

# **“What is this thing called controllability?” A field study of the integration of the controllability principle in the redesign of a performance measurement system**

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## **ABSTRACT**

This longitudinal study investigates the integration of the controllability principle in the redesign of a performance measurement system (PMS). The PMS and the controllability principle are conceptualized as ‘epistemic objects’ (open, question-generating, and complex objects) which are associated with varying stakeholder desires. The paper makes two contributions. First, it demonstrates how a PMS can oscillate between different interpretations of the controllability principle (narrow versus broad), resulting in different controllability boundaries (tight versus loose). Second, the paper theorizes how multiple epistemic objects are formed into combination structures (a combination of epistemic objects that are subsequently co-developed). Three sequentially developed combination structures of the controllability principle and the PMS, along with their associated effects, are reported. The paper demonstrates how combination structures can, ironically, become antithetical to the desires that set change in motion, and in this case, render the PMS incapable of measuring performance on complex environmental and societal challenges.

**Key words:** controllability principle, performance measurement systems, epistemic objects, controllability boundaries, combination structures, societal challenges

## I. INTRODUCTION

In this paper, we pose the following research question: In the face of changing stakeholder desires, how is the controllability principle integrated in the redesign of a performance measurement system (PMS), and with what effects?

The controllability principle is well known in accounting practice and education. It rests on a simple pragmatic premise: individuals or organizational units should not be held accountable for outcomes beyond their control (Bol and Smith 2011). This principle has been researched in various ways, as it is regarded as foundational for a well-designed management control system and the proper exercise of responsibility accounting (Antle and Demski 1988; Choudhury 1986). Hirst (1981, 776-777) writes: “[when] performance measures are not controllable, subordinates are in an ambiguous situation because they cannot be sure what actions are likely to result in favorable performance.” Evaluations based on uncontrollable factors are argued to reduce employee motivation (Giraud, Langevin, and Mendoza 2008; Kunz and Linder 2012) or induce ‘role stress’ for those being evaluated (Burkert, Fischer, and Schäffer 2011). Researchers have thus analyzed the effects of omitting the controllability principle (Antle and Demski 1988; Ghosh 2005); how supervisors’ subjective performance evaluations are affected by the controllability of performance measures (Bol and Smith 2011); and why many organizations still design management control systems that violate controllability (Frow, Marginson, and Ogden 2005). Others have focused on evaluated managers (subordinates), investigating how they perceive (and cope with) ‘unfair’ evaluations in contexts lacking controllability (Burkert et al. 2011; Frow et al. 2005) and undertaking cross-sectional analyses of subordinate responses in ‘breached’ systems (Jakobsen and Lueg 2014; Merchant 1987).

Largely absent from current research is a more granular understanding of the longitudinal integration of the controllability principle in performance measurement, as well as

explanations of how supposedly uncontrollable factors are defined and neutralized (Giraud et al. 2008). Further, earlier studies have generally conceptualized controllability as an invariant principle, showing little heterogeneity in practice (Antle and Demski 1988; Bol and Smith 2011; Burkert et al 2011; Burkert, Fischer, Hoos, and Schuhmacher 2017; Collins 1978; Frederickson 1992; Frow et al. 2005; Giraud et al. 2008; Hirst 1983). There is only modest acknowledgment that there could be multiple interpretations of the controllability principle. For example, Gendron and Spira (2009, 987) noted that “[m]eanings and beliefs underlying what is and what is not controllable are multiple and never entirely fixed”. However, there are few multi-year studies of this multiplicity (see Brivot, Gendron, and Guenin 2017); of how meanings change, and the resultant effects over the longer term. The need for these types of investigations is heightened by claims that the principle “fit[s] awkwardly with contemporary organizational arrangements and ‘modern’ management practices” (Frow et al. 2005, 271). Such arrangements could include distributed strategic responsibilities (Håkansson and Lind 2004; Modell and Lee 2001) and the management of complex societal challenges with spillover effects that cross spatial and temporal boundaries, such as climate change (Christensen, Serafeim, and Sikochi 2022; Khan, Serafeim, and Yoon 2016). Is it possible to integrate the controllability principle so that a PMS can address such ‘modern’ concerns? Could the effects of integrating the principle reverse over time? We lack empirical evidence on such questions, thus limiting our understanding of the operation of a well-accepted accounting principle.

We present field data on a PMS designed to evaluate the quality of municipal services in Sweden. Following the redesign of the PMS from the late 2010s when the controllability principle was implemented, we map changes to both the PMS and the controllability principle, along with the effects of these changes. Theoretically, we mobilize literature conceptualizing accounting as comprising epistemic objects (Knorr Cetina 1996; 1997), that is, objects that are always open, question-generating, and complex. We theorize both the controllability principle

and the PMS as epistemic objects. This enables a focus on the effortful, ongoing construction of multiple open-ended objects (accounting principles and PMS) that are always seen as inadequate (relative to desires), thereby spurring continuous reinterpretation and redesign.

Our study makes the following contributions. First, our paper supports and extends earlier arguments that controllability boundaries – actors’ views of how much (and by whom) something is controllable – are not fixed but changeable (Gendron and Spira 2009). In our case, stakeholder perceptions of information lacks and the prioritization of different desires (*structures of wanting*) were associated with disagreement about the integration of the controllability principle, its different meanings, and, hence, appropriate controllability boundaries. The controllability principle was not the closed object (Rheinberger 1997) presumed in much of the earlier literature (cf., Antle and Demski 1988; Bol and Smith 2011; Burkert et al. 2011; Burkert et al 2017; Collins 1978; Frederickson 1992; Frow et al. 2005; Giraud et al. 2008; Hirst 1983). Instead, it is open. As stakeholders held varying views on the integration of the principle and different interpretations of it (*narrow versus broad*), they implemented different types of control boundaries (*tight versus loose*). We thus elaborate on how abstract accounting principles<sup>1</sup> serve as epistemic objects: open, incomplete, and generative of questions, and in this case, dissension.

