberg, 1979; Simons, 1995). As with other MC practices that shape one another, those flows constitute an MC practice on its own and simultaneously give contour to many other MC practices. This more inclusive view is well supported in the management accounting and control literature, where it has been shown that managers engage in information politics and tactics to exercise control (Goretzki *et al.*, 2018; Preston, 1986). For the same reason, we view risk management and internal control as part of MCSs when focussing on how they direct, steer and/or monitor behavioural patterns (Mikes, 2009; Pfister, 2009; Power, 2007; Simons, 1995; Soin and Collier, 2013).

Overall, in this paper, we maintain the view that human behaviour is the common denominator for MCS research. Even if a system is built to control artefacts, the way in which these artefacts are managed depends on the human behaviour. Hence, in this paper, we are interested in the operation of the combined design and use of MCSs, and similarly to Otley (1999, p. 364), we propose “looking beyond the *measurement* of performance to the *management* of performance.”

2.2 Difference from prior frameworks

We develop and propose a methodological framework that differs in several regards from the prior frameworks in the performance management and management control literature. Before we outline these differences, we briefly summarize some of the major frameworks. Merchant (1985) used the object of control to categorize MC practices into results control, action control and personnel/cultural control (Merchant and Van der Stede, 2017). Taking a different angle, Simons (1995) theorized how managers can use formal control systems to implement strategy, resulting in the levers of control framework which distinguishes between belief systems, boundary systems, diagnostic systems and interactive systems. In contrast, Otley (1999) provided five central questions that were extended by Ferreira and Otley (2009) to 12 questions for the purpose of describing and analysing the operation of control holistically. These questions assist researchers in obtaining a pragmatic overview of different but interrelated MC practices. For a similar purpose, Malmi and Brown (2008) provided a typology and framework to seriously consider the idea of studying management control holistically as systems and packages (Grabner and Moers, 2013; Otley, 1980). Drawing on Adler and Borys (1996), Ahrens and Chapman (2004) explored the extent and type of formalization of control, thereby distinguishing between enabling and coercive control.

The purpose of our framework differs from the above literature on three major points. First, in contrast to the prior conceptual and theoretical frameworks, we provide a

methodological framework that assists researchers in moving from conceptual description and analysis of the structure and operation of MCSs to a *theoretical explanation*. Importantly, in this paper, we adopt a broad understanding of theoretical explanation, not necessarily as causal explanations between pre-defined variables, but as a key element of most theoretical abstraction independent of the primary purpose of the theorizing (Lukka, 2014; Sandberg and Alvesson, 2021). Hence, our framework *proxies the abductive research process* to lift the theorizing towards a higher theoretical abstraction level. This methodological process can principally be applied in any research domain but is demonstrated in this paper for the performance management and management control domain.

Second, the methodological framework we propose is wider and more integrative than the above frameworks and concepts. Specifically, we *discern and integrate different abstraction levels* of extant frameworks and concepts to sharpen thought work during the research process. For example, while the framework by Ferreira and Otley (2009) integrates insights from Simons (1995) levers of control framework, the different abstraction levels among those frameworks as well as other frameworks (Ahrens and Chapman, 2004; Malmi and Brown, 2008; Merchant, 1985) have not been considered in the prior literature.

Third, while any framework offers some structure, the methodological guidance we provide aims to *promote openness for theoretical and conceptual innovations*. The framework thus presents building blocks (“bricks”) that researchers can select and apply according to their study purpose. The risk of any framework is that it creates theoretical and normative closure (Granlund and Lukka, 2017), which can create blind spots for developments in practice. Hence, we find it important to mobilize extant research frameworks and concepts in a manner that sensitizes us to intriguing empirical findings and uncovers and addresses anomalies in the literature to extend and renew theory (Alvesson and Kärreman, 2007; Shepherd and Suddaby, 2017).

Taken together, our framework provides a tool to position novel practices and conceptual and theoretical innovations. The framework is intended to assist the explanatory research design and abductive research process, and it offers interdisciplinary vocabulary and criteria for the evaluation of studies.

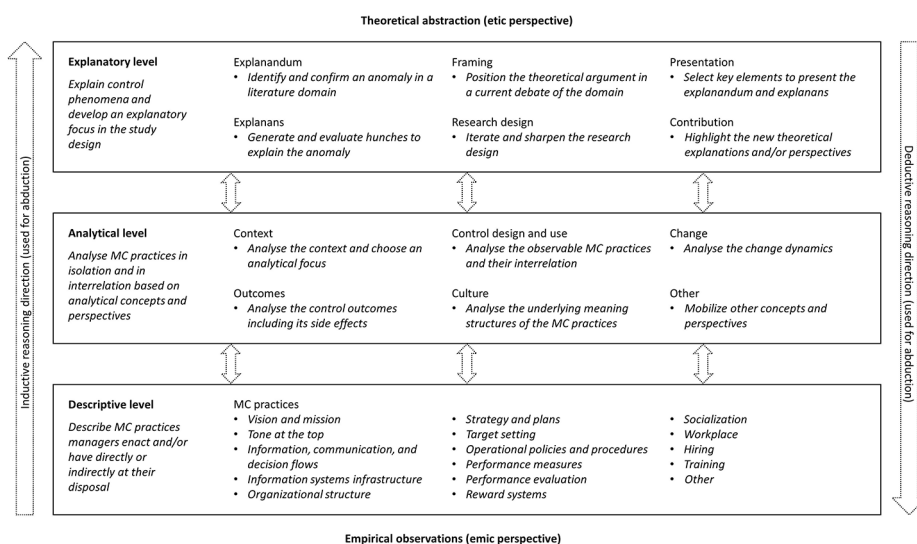
3. A methodological framework for theoretical explanation

3.1 Overview

This section introduces the components of the proposed framework, which consists of three levels that successively increase conceptual and theoretical abstraction: descriptive, analytical and explanatory. These three levels tend to be interwoven during the abductive research process; however, analytically differentiating between them is intended to sharpen and assist thought work. This is especially important when tackling large and complex data sets in a holistic study on MCSs with the aim to develop a theoretical explanation. As such, depending on the study purpose, design and stage, the three levels might be mobilized selectively, simultaneously and/or in sequence.

As illustrated in Figure 1, the descriptive level contains a pragmatic list of MC practices that managers enact and/or directly or indirectly have at their disposal to influence employees’ behaviour. At the analytical level, there are concepts and perspectives for examining these MC practices using a control lens and understanding their purpose as conditions and mechanisms that steer behaviour, both as isolated MC practices and in their interplay. The explanatory level focusses on the theoretical motivation of the study – that is, how insights at the descriptive and analytical levels can be theoretically problematized to

Figure 1.
A methodological framework for theoretical explanation



identify anomalies in the literature and to develop and select plausible hunches for a theoretical explanation.

We present this framework in an inductive order, starting with the descriptive level and then moving to the analytical and explanatory levels. However, it must be emphasized that this sequence is chosen for illustrative purposes to move the extant frameworks and concepts to an explanatory application. As illustrated with the arrows in Figure 1, the abductive reasoning process iteratively combines the three levels. The key is to identify and confirm an anomaly in a literature domain inspired by empirical observations and/or controversies in the literature. The abductive process then turns to conceiving hunches or ideas that help explaining the anomaly (Sætre and Van de Ven, 2021). We will return to the iteration and combination of the three levels in Section 4, where we provide an example of the framework “in action”.

3.1.1 Descriptive level. The purpose of the descriptive level is to pragmatically collect insights about the MC practices in the studied organizations as outlined in Table 1. The list entails an exemplary and non-exhaustive overview of MC practices that can be explored. We built this list based on components of the frameworks by Otley (1999) and Ferreira and Otley (2009). However, we added tone at the top, socialization, workplace, hiring and training, as they are widely established MC practices in the literature and/or described in other frameworks (Malmi and Brown, 2008; Merchant and Van der Stede, 2017). We moved some components of the Ferreira and Otley (2009) framework (PMS use, PMS change, culture and context) to the analytical level. As the listed MC practices are described in detail in the literature, we only briefly relate to them here to introduce the different abstraction levels of our framework.

Most fundamentally, researchers can study the *vision and mission* which express the future image and purpose for the existence of the organization. Vision and mission statements are often accompanied by value statements. The vision and mission set behavioural standards that guide organizational members in their everyday rationalization of their behaviour, including their decision-making (Chenhall, 2003; Otley, 1999; Simons, 1995). Top managers can promote the vision and mission by setting the *tone at the top*

Management control practices	Indicative questions for description
Vision and mission	What are the vision and mission of the organization, and how are they conveyed to managers and employees?
Tone at the top	What tone is set by top managers? How do managers (at all hierarchical levels) influence employees' meanings and values in non-coercive ways?
Information, communication and decision flows	How do information, communication, and decisions flow in the organization? How are these flows visible and accessible to employees? How fast and at what frequency do they occur?
Information systems infrastructure	What information systems, networks and platforms does the organization have in place? What control functions does the information systems infrastructure provide and how does it support the operation of other MC practices?
Organizational structure	What is the organizational structure, and what impact does it have on other MC practices? How does it influence and how is it influenced by the strategic management process?
Strategies and plans	What strategies and plans has the organization adopted? How are strategies and plans adapted, generated and communicated to managers and employees?
Target setting	What level of performance must the organization achieve? How does it go about setting appropriate performance targets? How challenging are these performance targets?
Operational policies and procedures	What operational policies and procedures does the organization have in place? How pervasive and detailed are they? How do they affect the operation of other MC practices?
Performance measures	What are the organization's key performance measures deriving from its objectives, strategies and plans, targets and operational policies and procedures? How are these specified and communicated, and what role do they play in performance evaluation? Are there significant omissions?
Performance evaluation	What processes, if any, does the organization follow for evaluating individual, group and organizational performance? Are performance evaluations primarily objective, subjective, or mixed?
Reward systems	What rewards — financial and/or non-financial — will managers and other employees receive for achieving performance targets or other assessed aspects of performance (or, conversely, what penalties will they suffer by failing to achieve them)?
Socialization	What social events occur to foster team identity? To what extent and how do peers create performance pressure among themselves? What achievements are celebrated?
Workplace	What type of workplace and infrastructure is offered to support managers and employees in their everyday work?
Hiring	What principles and processes are in place for the attraction, selection and attrition of personnel? Is the hiring selective or opportunistic?
Training	What training is offered to managers and employees, and how? Is the training mandatory or voluntary?
Other	Are there other MC practices in the empirical setting that are relevant? Have they been reported in the literature, or are they novel and emerging forms of control?

Table 1.
The descriptive level
(augmented from
Otley, 1999 and
Ferreira and Otley,
2009)

and, through their leadership role, exemplify and model the desired direction and behaviour in the organization. However, not only top managers but any manager can lead by example, influencing the behaviour of others in their area of responsibility by “walking the talk” and instilling certain values and social norms (Bassani *et al.*, 2021; COSO, 1992; Pfister, 2009).

Related to the tone at the top are *information, communication and decision flows*. As mentioned earlier, in addition to being constitutive of how other MC practices are

enacted, the way in which managers design, engage in and/or influence information, communication and decision flows is a crucial MC practice itself. Hence, whether and how information is shared among managers and employees, how and on what occasions managers and employees communicate with one another and how and by whom decisions are made provides the researchers with an important understanding for the control arrangements in the organization (Chenhall and Morris, 1995; Hall, 2010; Mundy, 2010; Simons, 1995; Tuomela, 2005). In fact, in many entrepreneurial start-ups informal information exchange, communication and decision flows is the primary MC practice at the disposal of managers, which will be successively accompanied and structured by more formalized MC practices when the organization grows and matures (Burns and Stalker, 1961; Davila, 2005; Davila *et al.*, 2009; Greiner, 1972).

In this regard, exploring the *information systems infrastructure* of the organization is not only useful to understand how the systems, networks and platforms support the enactment of other MC practices. But managers' decisions about which information systems infrastructure the organization uses and how it is used is a MC practice itself. Those decisions significantly shape the affordances and constraints (Leonardi, 2012) for how control is enacted in the organization. New MC practices build on innovative information and communication technologies and related digital services (Orlikowski and Scott, 2016), which facilitate control functions, for example by increasing and accelerating the visibility, structuring, reach, data processing and storage power within and across different locations (Dechow *et al.*, 2007; Granlund, 2011; Kornberger *et al.*, 2017).