Second, we contribute more generally to accounting theory (e.g., Chenhall, Hall, and Smith 2013; Dambrin and Robson 2011; Jordan and Messner 2012; Lallemand and Stempak 2024) by theoretically developing and empirically analyzing combination structures (Knorr

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<sup>1</sup> Chenhall et al. (2013) also write of how different evaluative ‘principles’ (focusing on learning and uniqueness versus consistency and competition) can be associated with different performance measurement techniques (narrative versus quantitative). Their use of the term ‘principles’ differs from ours, being synonymous with a ‘larger’ evaluative framework with associated goals. Hence, our classification of that study as focusing more on accounting techniques than the operation of a well-established, generic norm of how accounts should be constructed (for example, the controllability principle). They also do not draw on the concept of epistemic objects.

Cetina 1996). Earlier studies have generally focused on individual accounting techniques<sup>2</sup> (e.g., budgets) as epistemic objects (Busco and Quattrone 2018; Dambrin and Robson 2011; Lowe 2004) reporting that perceived inadequacies in the object prompt inquiry, innovation, and workarounds. A combination structure is composed of multiple epistemic objects (from different contexts and with diverse histories) that are subsequently developed together. These combinations demonstrate that accounting principles, when combined with an accounting technique, may be contentious and generate disagreement. We analyze how the combination of the controllability principle and the PMS led to three distinct, sequentially developed combination structures, each prioritizing specific stakeholder desires, mobilizing a particular interpretation of the controllability principle, and implementing different controllability boundaries. Some combination structures yield outcomes that contradict the very stakeholder desires that initiated change. In our case, combining a narrow definition of the controllability principle with a desire to measure complex environmental and societal issues led to the inclusion of only a few relevant indicators in the PMS. This effectively subverted the achievement of this desire.

The remainder of this paper is structured as follows: first, we review relevant literature. We then discuss our theoretical approach to the controllability principle as an epistemic object. This is followed by an explanation of our research approach. Our empirical case is analyzed, and the paper concludes with a discussion and a brief conclusion.

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<sup>2</sup> The recent study by Baud and Lallemand-Stempak (2024) highlights how different accounting techniques, sponsored by different groups of professionals and used to assess credit risk, cause conflict. While that study, like ours, shows how accounting can generate conflict, we focus less on the battle of accounting technique and their sponsors (see Briers and Chua 2001) and more on the tensions generated by abstract accounting principles as epistemic objects (reflecting divergent structures of wanting), which fundamentally transform another epistemic object, the PMS. In the research by Baud and Lallemand-Stempak (2024), accounting technologies (in the plural) are not conceptualized as open-ended and changing objects (i.e., as epistemic objects), but rather as stable and well-defined tools mobilized strategically by different organizational factions. Consequently, while they also investigate how conflict could be mediated (via compromise and combination of techniques), they do not theorize how divergent stakeholder desires play a role in conflict mediation.

## II. THE CONTROLLABILITY PRINCIPLE

The controllability principle postulates that individuals or organizational units should only be evaluated based on outcomes within their control (Bol and Smith 2011):

*[...] managers should only be evaluated based on elements that they can control. Implementing the controllability principle implies “neutralizing” uncontrollable factors when evaluating managers’ performance (Giraud et al. 2008, 32).*

This principle is embedded in textbooks discussing the appropriate design of management control systems and responsibility accounting (Hartmann, Kraus, Nilsson, Anthony, and Govindarajan 2020). However, given that a perfectly controllable measure is rare, it is asserted that chosen measures should be ‘reasonably’ controllable (Bol and Smith 2011; Giraud et al. 2008) and the effects of significantly uncontrollable factors neutralized (Hirst 1981). Such uncontrollable factors may originate from external conditions (e.g., changing market conditions) or internal factors (e.g., decisions by superiors or other managers) (Jakobsen and Lueg 2014). Studies also find the controllability principle is often overlooked or violated in practice (Bol and Smith 2011; Merchant 1987) – wittingly or unwittingly. Accordingly, Frow et al. (2005, 272-273) suggest that “managers are more rather than less likely to have accountability without controllability”. This disparity between practice and theory is reflected in the existing literature on the controllability principle, which has adopted two primary research strategies.

First, as Burkert et al. (2017, 147) contend, “[r]esearch on the costs and benefits of the controllability principle is mainly normative and theoretical in nature.” The early literature adopted a conceptual or experimental approach to the controllability principle, theorizing its potential consequences through various theoretical lenses (Antle and Demski 1988). Agency theorists suggested that non-adherence to the controllability principle could be beneficial in reducing information asymmetry between organizational functions, aligning the interests of agents and principals (for whom certain uncontrollable factors can never be ‘neutralized’) (e.g.,

Antle and Demski 1988; Waller and Chow 1985). Behavioral theorists, on the other hand, emphasized the motivational aspects of being ‘in control’. They argue that compliance with the controllability principle is necessary for extrinsic and intrinsic motivation (e.g., Kunz and Linder 2012). Ignoring the controllability principle, they contend, risks demotivating or dissatisfying managers (Waller and Chow 1985). Furthermore, this perceived unfairness could lead to dysfunctional behaviors, such as the creation of budgetary slack, which protects managers from uncontrollable factors in performance evaluations (Ronen and Livingstone 1975). Low controllability could also promote an ‘excuse culture’ – unfavorable outcomes are argued to be beyond managers’ control (Modell and Lee 2001).

A second stream of research has empirically investigated supervisors’ and subordinates’ responses to management control systems lacking controllability (Bol and Smith 2011; Burkert et al. 2011; Burkert et al. 2017; Collins 1978; Frederickson 1992; Frow et al. 2005; Giraud et al. 2008; Hirst 1983). Burkert et al. (2011) tested the influence of the controllability principle on managerial performance, finding that managers’ role stress mediates this relationship. Low adherence to the controllability principle creates managerial stress and role ambiguity. Hence, lower performance can be attributed to unclear role expectations in the absence of controllability (see also Burkert et al. 2017).

Other studies have found that both superiors and subordinates expect to confront uncontrollable factors in performance evaluations (e.g., Bol and Smith 2011; Frow et al. 2005; Giraud et al. 2008). Bol and Smith (2011) find that superiors use subjective evaluations to mitigate the impact of uncontrollable events. This effect was found to be asymmetric: superiors use their discretion to compensate for adverse events classified as ‘bad luck’ but do not take away credit that arises from events seen as arising from ‘good luck’. Giraud et al. (2008) further observe that subordinates followed an ‘influenceability principle’ where partial influence on outcomes was sufficient. Actors viewed the inclusion of internal uncontrollable factors (such

as the actions of another unit) as unfair but perceived the risk management of certain external uncontrollable factors as part of their role (see also discussions on the ‘entrepreneurial gap’, e.g., Simons and Davilá 2021). A lack of controllability can thus be “positively ‘challenging’” (Frow et al 2005, 289). In Frow et al.’s (2005) study, managers faced incompatible roles arising from formal control structures (particularly budget controls) in situations where they also had strategic responsibilities that required teamwork and cross-unit interdependencies. The performance of one manager or one unit was “heavily dependent on the performance of others if they [are] to achieve their objectives and targets” (Frow et al. 2005, 288). Managers coped with this lack of controllability by combining management control practices with informal social interactions across units.

The above highlights that, despite extensive research over a significant period and the acceptance of the controllability principle in practice, there is limited field study evidence on how the controllability principle is implemented. How are uncontrollable factors ‘neutralized’ – is it through an ex-ante selection of controllable performance indicators or an ex-post adjustment of reported results (e.g., Giraud et al. 2008)? There are also few investigations into the organizational effects of these actions. Neutralization processes are not ‘neutral’: they influence how control and responsibility are conceived and may have far-reaching consequences for both the organization and its stakeholders as responsibilities are reconfigured. Further, diverse interpretations of the controllability principle produce changing ‘controllability boundaries’, reflecting “(shifting) views of actors in the field regarding the extent to which some entity or activity [...] is controllable, how it should be controlled, and by whom” (Gendron and Spira 2009, 989). There is a limited understanding of such changes, particularly in how and why boundaries are unfixed and refixed in interpretive shifts.

To better grasp the operation of the controllability principle in performance measurement and its effects, we draw on the work of Knorr Cetina (1999; 2001), theorizing the



PMS and the controllability principle as epistemic objects, and documenting the effects of combining these two objects over time.

### III. THEORIZING ACCOUNTING AS EPISTEMIC OBJECTS

Epistemic objects<sup>3</sup> are central to Knorr Cetina's 'post-social'<sup>4</sup> understanding of expert work (e.g., Knorr Cetina 1997; 1999; 2001; Knorr Cetina and Bruegger 2000; 2002). This perspective attends to how non-human objects (in our case, the PMS and the controllability principle) are the basis for social interaction and human behavior:

*[I]t focuses attention on the subtle ways in which objects shape the development of our understanding. (Werle and Seidl 2015, S70)*

Some objects are well-defined and understood. They rarely change and create little debate or controversy. They are labelled closed, 'technical objects' (Rheinberger 1997) because, like already-made tools, they are used routinely without reflection. 'Epistemic objects', however, are "characteristically open, question-generating and complex" (Knorr Cetina 1997, 12). They are the "goal of expert work" (Knorr Cetina 1997, 12); 'things' experts organize their efforts and learning around. Epistemic objects could be a newly discovered protein (Rheinberger 1997), the 'perfect' garment (Busco and Quattrone 2018), a demand forecasting model (Yu and Mouritsen 2020), or the market (Knorr Cetina and Bruegger 2000; 2002). They need not be physical objects, such as a tree or table; their material presence arises from being a conceptual locus of interaction.

Critically, epistemic objects are open-ended and always prone to change. They are "always in the process of being materially defined, they continually acquire new properties and

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<sup>3</sup> Online Appendix A contains an elaboration of this theory.

<sup>4</sup> 'Post-social' means refocusing analysis from 'social' interactions between human actors (e.g., scientists, experts, or designers) to viewing the objects they study or construct (e.g., molecules, mathematical models, markets, or garments) as being critical for drawing people together and influencing behavior. Objects are not treated as the outcome of work, interactions, and negotiations of human actors, but as the locus around which human activities are organized. Therefore, people form a 'sociality with objects' (Knorr Cetina, 1997) – they interact with and around things in particular ways.

change the ones they have” (Knorr Cetina 1997, 13). Thus, there could be divergent and competing interpretations of an epistemic object, thereby generating debate and controversy.

Theorizing accounting as epistemic objects (e.g., Busco and Quattrone 2018, Lowe 2004) aligns with views of accounting as being incomplete (e.g., Chenhall et al. 2013; Dambrin and Robson 2011; Jordan and Messner 2012). This perspective argues that accounting provides an “incomplete representation of organisational performance” (Jordan and Messner 2012, 547), with significant challenges in tracing performance measures to the activities of organisational actors (Dambrin and Robson 2011; Graaf and Johed 2020). This leads organizational actors to either ‘repair’ (Ahrens and Chapman 2004) or continuously replace (Graaf and Johed 2020) accounting numbers. However, Knorr Cetina (1997) argues that incompleteness can be productive and (generally) positive (see also Chenhall et al. 2013). Busco and Quattrone (2018), for example, studied the roles of accounting visualizations, observing that the budget operated as an epistemic object that generated useful strategic questions, enabling innovation.

An object’s productive incompleteness arises from its association with ‘*structures of wanting*’ (Knorr Cetina 1997) or “a continued renewed interest in knowing that appears to be never fulfilled by final knowledge” (Knorr Cetina 1997, 13). A structure of wanting is composed of desires for relevant achievements and attainments within an organization, for example, organizational profitability or social legitimacy. Such desires may change over time as organizational members come to value different things – money, power, market share, and so on. Knorr Cetina (1997) argues that epistemic objects embody an ongoing “sequence of lacks” (p. 22), exhibiting inadequacies or ‘lacks’ relative to idealized structures of wanting (one or several). Relative to desires, an object could lack the ‘right’ knowledge, timely knowledge, or ‘relevant’ information about impactful organizational change (Miettinen and Virkkunen 2005). There are always lacks but they may differ. Hence, movement toward ‘improved’ objects and desires is ceaseless, as new discoveries invite appreciation of new issues or expand

perceptions of what is unknown (thus, outlining pathways for further exploration). This recursive, mutually constitutive relation between structures of wanting and open-ended epistemic objects is ongoing (Knorr Cetina and Bruegger 2000).