Learning about how the *organizational structure* is designed (e.g. hierarchical, flat or circular) supports an understanding for how decision rights are formally distributed among organizational members, how manager-subordinate relations are defined and what span of accountability and span of control are allocated to managers (Chenhall, 2003; Simons, 2005; Simons and Davila, 2021). The organizational structure is closely linked to *strategies and plans* which outline how the vision and mission should be achieved and what steps organizational members must take to execute a particular strategy (Chandler, 1962; Chenhall, 2003; Mintzberg, 1979). These insights indicate the extent of employee empowerment and the degree to which the strategy is defined top-down or emerges from the bottom up (Bhimani and Langfield-Smith, 2007; Bisbe and Otley, 2004; Pfister *et al.*, 2017).

Managers define through *target setting* an intention for what the organizational behaviour should achieve. Targets can vary widely in terms of their difficulty, specificity and explicitness (Locke and Latham, 2002). They connect the overall vision, mission and strategy to operational and tactical milestones based on which employees can be held accountable. Furthermore, managers can define *operational policies and procedures* to inform and standardize ways of working. Hence, formal checklists, operating procedures and code of conducts set the direction and boundaries within which employees are held accountable (COSO, 1992; Merchant and Van der Stede, 2017; Simons, 1995).

The design and use of *performance measures* provide the means to assess whether and to what extent the targets are met. Financial performance measures are the key to assessing the bottom line, yet they tend to be lagging indicators by showing the consequences of past behaviour. In contrast, non-financial measures might be used as leading indicators to steer and direct the behaviour that leads to financial outcomes (Kaplan and Norton, 1992). Performance measures tend to be incomplete representations (Jordan and Messner, 2012; Wouters and Wilderom, 2008) of the expected and achieved performance and can cause unintended employee behaviour (Franco-Santos and Otley, 2018). To this end, the degree to which managers objectively or subjectively conduct *performance evaluations* expresses to researchers what the priorities of the organization are, how and to what extent

the performance evaluation relies on the “objective” face value of the performance measures and whether and how managers support employees in their personal growth (Ferreira and Otley, 2009; Kunz, 2015; Otley, 1999). Furthermore, *reward systems* can entail financial and non-financial incentives (e.g. payments, promotion, praise) that are attached to whether and to what extent the targets are achieved. Incentive systems tend to have strong behavioural implications (Byron and Khazanchi, 2015; Merchant and Van der Stede, 2017; Simons, 2005).

To explore performance management holistically, researchers need to also obtain an understanding of broader forms of *socialization*. This relates to how an organization treats corporate events, coffee breaks and social gatherings that are designed to enhance belongingness and a shared identity, as organizational members are able to exchange information informally (Kärreman and Alvesson, 2004; Ouchi, 1979). Socialization can also entail peer pressure whereby employees socially influence and sanction one another’s behaviour (De Jong *et al.*, 2014). Celebrations indicate what is important to an organization and what behaviour is praised, which can affect the behavioural patterns in the organization (O’Reilly and Chatman, 1996). Exploring the *workplace* – whether in the office, as remote work or while travelling – provides an understanding for the attractiveness and characteristics of an organization in terms of how and whether control is asserted. Malmi and Brown (2008, p. 294) note that to control behaviour, an organization might build an open-plan office to shape “a culture of communication and collaboration” or require staff to wear a uniform to facilitate a “culture of professionalism”. The workplace affects how effectively people work together and entails the office design and informal work rules set by managers.

Although we mention it as one of the last MC practices in our list, *hiring*, including attraction, selection and attrition, is a key MC practice to influence the behaviour in an organization. The type of people hired, as well as their skill sets, work ethic and personality will affect what targets and performance can be expected from them and how well the workforce fits together as a collective (Abernethy and Brownell, 1997; Adler and Chen, 2011). Additionally, *training* is a means to keep personnel up to date and to ensure the desired skill set and personal growth. Through the requirement for staff to pass certain training on the job, managers can develop the employees’ skill sets and performance (Malmi and Brown, 2008; Merchant and Van der Stede, 2017).

Aligned with our concern about the theory–practice gap, the category *other* indicates that the list of MC practices is exemplary and emerging. Depending on the purpose and focus of a particular study, the listed MC practices might be further segmented and differentiated or complemented by other MC practices reported in the literature (e.g. internal control, governance, risk management). Likewise, novel MC practices will emerge as technological innovations enable new practices and as organizational and societal values and norms change. Remote working, social media, big data and cloud computing (Arnaboldi *et al.*, 2017; Bhimani and Willcocks, 2014; Quattrone, 2016) create and shape new MC practices, which research must theoretically and empirically capture. We therefore stress that the list of MC practices is presented in a pragmatic and open order, and the purpose of some research might be to identify innovative MC practices (i.e. subsets of the categories or novel ones) and subsequently theorize (in combination with the analytical and explanatory levels introduced in the next sections) how they affect the control arrangements and outcomes within organizations.

3.2 Analytical level

To move towards an explanatory theoretical argumentation, the purpose of the analytical level is to theoretically elevate the pragmatic insights gained at the descriptive level through the lens of control theory. Tables 2 and 3 summarize our selection of analytical concepts and

Table 2.
The analytical level
(1/2)

Categories	Tasks	Indicative questions for analysis
Context	<i>Analyse the context and choose an analytical focus</i>	<i>Internal:</i> What type can the organization be categorized as, and what is the analytical focus? What are the characteristics of the internal context surrounding the MC practices? <i>External:</i> What is the market situation in which the organization operates (e.g. the extent of uncertainty and competitiveness)?
Outcomes	<i>Analyse the control outcomes including their side effects</i>	<i>Aspired:</i> What performance dimensions do managers aspire individually and collectively? <i>Achieved:</i> What financial and non-financial performance is achieved individually and collectively? <i>Side effects:</i> What unintended favourable and adverse side effects have occurred?
Control design and use	<i>Analyse the observable MC practices and their interrelation</i>	<i>Objective:</i> What is the control objective of the MC practices (e.g. input, process, or output; compliance versus performance)? <i>Style:</i> How is performance/compliance or non-performance/non-compliance assessed, rewarded, and/or punished? <i>Strategic use:</i> How do the MC practices support strategy implementation and formulation? Are the cybernetic MC practices used diagnostically or interactively? <i>Interrelation:</i> How do the MC practices complement or substitute one another? How do they shape one another's design and use? <i>Coherence:</i> How well do the MC practices work in concert? How coherently and strongly are they working together? What are their weaknesses? <i>Agility:</i> How do the MC practices support the sensing of and response to organizational threats and opportunities?

perspectives from the performance management and management control domain, which are again exemplary and non-exhaustive. The extent of use of such analytical abstraction depends on the research purpose and the direction the research process takes. Hence, some studies might primarily focus on one or two of the categories below, while others consider multiple. The literature has discussed many different concepts, and it is not the purpose of this paper to discuss their nuances or how different authors have interpreted them (for such an analysis see for example [Bedford and Malmi, 2015](#); [Tessier and Otle, 2012](#)). In line with the purpose of the framework, the categories provide an overview of analytical perspectives; however, they are left open to be refined or complemented by novel or existing perspectives from the literature. While conceptual consistency is unlikely across studies, our view is that the applied concepts should be explicitly defined and consistently applied throughout a particular study.

A first category for analysis focuses on an understanding of the context in which the MC practices operate. The internal environment specifies the analytical focus (i.e. what kind of organization it is; whether the analysis relates to the entire organization, a business unit, a

Categories	Tasks	Indicative questions for analysis
Culture	<i>Analyse the underlying meaning structures of the MC practices</i>	<p><i>Managerial intention:</i> What are the managers' assumptions, interests and intentions? What meaning do they assign to the operation of control and their own role within it? Do managers design controls to enable employees or to constrain them? How do they present the controls to employees?</p> <p><i>Employee perception:</i> What assumptions and meanings do employees attach to the operation of control as well as their own role within it? Are these assumptions and meanings positive, negative, or neutral? How do the MC practices support and/or undermine employees' self-determination required for creativity and performance?</p> <p><i>Collective:</i> What convergent, divergent and ambiguous meaning structures emerge between the different actors?</p>
Change	<i>Analyse the change dynamics</i>	<p><i>Context:</i> What change dynamics are the organization and its internal and external environment exposed to?</p> <p><i>Outcomes:</i> How does change affect the control outcomes, including their unintended side effects, over time?</p> <p><i>MC practices:</i> How do the MC practices change? Are the changes made in a proactive or reactive manner?</p> <p><i>Culture:</i> How are the meaning structures produced and reproduced through the enactment of MC practices?</p>
Other	<i>Mobilize other concepts and perspectives</i>	<p><i>Literature:</i> What other concepts and perspectives from the literature are useful for the analysis?</p> <p><i>Novel:</i> What new concepts and perspectives might support the analysis of MC practices in organizations?</p>

Table 3.
The analytical level
(2/2)

team or another organizational unit; and how the focal unit relates to other parts of the organization). The phenomena under study vary; they can relate to intra- and inter-organizational settings, considering relations between top managers, middle managers, team leaders, other organizational members and stakeholders. The external environment concerns the market situation (e.g. the extent of uncertainty and competitiveness) in which the organization operates as well as the wider economic, societal and geopolitical dimensions of the external environment that are of relevance for the emerging theoretical focus (Chenhall, 2003; Otley, 2016).

The second category is closely related to the context and focusses the analysis on the aspired and realized control outcomes within an organization under consideration of the market situation in which it operates. The performance dimensions in the empirical setting can remain vague, with different actors holding different assumptions about what should be achieved by the MC practices. The analysis therefore reaches depth by exploring these different voices as

well as the unintended (favourable and adverse) side effects of the operation of control systems (Franco-Santos and Otley, 2018). This analysis supports an understanding of the quality of control – that is, whether it is effective, efficient and economical and/or whether it causes unintended consequences, such as the hampering of innovation or other forms of dysfunctional behaviour (see for example Merchant and Van der Stede, 2017). Importantly, as Tessier and Otley (2012) point out, a focus on the quality of control entails a different analysis from the dual role of control, which we discuss further below.

A third category for analysis concerns the design and use of the observable control, which involves the study of the MC practices both in isolation and in interrelation. Most fundamentally, MC practices can be analysed in terms of their control objectives. As mentioned earlier, Merchant (1985) distinguishes between results control, action control and personnel/cultural control. These control mechanisms indicate whether the output, the process or the input/environment is controlled. Tessier and Otley (2012) use a closely related distinction for the control objective by focussing on whether performance or compliance is controlled by the MC practices. The analysis of the control objective establishes an understanding for the extent of autonomy or restriction provided to employees in their everyday behaviours and decision-making. This analysis also facilitates an understanding of not only whether and how rewards and/or punishments are attached to the achievement of the required performance or compliance but also to what extent and how such an evaluation depends on a quantitative or qualitative assessment. The analysis further entails a positioning of the MC practices in terms of whether their purpose is strategic or operational. In this vein, Simons' (1995) levers of control framework has been influential in explorations of how (top) managers use MC practices. One core argument of his framework builds on the assumption that managers must make choices regarding how to spend their scarce time purposefully, arguing that they use cybernetic MC practices interactively (in communication with subordinates) in areas of strategic uncertainty, and diagnostically in all other instances (Simons, 1990; Simons, 1995). In dynamic and highly uncertain environments, it thus becomes increasingly important for an organization to understand how MCSs can support organizational agility – that is, support in the identification of, and response to, organizational threats and opportunities (Tallon *et al.*, 2019; Teece *et al.*, 2016).

MC practices cannot only be studied as separate and independent entities, whether they complement or substitute for one another (Bedford *et al.*, 2016; Grabner and Moers, 2013). Instead, MC practices often shape one another's forms. For example, while the decision about how information, communication and decision flows are enacted is a control choice by managers *per se*, it will also affect the manner in which other MC practices are enacted. Notably, this MC practice differs from but is closely interrelated with formal decision rights (the question of who is formally allowed to make the decision) that are allocated through the organizational structure. It is also closely related to the information systems infrastructure, which technically facilitates information, communication and decision flows. As we will showcase in the application of the framework in Section 4, such interrelations occur in various nuances with most MC practices. Whilst the theorizing of such nuances has to be purposeful (for criteria see Healy, 2017), it is in our view important to explore the interplays between MC practices to understand the ways in which they collectively shape the conditions and mechanisms by which activities are carried out. In this line of thinking, Ahrens (2017) recently theorized the phenomenon of anchor practices, which are MC practices that affect other organizational practices (see also Carlsson-Wall *et al.*, 2021).