Our study expands earlier accounts of accounting's incompleteness (e.g., Jordan and Messner 2012; Dambrin and Robson 2011) and accounting as epistemic objects (Busco and Quattrone 2018) in two ways. First, earlier accounts treat specific accounting techniques (e.g., performance indicators or budgets) as incomplete (Baud and Lallemand-Stempak 2024; Dambrin and Robson 2011; Jordan and Messner 2012). We know less about how *abstract accounting concepts* or *principles* (such as controllability) operate as epistemic objects and how their perceived 'lacks' are addressed. Second, we differ by analyzing how multiple epistemic objects (PMS *and* controllability principle) are combined and interact with each other. Knorr Cetina (1996) proposes that the operation of multiple objects eventually leads to a '*combination structure*': "structures that combine elements from different contexts" (p. 67). This means that "elements that have separate histories and are embedded in different registers and regimes are brought together in new 'conjoint' development" (Knorr Cetina 1996, 66). However, she is largely silent about combination processes, types of combinations, and their effects.

Combining epistemic objects with their associated structures of wanting is unlikely to be simple. Desires may differ. This will make the identification and prioritization of the lacks to be addressed both potentially complex and conflictual. Attending to lacks in one area can exacerbate lacks in another – a claim supported by strategy research (Werle and Seidl 2015). Werle and Seidl (2015)<sup>5</sup> found that the exploration of *primary* epistemic objects (strategic topics) gave rise to *secondary epistemic objects*. A primary epistemic object occupies most of

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<sup>5</sup> Werle and Seidl (2015), drawing on Knorr Cetina (1997), label both primary and secondary objects as 'partial objects' due to their perceptions of lacks. This deviates from Knorr Cetina. We use Knorr Cetina's (1997) conceptualization.

the attention of stakeholders and comes first. Secondary objects are derived from interest in and concern about primary objects; they emerge later.

In their study, Werle and Seidl (2015) found that while participants attempted to solidify the over-arching question of strategy, they began creating secondary epistemic objects (conceptual models, visualizations, questionnaires), which “no longer fit together with the very same primary partial [epistemic] object that gave rise to them” (p. S84). As actors tried to make sense of multiple epistemic objects, they suggested an emerging misfit where a new object “extends and concretizes its predecessor [...] or changes its logic” (Werle and Seidl 2015, S85). In line with Werle and Seidl (2015), the perceived lack of a primary epistemic object (e.g., a PMS) could lead to the mobilization of secondary epistemic objects (e.g., the controllability principle), which could change the primary object. Different interpretations of the secondary object could also unfold. In our empirical analysis, we explore the multiplicity that arises from combining primary and secondary epistemic objects and their associated structures of wanting.

#### **IV. RESEARCH METHOD**

##### **Case description**

The PMS was initiated in 2007 to enable Swedish municipalities to voluntarily measure, evaluate, and communicate their overall quality of service provision. In Sweden, local government areas (called municipalities) are the primary entities delivering public sector services (such as primary school education, aged care, etc.). Municipalities are also key taxing authorities. They are governed by elected politicians and supported by an administrative organization. Since its inception, the PMS has consisted of approximately 40 performance indicators. It is administered by two non-profit organizations, SALAR and CMA.<sup>6</sup> These

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<sup>6</sup> SALAR is the Swedish Association of Local Authorities and Regions, which advocates for local government in Sweden (e.g., in relation to the state). All municipalities and regions are members. SALAR does not have formal authority over the municipalities but exerts a significant influence over their operations as they offer guidelines, education, development projects etc. CMA is the Council for the Advancement of Municipal Analysis. CMA is

organizations co-designed and continue to co-develop the PMS via discussion with relevant municipal administrative personnel. The core PMS management team comprises two SALAR managers and one CMA manager. They are responsible for organizing meetings, collecting feedback, and updating performance indicators in an annual cycle. The PMS is now used throughout Sweden for non-financial performance evaluation, with many municipalities integrating the PMS into their local management control systems.

### **Data collection**

Our on-site investigation commenced in early 2018 and continued into early 2021. This overlapped with a ‘modernization’ phase, during which a new SALAR manager was appointed after the retirement of the long-standing manager who had helped set up the PMS. Field data were collected through interviews, observations, and documents.<sup>7</sup> Interviews were recorded<sup>8</sup> and transcribed. Our first interviews (15 in total) were conducted in 2018 with key personnel at CMA, SALAR, and experts in municipal analysis (including past and present managers responsible for the PMS). These interviews ranged from 49 minutes to two hours. They aimed to understand the PMS’s development and classificatory structure, its importance and role(s) in Swedish municipalities, and significant changes to the PMS over time.

The second group of interviews (61 in total with 63 interviewees) took place in 2019. Targeted interviewees were municipal civil servants with administrative responsibility for the PMS. Commonly referred to as quality controllers, they work in the central administration unit of municipalities, coordinating data collection, analyzing results, and developing quality management practices. Due to the large geographical distances between municipalities, phone

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funded equally by SALAR and the state. Amongst other things, CMA operates a national municipal database, collecting over 5,000 indicators on municipal performance. CMA does not have formal authority over the operations of the municipalities but exerts influence through training and guidance in municipal analyses.

<sup>7</sup> The empirical project includes direct interaction with human subjects and has gained approval from the relevant body (equivalent to an Institutional Review Board) at the university where the research was carried out.

<sup>8</sup> Only one quality controller asked not to be recorded. That interview was transcribed from notes taken during the interview.

interviews were conducted. These ranged from 20 to 75 minutes. The municipal dataset was purposely heterogeneous in terms of size, geography, and socio-economic circumstances and included 20% of Swedish municipalities. Interviews focused on the local use of the PMS, rationales for municipal participation in this quality measurement project, and perceived benefits and drawbacks of using the PMS. Finally, follow-up interviews were conducted with the PMS management team in 2023 to clarify the PMS's operation and effects. Our interviews are specified in Table 1.

We observed meetings (organized by the PMS management team) to follow the regular cycle of municipal quality measurement and reporting (80 hours of observation in total). Three meetings are held annually: one focusing on the development of the PMS, one concerning the year's data collection and measurements, and one presenting the year's results. In these meetings, approximately 80 of the 290 Swedish municipalities are represented. A significant amount of time is dedicated to discussing perceived issues and problems, as well as sharing experiences of best practices. From January 2018, we observed meetings in person and analyzed videos of meetings from 2015. The observations are specified in Table 2.

Finally, we collected documents relating to the PMS from 2007 to 2020 (including annual reports, the yearly 'toolbox', and various manuals for data collection and analysis), as well as specific municipal documents used to inform interviews.