A fourth category for analysis, which we label culture, extends beyond directly observable MC practices. This category concerns the analysis of the deeper meaning behind structures and between the actors, including their assumptions, beliefs, values, norms, intentions and perceptions, which are produced and reproduced through the enactment of

the MC practices. Performance management and management control literature points to the different voices of the actors, specifically distinguishing between managerial intention and employee perception (Ahrens and Chapman, 2004; Tessier and Otley, 2012). An analysis of managerial intentions provides an understanding of how the managerial philosophy is imbued in the control design and use. Related to this discussion is the discourse on the dual role of control, which argues that control often works with opposite objectives, such as yin and yang (Simons, 1995), that can co-exist and create dynamic tension (Mundy, 2010). The literature has discussed the dual role, for example, through the distinction between enabling and coercive control (Adler and Borys, 1996; Ahrens and Chapman, 2004). However, importantly, Tessier and Otley (2012) highlight that these concepts must be used with caution to clearly distinguish the above-mentioned concept of quality of control from managerial intention and employee perception. The latter indicates how MC practices are perceived by those who are subjected to them. Employees might feel tightly controlled or that “no control” is in place at all despite the observed MC practices indicating a relatively tightly controlled setting. It is thus insightful to explore the discrepancies between different actors regarding how they perceive the same controls. This analysis could also include how managers present the controls and how this presentation is received by employees.

The gathering of multiple insights about the assumptions, intentions and perceptions of the different actors in the empirical setting aids in establishing an understanding of the organizational culture from the perspective of control. Ferreira and Otley (2009) highlight the importance of organizational culture. However, compared to their framework, we position it at the analytical instead of descriptive level. We view organizational culture as an analytical lens through which to understand how the entirety of control mechanisms produces and reproduces the emerging assumptions, values and social norms in an organization. We therefore see culture as a lens to interpret control in an organization, and as such, not as a control concept *per se*. Hence, it is important to distinguish the concept from the notion of “cultural control” (Merchant, 1985; Merchant and Van der Stede, 2017) and similar notions that denote specific MC practices that are intended to create social cohesion. In our view, whatever MC practices are applied (and independently of their degree of formalization), they represent, create, produce and reproduce the assumptions, values and social norms in an organization, and their analysis unveils the convergence, divergence and ambiguity of meaning structures (Ahrens and Mollona, 2007; Alvesson, 2002; Bassani *et al.*, 2021; Martin, 2002).

Finally, we consider the change dynamics as another analytical category, which implies that the analysis can be more static or processual. Change can relate to any area, including the context, the control outcomes, the observable control design and use or the underlying meaning structures (Dambrin *et al.*, 2007; Ferreira and Otley, 2009; Simons and Davila, 2021). For example, to move through challenging time periods, organizations must be not only innovative but also agile and resilient. In this context, technology changes how management control is practised. While at a high abstraction the nature of control is arguably technology-agnostic, technology shapes and creates new MC practices (as discussed at the descriptive level) and research can use new concepts and perspectives for exploring those emerging forms of control.

Performance management and management control literature has developed a rich set of typologies, such as tight versus loose control, horizontal versus vertical control and organic versus mechanistic control, to name but a few. These and other typologies can further assist the analysis of MCSs, their context and purpose, their interrelation, the underlying culture and the change dynamics. Furthermore, new perspectives and typologies could be explored to identify control aspects that are relevant but have not yet been illuminated in the literature.

3.3 Explanatory level

The previous section increased the abstraction level by mobilising different analytical concepts and perspectives to analyse MC practices both in isolation and holistically in interrelation. This section pushes the abstraction level further, reflecting on how a study can mobilize the descriptive and analytical levels for a theoretical explanation. By theoretical explanation, we mean that the abstraction level is raised, and new knowledge is created not necessarily only through a narrow assessment of causal explanations between (pre-defined) variables but also through broader explanation (e.g. phenomena, relations and processes). Sætre and Van de Ven (2021, p. 3) describe this abductive process as entailing both “observing and confirming an anomaly” and “generating and evaluating hunches that may explain the anomaly.” Table 4 provides a summary of the explanatory level.

Categories	Tasks	Indicative questions for explanation
Explanandum	<i>Identify and confirm an anomaly</i>	What are intriguing leads of possible anomalies in a literature domain that trigger the demand for a theoretical explanation? Which of these leads is the most relevant for current debates and can be confirmed among the authors and with peers?
Explanans	<i>Generate and evaluate hunches to explain the anomaly</i>	What are possible hunches to explain the identified and confirmed anomaly? What theoretical lenses and empirical material inform the possible explanations? Which of the generated hunches is the most plausible?
Framing	<i>Position the explanatory argument in a current debate</i>	To which debate in the domain does the explanatory argument (considering both the choice of explanandum and explanans) relate? Does the study provide a new perspective by challenging existing assumptions? Does it address a gap that is important to fill?
Design	<i>Iterate and sharpen the research design</i>	How can the research objective, research questions, theoretical lenses and empirical material be sharpened whilst the explanatory argument emerges and the descriptive and analytical work is carried out?
Presentation	<i>Select key elements to present the explanandum and explanans</i>	What must be shown and told to the reader to demonstrate the identified explanandum and explanans? Which elements from the descriptive and analytical work have been excluded from the presentation in the write-up, and why?
Contribution	<i>Highlight the new theoretical explanations and/or perspectives</i>	Are the findings clearly formulated and their value explained? Is the contribution original, clear and focused? What is the wider scope of the study’s relevance, and what implications for research and practice can be formulated?

Table 4.
The explanatory level

An anomaly occurs when the assumptions of existing theoretical models break down and do not provide sufficient understanding of and explanation for the observed phenomenon, requiring an extension or refinement of theory or the development of novel theoretical concepts and/or perspectives. There is substantial methodological literature on how to identify an anomaly (Alvesson and Kärreman, 2007; Alvesson and Sandberg, 2011; Shepherd and Suddaby, 2017). A core factor is that researchers remain alert and sensitive to the possible leads of an anomaly. This entails a focus on the assumptions in the empirical setting – by those actors being studied in the field – as well as the assumptions underpinning the applied theories. By systematically exploring and comparing these assumptions, an anomaly might surface that is theoretically intriguing, which subsequently initiates the need for an explanation and opens potentially new theoretical arguments and perspectives that expand knowledge.

There are different approaches for entering the empirical setting with the intention to identify an anomaly. One option is to be theoretically focussed during the early stages of the field research. This initial theoretical focus is the starting point to probe different theoretical models of the narrowly focussed domain and, while doing so, identify breakdowns that lead to a sharpening and/or repositioning of the initial theoretical focus. The advantage of this approach is that researchers can familiarize themselves with a relatively narrow domain and are constantly probing and searching for anomalies in this domain during the research process. Another option, especially for experienced and widely read researchers, is “to let a thousand flowers bloom”; that is, keep a broad and open focus when entering the field to see what emerges and explore various angles to identify potential anomalies. Regardless of which approach is used, once the anomaly is identified, it must be specified and confirmed, typically in discussion with peers (Sætre and Van de Ven, 2021). To this end, Lukka and Modell (2010) and Lukka (2014) suggest the use of contrast classes (i.e. contrastive thinking through which one sharpens and narrows the identified anomaly). This process of contrastive thinking deconstructs the anomaly into its elements, thereby allowing for it to be sharpened towards a more focussed explanandum.

As a next step, researchers generate and evaluate hunches that may explain the anomaly (Alvesson and Kärreman, 2007; Sætre and Van de Ven, 2021). This step depends on a focussed explanandum because without such a focus, the search for plausible explanations will likely be convoluted and difficult to pursue. To explore hunches, one must engage with the empirical material to find possible explanations. This analysis is often supported by a theoretical lens (also called method theory; see Lukka and Vinnari, 2014) that informs the explanatory (and analytical) work on the empirical material. Hence, this is an iterative process of exploring the empirical material and possible theoretical lenses. Counterfactual thinking is helpful during this process of developing a plausible explanation. It is the systematic analysis of “what if” questions to compare the actual observations with counterfactual conditions to explore and test whether the presumed causal relationship(s) hold (Lukka and Modell, 2017). These thought experiments sharpen the explanatory argumentation.

In the process of identifying and confirming an anomaly and then generating and evaluating hunches for its explanation, the domain typically narrows and sharpens. Both the explanandum and the explanans determine the framing of the study – that is, where and how it is positioned in relation to the prior literature. This step clarifies the relation between theory and empirical material in the study and whether and how the findings challenge existing assumptions in the literature and/or fill an important gap. Importantly, while a theoretical argument could be “normal” in some literature, it could be an anomaly in others, and sometimes “normal” insights can become anomalies if they are set in the light of a

specific discourse. However, there is a distinction between, on the one hand, positioning an anomaly in a focussed and well-motivated manner in a stream of literature and, on the other hand, choosing too narrow a literature scope and thereby ignoring closely related literature that has already tackled the claimed anomaly. Reflections among authors and peer feedback are helpful for this positioning process (Ahrens and Chapman, 2006; Ahrens and Dent, 1998; Alvesson and Sandberg, 2011).

The iteration of defining the explanandum and explanans and their positioning in the literature shapes all study design elements (domain, objective, research question, theoretical lens and empirical material). Hence, a feature of the abductive research process is that the research objective, research question and theoretical lenses likely change and sharpen over the course of the research project. For instance, the reformulation of the research objective and research question in the latter stages of the project aligns with the systematic logic of abduction. This is not as “messy” or even “unscientific” a process as one might mistakenly interpret it to be; instead, it likely signifies that the abductive reasoning has (successfully) sharpened the anomaly and the hunches addressing it over the course of the project. For this reason, it might sometimes be purposeful to use a research diary in which the researchers continuously document the development of a study (including new empirical insights, new reflections, new comments from colleagues, etc.) until it can be reported in a paper. Similarly to the pursuit of a scientific experiment, the abductive paper might develop in such a document before the findings are transferred to and reported in the manuscript.

The presentation of a theoretical argument requires what Lukka and Modell (2010) label “thick explanations”. In providing such explanations, a researcher must make choices about how to present the extensive empirical material and its theorizing (see also Ahrens, 2022). We propose that these issues of space can be tackled both in the method and in the empirical section. The three levels of this framework can contribute to the reflection in the method section, providing the means to explain why certain aspects of the descriptive and analytical work have (not) been selected for presentation in the empirical section despite a holistic account of the overall operation of control. The empirical section typically entails a selective account of the theoretically relevant MC practices. There are multiple ways of presenting qualitative data, such as in tables, vignettes, storylines or ethnographic field notes (Hoque *et al.*, 2017). There is an important distinction between presenting the empirical phenomena (“showing”) and explaining what wider episodes or specific quotes have brought to bear theoretically (“telling”) (Golden-Biddle and Locke, 2007). It can also be useful to present the empirical material along the lines of the study architecture (i.e. present both the anomaly and the hunches explaining it).

Finally, it is important to clearly formulate the findings of the study and its value. A feature of an explanatory study is that it tends to develop a relatively focussed contribution rather than multiple contributions to several debates. The contribution expresses how the study adds to, contrasts with, and/or resolves ongoing concerns in the focal debate. Although a well-defined explanandum might lead to a focussed contribution, we believe that it is crucial to explain the broader scope of the study’s relevance for the literature and, if possible, offer implications for research and practice.

4. Framework “in action”: reflections on a qualitative field study

The purpose of this section is to demonstrate how the three levels of the framework are mobilized iteratively during the different stages of the research process and to reflect on how theoretical arguments can be derived from this process. The order in which these iterations proceed might vary among studies, depending on the reasoning, the initiation of the study

and the development of the empirical and theoretical work during the abductive research process.