## **Data analysis**

Applying an abductive research process (Lukka and Modell 2010; Pfister and Lukka 2019), empirical data were analyzed soon after collection to generate categories of phenomena for further theorization. This activity traced the development of the PMS over time and organized insights from interviews into relevant themes. Controversial debates surrounding the introduction of the controllability principle were identified early as being theoretically interesting, challenging our preconceptions of the controllability principle as being well-

accepted. We also analyzed our archive of documents and recorded meetings to verify that earlier iterations of the PMS had not characterized controllability as a desirable attribute. This provided confidence that our chosen analytical period captured the introduction, negotiation, and (temporary) settlement of interpretations of the controllability principle.

In line with our concern for epistemic objects, we focused on documenting change. We noted formal changes made to the primary epistemic object – the PMS (e.g., in terms of its purposes and the selection and definition of indicators) – as well as extensive discussions about how (or if) the controllability principle (secondary epistemic object) should be operationalized. We analyzed arguments used for and against the controllability principle and how they influenced specific changes to the PMS (see Online Appendix B for details about the changes made to the PMS indicators during the period 2017-2019). Emphasis was put on analyzing the PMS's perceived 'lacks' (Knorr Cetina 1997) and the quality controllers' efforts to reduce or remove these lacks. Using relevant quotations, our empirics highlight stark differences and incommensurate perspectives among quality controllers regarding: the purpose(s) of the PMS; 'the' problems with its design and usage; what controllability means; how 'controllable' quality should be measured; and the 'appropriate' performance indicators to be used.

We aggregated this evidence to demonstrate that the PMS and the controllability principle were addressing two distinct structures of wanting (see Table 3). We have focused on how these structures of wanting differ in terms of the desired purpose of the PMS, the desired user group, the desired effects, and the desired types of indicators. The first structure of wanting consists of desires to provide politicians with summary quality information to enable effective dialogue with citizens (labelled 'Political Ownership and Citizen Dialogue'). The second focuses on a desire for the PMS to deliver 'actionable insight' leading to impactful organizational change that improves municipal service quality (labeled 'Action and Organizational Change'). Our material shows that both structures of wanting were present

before 2017. However, the controllability principle was introduced after increased stakeholder affirmation of ‘Action and Organizational Change’ in more recent years. This created new conflicts and inconsistencies among the community of quality controllers. These tensions, and the temporary abatement of these tensions, are key focal points in the empirical narrative.

During data analysis, importance was placed on collective data discussions among the researchers, with ongoing iterations between ‘emic’ constructions of the field (i.e., from the participants’ perspective) and emerging, tentative theorizations of the researchers (Baxter and Chua 2008). Iterations between the empirics and theory continued until we were confident that we had arrived at a sufficiently stable and convincing narration of the empirics. Finally, these analytical insights were compared to extant work to highlight our contributions.

## **V. EMPIRICAL MATERIALS AND ANALYSIS**

### **Background: Crafting the PMS as an Epistemic Object**

In the mid-2000s, numerous senior politicians in Sweden expressed concerns that they lacked information about the quality of municipal performance. Municipalities were traditionally governed using budget controls, and the politicians now wanted a succinct ‘snapshot’ of the quality of a municipality as a whole to communicate more effectively with citizens:

*Many politicians called us and said, “There must be some indicators that are more important than others. I need a [few] indicators; I can’t keep track of everything. What’s most important within [each service area]?” [...] A politician can only handle that [a few measures]. (Interview SALAR manager 2)*

In response, SALAR began developing a PMS consisting of a limited number of quality indicators that would provide a holistic perspective on municipal quality. Senior politicians with a known interest in quality management were invited to choose relevant ‘measurement areas’, aid the selection of indicators, and secure political ownership (see Table 3). They decided that municipal quality should be operationalized from a citizen's perspective and settled on five measurement areas – accessibility, safety, participation, efficiency, and



community building. This definition of municipal quality cuts across the traditional organizational hierarchy of municipalities, which was often structured along service lines (for example, departments providing education or elderly care):

*We tried to work with an overarching idea of quality within the municipality. The civil servant organization was perhaps not too happy when they received even more [categories] to consider. But we politicians were clear in that we wanted these things [the five areas] to matter. [...] You must remember that this is developed based on what the citizens find important. (Politician, meeting observation January 2016)*

With few quality measures being readily available, PMS creators from SALAR asked senior decision-makers (both politicians and civil servants) to develop indicators in local municipality networks. Much testing of possible performance indicators was conducted:

*We tested 3,000 indicators during [the first] four years. Then we sorted out the good ones and threw away 2,900 because they didn't say anything. They were not interesting from a development perspective. (Interview SALAR manager 2)*

The first version of the PMS was published in 2007, with roughly 40 quality indicators. This collective and experimental philosophy (to ensure the PMS consistently met changing citizen needs), with its openness to change and innovation, came to characterize the PMS:

*This [the PMS] is a member-driven project with a specific purpose. There is no such engine in [other projects]. Here, the municipalities develop [the PMS] together to become useful. The democracy perspective is central. [...] Without being rooted [in the needs of the municipalities] and having political ownership, there is no point. (Interview SALAR manager 3)*

The selection of quality indicators was reviewed each year. SALAR and CMA routinely collected feedback from participating municipalities, and replacing or redefining indicators was a common practice. In April each year, a day was dedicated to joint discussions of desired changes to the PMS. While the total number of indicators remained reasonably constant (to prevent information overload), changes to the set of performance indicators were common, particularly when better representations of municipal quality became available. Decisions for change were based on a majority opinion of municipal representatives present at

the meeting. Ten years later, in 2017, most indicators had either been replaced or redefined at least once (see Online Appendix B, Figure B1).

The PMS can thus be characterized as an epistemic object (Knorr Cetina 1997); an open, question-generating, and complex object that changes through the constant review and revision of performance indicators. It was deliberately co-created by municipalities to be an open device with a general desire that it be useful from a citizen perspective, was ‘owned’ by political leaders, and was adaptive to changing citizen needs. However, there was no single use that was formally specified as the sole purpose of the PMS. Consequently, the PMS had multiple uses, as documented in the user handbook:

*There are some indicators that the municipality has little to no opportunity to influence, while others can be influenced to a great extent. In [the PMS], there are also indicators that measure attitudes amongst the citizens, and these are influenced by other factors outside the municipalities’ responsibilities and mission, for instance, the media. This is important to remember when integrating the [PMS] indicators into the municipalities’ governance and management. Target levels can be used for some indicators but not all. There are, thus, multiple uses for [the PMS] (2017 Results ‘toolbox’ [a user guide]).*

Accordingly, indicators in the PMS were labeled as ‘managing indicators’ or ‘information indicators’. While both sets of indicators were valuable, only the managing indicators were perceived to be controllable.