To illustrate the application of the framework, we reflect on the research process of a recently published qualitative field study by Pfister and Lukka (2019), which is one of the studies we used to develop the logic of the proposed framework. This case research builds on empirical material consisting of 35 semi-structured interviews (3 in 2007, 25 in 2010–2013 and 7 in 2016–2017) and was complemented by internal documents provided by the informants. Figure 2 schematically illustrates the major abductive dynamics of this example, as described below:

- **Descriptive level:** The authors established initial contact with the case firm in 2007. In follow-up interviews with senior managers in 2010, the case company granted them access to study an upcoming organizational initiative concerning the implementation of new productivity measures to steer and monitor the productivity of personnel in the accounting department. This access afforded the researchers the opportunity to collect empirical material about the development of the new productivity measures as well as a range of other MC practices at the field site.
- **Explanatory level:** Based on the agreed access, the authors drafted a tentative theoretical motivation in which they problematized the performance measurement literature, particularly the lack of knowledge about how accountants measure their own performance. This initial screening and matching of the literature with the agreed empirical access was a first attempt to identify an anomaly in the literature. As the authors state in the method section, “A key aspect of the document was to ensure that our research demonstrated a strong theoretical motivation (Alvesson and Sandberg, 2011) and could provide a clear initial focus for the theoretical and empirical analysis” (p. 352).
- **Analytical level:** Drawing on the tentative theoretical motivation, the authors decided how the field site should be analysed and what empirical data should be collected, considering the intentions and self-reflections of the senior managers and the managers responsible for the implementation of the performance measurement system, as well as the perceptions of the employees whose performance was

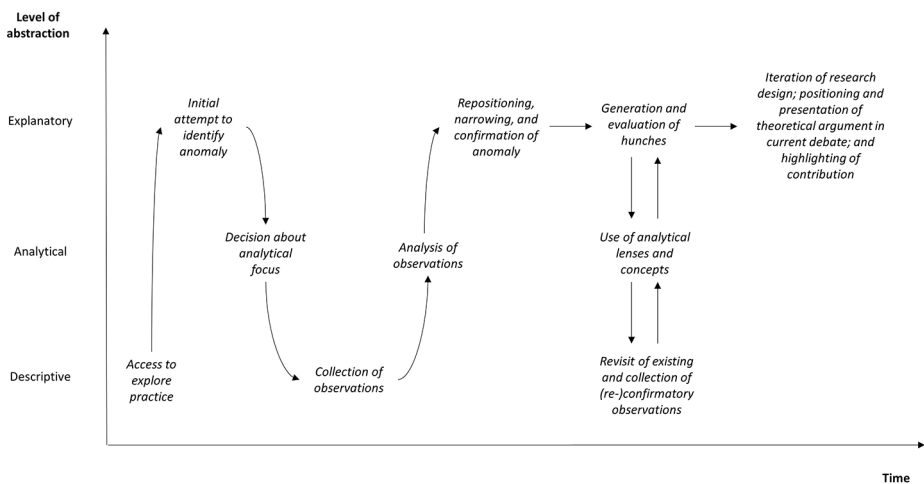


Figure 2. Illustration of the framework “in action”: an example of the major dynamics of the abductive research process

assessed. The authors decided early on to mobilize the object of control framework (Merchant and Van der Stede, 2017) as a conceptual tool to analyse the purpose of specific MC practices and how they fit the overall operation of the MCS.

- **Descriptive level:** Following this organizational initiative, the authors collected empirical material regarding the development and implementation of the new productivity measures, the related target setting and incentive system and wider MC practices such as those related to hiring and training, operational policies and procedures and the tone at the top. They were guided by their initial explanatory and analytical focus in collecting the empirical material yet remained open to following intriguing leads that emerged during the process.
- **Analytical level:** The authors were sensitized to interesting developments by analytically focusing on the assumptions, intentions and perceptions of the different actors in the field. An intriguing development was the introduction of a time-tracking tool through which personnel were required to track time per task, but which led to unintended adverse side effects that created resistance by the workforce. Another intriguing development was that senior managers set tight stretch targets for productivity. This put the accountants under high pressure to take risks and constantly look for innovations to increase productivity in their responsibility area.
- **Explanatory level:** Drawing on the descriptive and analytical work, the authors probed different potential anomalies in the literature, asking themselves, which of these observations is theoretically interesting? There were several leads, but one seemed particularly promising: The accountants were pressured to be creative, be innovative and take risks. The authors state, “While our initial decision to study an accounting department did not look to focus on creativity and innovation, this focus became apparent early in the abductive research process” (p. 351). Over time, it became apparent that despite the strong productivity pressure, the accountants were able to remain not only creative and innovative but also enthusiastic about their work. They achieved their stretch targets to a large extent and improved productivity by 15%–20% yearly over an extended period of time. These observations constituted an abductive surprise because an anomaly was uncovered in the literature and confirmed with peers that required an explanation (Alvesson and Kärreman, 2007). Specifically, the accounting and management literature theoretically argued that the pursuit of stretch targets demands creative and innovative solutions (Sitkin *et al.*, 2011). However, the experimental accounting literature found that stretch targets are associated with stress and anxiety in employees, which ultimately hampers their ability to achieve the targets (Webb *et al.*, 2013).
- **Explanatory level:** Continuing their explanatory work, the authors experimented with different theoretical lenses that might be useful to explain the observations. Psychology-based self-determination theory (including motivation crowding theory, its economics-based version) proved to be a useful theoretical lens to explain why and how employees were able to internalize the stretch targets. The authors describe the importance of avoiding premature theoretical closure in the process of generating and evaluating hunches as follows: “we consciously avoided falling into the trap of being wedded to the initial theoretical lines. Instead, we let the empirics unfold and allowed the story be ‘reflective in the round’ in an abductive manner” (p. 352). To test their explanatory argument, they presented their work to peers: “These

interactions enabled the authors to revise and hone the document over time, until the line of argumentation could be extended to a longer paper” (p. 352). The challenging task was to convince peers of the explanatory argument that might somewhat disrupt existing theoretical assumptions that are taken for granted in the literature.

- **Analytical level:** In shaping their explanatory argument, the authors kept the object of control framework to analyse how the different MC practices related to the control objectives. They realized that the different MC practices did not simply complement or substitute one another but were more deeply interrelated. For example, while the authors found that senior managers substituted the time-tracking tool (a form of action control) with a hiring constraint to ensure that targets were achieved (personnel control), they showed that the stretch targets were part of the value charter and corporate philosophy (cultural control) and were promoted in hiring, training and celebration procedures (personnel control). Hence, there were different forms of interrelations where MC practices complemented one another and became a means for other MC practices to be effective.
- **Descriptive level:** Given the sharpened theoretical focus, the authors continued to link the descriptive with the analytical and explanatory work by revisiting and re-evaluating the empirical material to generate and evaluate hunches and conducting (re-)confirmatory interviews to ensure the plausibility of the theoretical explanation.
- **Explanatory level:** After several iterations between theory and empirics and a sharpening of the domain, the study was motivated by an abductive surprise in the MCS literature, particularly the US American stream on target setting and creativity (e.g. [Webb et al., 2013](#)). Mobilizing self-determination theory and the analysis of the interrelation of controls, the study explains how the specific interrelation of controls supports organizational conditions and mechanisms that enable employees to remain self-determined despite the high pressure from stretch targets. This theoretical explanatory argument is illustrated by showing and telling the empirical evidence of both the explanandum (e.g. the surprising observation that employees achieved the stretch targets) and the explanation (e.g. how and why the performance pressure was internalized by employees). The authors highlight the study’s contribution to target-setting literature and draw theoretical generalizations based on their theoretical argument.

This example of the development of a study illustrates what abductive research “in action” can mean, how it is designed and how one can reflect on it. However, the three levels can interplay in other ways during the research process. In the example above, the authors primarily mobilized known MC practices and extant theoretical concepts to develop a novel theoretical argument. Yet, the abductive process can also create and shape new concepts to sharpen the anomaly or develop hunches for its explanation. This demonstrates the close interplay between theory-testing and theory-building activities in abduction to derive new theoretical arguments and perspectives ([Dubois and Gadde, 2002](#); [Timmermans and Tavory, 2012](#)). In this vein, it is also important to note that if novel practices or novel concepts (e.g. novel elements for the descriptive or analytical levels) are a core part of a theoretical argument, they must be positioned in the literature at the explanatory level. We consequently argue that most types of theorizing practice require the interplay of all three levels of the framework.

Returning to [Peirce \(1958, p. 216\)](#), who claims that abduction is “the only logical operation which introduces any new idea”, we could indeed assume that any researcher

intends to pursue some elements of abductive reasoning even if they are not explicit about it and claim to follow inductive or deductive reasoning. According to Peirce (1958, p. 216), induction does “nothing but determine a value”. Hence, while critical researchers tend to be open about their agenda, such as freeing humans from oppressing forces (Cooper and Hopper, 2007; Gendron, 2018; Martinez, 2011), it seems indeed unlikely that any researcher could be entirely free from ex-ante assumptions, values and theoretical thinking when searching “inductively” for patterns in observations. Therefore, both critical and interpretive researchers tend to follow an abductive research process in some ways even though the exact interplay between the different abstraction levels of the framework might vary depending on the starting point of the study, the way the empirics or the literature inspires a theoretically intriguing anomaly and the manner in which the hunches emerge. Similarly, before and after a positivist researcher follows what Peirce (1958, p. 216) calls “the necessary consequences of a pure hypothesis”, they likely pursue some abductive reasoning by moving between the levels of the framework to develop and position a hypothetico-deductive explanatory study design (Swedberg, 2014).

Taken together, in most types of research processes, an anomaly must be identified and positioned in a particular literature stream and possible explanations should be generated and evaluated that address the anomaly. In this line of thinking, the framework can be used for different theory purposes, such as explaining, comprehending, ordering, enacting and provoking (Sandberg and Alvesson, 2021). Although there are different meanings of theory, we argue that most of them tend to have an implicit or explicit underlying explanatory purpose. In this sense, the framework provides some common vocabulary and evaluation criteria even if the philosophical foundations, the primary reasoning, the meaning of theory and the sequences of the research process differ.

5. Conclusion

This paper offers a methodological framework for theoretical explanation, which we demonstrated based on the performance management and management control domain. We distinguished three levels of abstraction. First, the descriptive level provides and identifies a broad range of MC practices that managers design and use (or potentially influence). Second, the analytical level uses different concepts and perspectives from the performance management and management control domain to analyse the MC practices as control mechanisms in isolation and in interrelation. Third, the explanatory level focusses on the theoretical motivation, the positioning in the domain, the integration of interdisciplinary theoretical lenses and the presentation of the empirical material. While we have focussed our argumentation on a specific domain, it is important to highlight that the abductive logic of the framework is applicable in any accounting and management domain.

Our contribution is an ordering theory (Sandberg and Alvesson, 2021) about the research process. We proposed a framework that offers methodological guidance for the pursuit of the abductive research process. The purpose was to make the systematic logic behind this process visible, accessible and easy to apply to support the undertaking of theoretically ambitious projects. Importantly, in this paper, we interpreted theoretical explanation broadly because we have found that it is applied as a key element in most theoretical work. Hence, regardless of the primary declared aim of a theory, implicitly or explicitly there often remains some form of explanatory work when identifying and addressing an anomaly in the literature (Lukka and Modell, 2017; Sætre and Van de Ven, 2021). We therefore believe our framework can help sharpen thought work for different types of research and theorizing purposes.

Scholars tend to have different backgrounds and expectations regarding the role of theory and the process of theorizing. This can create confusion and frustration when they evaluate one another's work. We thus hope that the framework will aid in establishing some common ground for interdisciplinary vocabulary and evaluation criteria. Based on the framework, researchers might be able to position novel empirical findings and theoretical advancements. In turn, reviewers might find the framework purposeful for evaluating studies and providing constructive comments for the development of manuscripts. Notably, this is important because identifying novel practices, developing new concepts and bringing in new theoretical perspectives (that extend beyond incremental contributions to prior theory) are sometimes risky actions. This is particularly problematic in qualitative field studies that can take years for data collection, analysis and interpretation. The amount of time spent not only by the researchers but also by informants (often "expensive" corporate time for research interviews) requires substantial resources. Having a constructive, effective and efficient peer review process is therefore important for the fruitful development of a research field and the academic community at large.

In this vein, the framework is built for theoretical pluralism (rather than imperialism) to inspire, expand and develop knowledge in various directions in a domain such as performance management and management control research. Indeed, some of the major frameworks in this field were developed several decades ago, and new theories, concepts and perspectives are needed to close the theory–practice gap (Merchant and Otley, 2020). While extant frameworks and concepts remain useful for novel theoretical arguments (as in the example discussed in Section 4), their dominance and continuous replication can also potentially facilitate theoretical closure and taken-for-granted ignorance to novel developments in practice. Although any framework provides some (constraining) structure, we aimed to mitigate these concerns by developing a methodological framework with open building blocks that researchers can flexibly use to identify new developments in practice and carry them over to the theoretical realm. Hence, our intention was to offer guidance not only for integrating extant theoretical frameworks and concepts but also, and especially, for encouraging and legitimizing various forms of innovative theorizing.

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