In effect, the diverse set of selected indicators in the early versions (2007-2017) of the PMS reflected divergent sets of desires, and there was some disagreement among stakeholders as to which set should dominate the choice of performance indicators. In an interview, one of the PMS founders reflected on the challenge of multiple structures of wanting:

*It was quite tricky to bring it all together because [the PMS] should have a citizen perspective and the perspective of the municipal board [the politicians], not the professions. So, the professions [for example, teachers and aged care workers] were strong opponents of some of the indicators because the municipality could not influence the outcomes. They could only influence the indicators very modestly, and [the professions] did not think*

*you should include an indicator unless you could influence it. [...] This discussion is ongoing. (Interview SALAR manager 3)*

Nonetheless, the PMS was welcomed as innovative as it aimed to present municipal political leaders with a holistic, comparative snapshot view of quality to aid citizen engagement. Thus, some performance indicators were chosen to reflect the ‘best’ representation of municipality quality from a citizen's perspective, irrespective of their perceived controllability. This structure of wanting is hereafter called ‘*Political Ownership and Citizen Dialogue*’ (see Table 3). However, the PMS also reflected a second structure of wanting that we label ‘*Action and Organizational Change*’. This structure comprised desires to improve municipalities’ services based on PMS results, as championed by key professional staff (e.g., teachers and aged care workers), managers, and politicians. From this perspective, performance indicators were to directly measure activities for which operational employees were responsible. Lower performance results were hoped to spur improvement activities.

Until 2017, the PMS had been able to address the lacks (Knorr Cetina 1997) in these two distinct structures of wanting because both structures were more implicit than explicit. Most discussions had focused on the relevance of individual indicators, rather than the overall purpose of the PMS. As such, the selection of diverse indicators satisfied different structures of wanting. There was little sense or open discussion of opposing stakeholder desires. A CMA manager explained this when asked about her perspective on controllability in the PMS:

*[The PMS] has not been very consistent with this [controllability]; it has been more about discussions on individual indicators. I don’t think that the selection has been so thought-through. No one has problematized the question of controllability [...] sometimes the indicators have [measured] those living in the municipality, sometimes it has been the operations of the municipalities. It has been back and forth. And then it becomes difficult from a management perspective. (Interview CMA manager)*

Thus, the primary epistemic object had operated under two different but implicit structures of wanting. There had been no attempt to explicate a single set of desires and match performance indicators accordingly. This changed as the PMS was ‘modernized’ in 2017.

## **‘Modernizing’ the PMS: The Controllability Principle Interpreted as a Closed, Technical Object by the PMS Management Team**

In 2017, the SALAR manager, initially responsible for the PMS, retired, and SALAR manager 1 took over. She commenced her work by surveying participating municipalities about their views on the PMS. There had been growing dissatisfaction with the PMS, and the survey results were clear. The majority felt an overhaul was needed, but the PMS should be retained:

*The [quality controllers] wanted to carry on, they said ‘this is a trademark, [the PMS] is a trademark, people know what it is’ [laughing] ‘so let’s continue, but let’s try to change some things’. (Interview SALAR Manager 1)*

Several factors contributed to this dissatisfaction. Rapid growth in the number of participating municipalities<sup>9</sup> made reaching an agreement in the annual revision process more difficult. Many proposed changes were deferred as a result. Furthermore, quality management had become increasingly professionalized, with most municipalities employing specialized quality controllers responsible for enhancing quality. The quality controllers were SALAR’s and CMA’s point-of-contact for the PMS (e.g., for data collection issues) and acted as the municipalities’ representatives at annual development meetings. They expressed concern at the lack of organizational improvement in municipalities, even when results were poor:

*I think [the PMS] in general has been so focused on measurement. It should be all three steps: measuring, analyzing, and improving. Generally speaking, we have spent 10 years focusing on the measurement. Now, it has slowly been added some support for analysis [...] But the overall discussion is that nothing happens. When we go to these meetings, there is a lot of talk about the indicators and how everything should be measured. But the analysis and how to improve get very little attention. (Interview Quality controller 47)*

Despite a decade-long engagement with the PMS, municipalities struggled with both the ‘analysis’ and using results to incentivise and generate organizational change. Key decision-

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<sup>9</sup> The number of participating municipalities grew from 40 in 2007 to almost 260 in 2017 (about 90% of all Swedish municipalities). According to our interviewees, the main attraction of the PMS was the rare opportunity to evaluate municipalities’ quality performance in the context of nationwide comparisons, using indicators that had first been developed by and for politicians. Participation in the PMS is voluntary and relatively costless.

makers (e.g., politicians and operational managers) were no longer interested in the information and failed to act on it:

*There must be a recipient. We struggle to get the attention of the politicians. It feels like we work in vain, that we don't get any response. (Interview Quality controller 59)*

*One thing I have found challenging is when we come and say, "Now you should use these measures". The professions [such as teachers] and the administrators in the [municipal operational] departments, don't see the value. [...] It has taken a lot of time to explain the citizen perspective and how such a perspective can mean different things in different settings. (Interview Quality controller 60)*

Frustrated with this lack of interest and impact, quality controllers felt the chosen PMS indicators did not induce action:

*It is extremely important to consider what we are measuring. Are we measuring 'results' or what are we actually measuring? Because if we're not measuring results, then it becomes very difficult to draw any conclusions about the work we're doing. (Interview Quality controller 28)*

*If we are to improve, then we must do something with the information, or else we're simply measuring the wrong things, since we don't seem to care about the results anyway. (Interview Quality controller 50)*

Based on the feedback collected, the PMS management team decided to undertake significant development work. They began by formalizing the PMS's purpose and (rather quickly) settled on six principles (see Table 4). Where the first five principles had implicitly guided the PMS since its initiation, the sixth principle was new. It introduced controllability as a core design principle in the selection of indicators:

*Indicators that the municipality cannot or can only modestly influence should only be used to a minor extent. (the sixth PMS principle)*

In our interviews, the SALAR and CMA managers explained that the issue of enhancing controllability had been discussed for some time. The low controllability of certain indicators was a common criticism in the annual workshops, and the project team viewed greater controllability as a solution to the lack of operational change. Accordingly, controllability was not associated with issues of fairness (e.g., concerning incentive systems or

responsibility accounting; cf., Antle and Demski 1988; Choudhury 1986). Rather, it was more concerned with the risk of demotivation and creation of an ‘excuse culture’ (e.g., Kunz and Linder 2012; Modell and Lee 2001) when results on seemingly uncontrollable indicators were poor. Having more controllable indicators was expected to engage a broader range of stakeholders (such as politicians and operational professionals), who are accountable or responsible for service delivery:

*There has been a lot of focus on just reporting the values. It becomes a vicious circle because if the operations don't use it but feel that they have to report it, they become reluctant to [use] the [PMS] and you won't get any good momentum. (Interview Quality controller 17)*

*There is no discussion about [the PMS results] at all. I think we just report a lot of numbers but don't use the results. (Interview Quality controller 46)*

Further, with numerous municipalities integrating the PMS into their control systems, the project team was concerned that non-controllable ‘information indicators’ were being included in their targets, potentially leading to dysfunctional behavior. The historical assumption was that all indicators should be eligible for inclusion in a municipality’s management control system without a review of controllability:

*There are so many municipalities that use [the PMS] in their management [...]. They [... think all] indicators are suitable to use in their plans and controls. (Interview CMA manager)*

The 2017 revision began by changing measurement areas. The five original areas (now a decade old) were considered to be an unusual way of representing the municipality. Quality controllers commented that contemporary municipal employees did not recognize themselves in this framework. Nor could they see implications for their areas of responsibility. For example, citizens' perceptions of safety required the involvement of numerous different operational departments. Consequently, ownership of indicators was so dispersed that many operational personnel failed to engage with them. In reorganizing indicators, CMA and SALAR managers filtered out indicators lacking controllability:

*There was, of course, logic in our selections. Controllability was, for instance, a key issue when selecting indicators [...] we also used all the feedback we had received over the previous years. (Interview CMA manager)*

Thereafter, they organized existing indicators into categories perceived as meaningful for citizens, civil servants, and politicians. This resulted in three new measurement areas: ‘Children and Youth’, ‘Support and Care’, and ‘Society and Environment’ (see Table 5). The first two areas covered the main client-focused missions (and operational organization) of the municipalities. The third was to be measured via new indicators reflective of ‘modern’, grand challenges, such as sustainability initiatives. The PMS management team compiled their proposed revisions and sent this to participating municipalities two weeks before their meeting.

To summarize, the PMS management team speedily introduced the controllability principle in 2017. The PMS management team had sought to satisfy the structure of wanting ‘Action and Organizational Change’, which had been implicit but not prioritized by former SALAR leadership. However, eager to meet their deadline (and show that the PMS had been updated), the PMS management had not consulted the quality controllers prior to ascertain if this was an appropriate solution to their perceived issues or consider alternative ways to satisfy this structure of wanting. There was also no awareness that inserting a new core design principle to an existing PMS could be controversial. In effect, the PMS management team had treated the controllability principle as a closed, ‘technical object’ (Rheinberger 1997) – a well-defined idea with little controversy in its application. They immediately began using controllability as a selection criterion for indicators, failing to realize that the formalization of the PMS’s purpose would force a more consistent application of the controllability principle to all indicators. As is detailed below, this created more tension among quality controllers than expected.

## **Dissension as the Controllability Principle Unfolds<sup>10</sup> as a Secondary Epistemic Object**

In 2018, the April development meeting was held the day before the PMS management team sought political approval<sup>11</sup> for the redesigned PMS. Member municipalities were invited to comment on the proposed changes, and about eighty quality controllers attended the meeting. Although many items were to be discussed, quality controllers quickly brought up the insertion of the new sixth core design principle – the controllability principle.

To the surprise of the PMS management team, attendees were divided on the matter. Those in favor argued that the PMS had generated too little organizational impact. They reasoned that the PMS had lost support and interest from both politicians and professional groups responsible for service provision, with the lack of controllability being ‘demotivating’ (cf., Giraud et al. 2008; Kunz and Linder 2012):

*It is important to take the perspective of the politicians, but it also needs support from the operations, so that the operations find the indicators important. So that the perspective of the municipal council can be broken down to the operations, and they feel they can work with it and influence it. Because otherwise [the PMS] will become meaningless indicators in operations, and then you will not develop operationally. (Quality controller, April meeting 2018)*

However, others felt that the inclusion of controllability implied a significant shift from the PMS’s original, broader purpose. Most importantly, it was seen as violating the structure of wanting of ‘Political Ownership and Citizen Dialogue’. They pointed out that politicians and citizens were interested in many issues that lay beyond the direct control of municipal personnel. The revised PMS would now become another internal management tool, losing its engagement with external stakeholders. Numerous quality controllers feared that

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<sup>10</sup> We chose the word ‘unfold’ to describe how epistemic objects change over time in situated ways, influenced by structures of wanting in specific settings. We avoided the use of ‘develop’ or ‘evolve’ to avoid a sense of increasing maturation or betterment that is often associated with these verbs.

<sup>11</sup> Major changes to the PMS had to be formally accepted by a political committee of SALAR comprising senior politicians from various municipalities.



consistently implementing the controllability principle meant the PMS could not simultaneously meet their dual desires for citizen engagement and internal management control:

*We feel that there can be conflicts between control and citizen dialogue. Also, between control and reflecting the development of the local community. There is a certain conflict of interest between the principles. (Quality controller, April meeting 2018)*

*Should this [the PMS] be a tool for internal control, or should it be used to inform municipal stakeholders? This is a tough question because there is a need for both functions. (Quality controller, April meeting 2018)*

This lack of unanimous support for the controllability principle surprised the PMS management team, who had anticipated that the principle could be added without controversy. They assumed that quality controllers (due to their occupational roles and responsibilities for quality management) would be unanimous in terms of their desire to improve the controllability of indicators. The PMS management team assured the meeting that they did not view the PMS's six design principles as incommensurable, believing it possible for the PMS to retain a citizen perspective and political ownership while emphasizing controllability to improve results:

*The PMS should have a citizen perspective but also controllability so that the results can be improved. (SALAR manager, April meeting 2018)*

However, the quality controllers struggled to achieve this, debating what constituted 'appropriate' performance measures that could be controlled. For example, a newly proposed indicator regarding the cost of social services was now considered "highly problematic":

*If we take the perspective of controllability, we must be aware that this [cost] indicator is highly problematic because of the way social services are organized. We cannot choose what to grant, we have huge differences in demographics. I think this indicator becomes very problematic. It is interesting for our politicians, but it would require a social revolution in our municipality to reach higher levels. It's extremely difficult to influence. We cannot influence the needs, and the law governs what we must do. You maybe can influence the budget between proactive and reactive activities but that's still just marginal. (Quality controller, April meeting 2018)*

Quality controllers pointed out that very few things were perfectly controllable in the context of a municipality. Many outcomes were construed as overly influenced by structural

factors (e.g., socio-economic or demographic patterns) and/or by external developments beyond a municipality's control:

*This controllability is a tough decision and a big question. [...] Maybe we need to look at research and see what we can actually influence. It's not just black or white. Some things we can influence, but other times, the overall economic climate or the USA might influence this more. (Quality controller, April meeting 2018)*

The influence of structural and/or external factors meant that issues such as service costs, student grades, employment levels, industrial establishments, integration challenges,<sup>12</sup> environmental impacts, and more needed to be excluded if the controllability criterion were to be satisfied. Furthermore, responsibility for providing services was often shared with other actors in inter-organizational collaborations involving neighboring municipalities, local companies, regional governments, or state agencies. This, too, reduced the perceived controllability of outcomes.

Exemplifying these highly divergent views was one of the most hotly debated issues during the 2018 meeting – namely, measurement of the quality of primary education (the most significant responsibility of a municipality). Chosen indicators relating to student grades, national exam results, school costs, etc., were available for different groups of pupils.<sup>13</sup> Traditionally, the PMS had taken a 'citizen-perspective' and used the results of all pupils living in a municipality, regardless of where they studied. To satisfy the controllability principle, it was suggested that the indicators should shift to 'Municipality-owned schools', only including

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<sup>12</sup> In this context, 'integration' refers to how immigrants (e.g., refugees) are integrated into local communities and participate in Swedish society.

<sup>13</sup> Sweden has a principle of 'free choice' regarding education. Families may choose between public and private schools. Further, pupils may attend school in municipalities where they do not reside. Pupils have a right to attend schools in other municipalities where special circumstances apply. A hosting municipality may also accept pupils from other municipalities if they have the capacity to do so. They will then be reimbursed for the additional costs incurred. Inter-municipality mobility also enables specialization. For example, some municipalities do not offer all levels of education or specialization (in the upper years of school). Pupils are then directed to attend relevant schools in neighboring municipalities.

pupils attending schools directly operated by a municipality. This was to become a key example of the controllability principle being viewed as incommensurable with citizen dialogue:

*We discussed how to view [the PMS] – is it inside out or outside in? Should we measure school [results] without the private schools? Only the municipality [owned] schools if we should have controllability. [...] If you think of the politicians as representing the citizens, we think it's more important to look at the whole [all pupils] even if you only control the municipal schools. It's more important for the development of the municipality that everyone gets a good education. (Quality controller, April meeting 2018)*

Changing the pupil base excluded a sizeable proportion of citizens from the analysis. This created concerns about how to track the quality of education received, not least because some smaller municipalities did not operate schools for all educational levels. For those municipalities, no quality indicator on education would be reported.

Throughout the meeting, such questions and debates invariably led back to the question of the interpretation of controllability. Often, there was no clear consensus. Quality controllers with different perspectives kept repeating opposing arguments. Nearly all indicators were problematized due to their perceived lack of controllability. Consequently, SALAR managers were forced to act as “time policemen” (SALAR manager 1), and much discussion ended without resolution. Proposed changes to performance indicators were put ‘on hold’ to avoid a rushed decision opposed by many quality controllers. However, the revised proposal (with six design principles) could not be deferred and was sent, unchanged, for political approval the following day (as scheduled).

To summarize, there was considerable debate about the desirability of the controllability principle and its meaning. The development of the PMS (the primary object) had introduced the controllability principle as a secondary epistemic object (Werle and Seidl 2015). The PMS management team had not expected that formalization of the six principles would make visible the conflictual differences between the two structures of wanting, generating debate and dissension. Previously, the PMS had been able to satisfy two implicit structures of

wanting by allowing different indicators to have different purposes (e.g., ‘information’ versus ‘managing’ indicators). Now, it seemed all indicators would need to be controllable. Unable to imagine how such integration would be realized, discussions resulted in a stalemate. Next, we outline the sequential formation of three distinct combination structures, each differentially impacting the PMS.

### **Combination structure 1: Prioritizing ‘Action and Organizational Change’, a Narrow Interpretation of Controllability, and Tight Controllability Boundaries**

SALAR’s political committee met the day after the 2018 April development meeting, accepting all design principles without modification. They agreed that municipal councils and citizens should remain an important audience for information, but controllability was thought necessary to engage with relevant operational professionals capable of accomplishing change:

*They [the political committee] had a quite long discussion about controllability [...] which is a difficult question. They eventually concluded that [...] the PMS] needs to have controllability and a connection to the operations. Because if operations believe that [the PMS] measures the wrong things – even if there is political ownership – it gets stuck and what happens then? (Interview SALAR manager 1)*

The PMS management team implemented this new emphasis on controllability in the fall of 2018. Despite disagreement in the last development meeting, the PMS management team now sided with quality controllers favoring ‘Action and Organizational Change’:

*What we have done is that we have removed some of the things that are ‘nice-to-know’ [...] and now have more ‘need-to-know’ or perhaps ‘need-to-control’. What do we need to control the municipality? So, there’s more controllability in the indicators that we have introduced. Then you also, of course, need other information for facilitating your budget work. [...] But [the PMS] should still be something that you can look at and control with. (SALAR manager, January meeting 2019)*

*The municipality can influence the results on a majority of the indicators within [the PMS]. This means that they are well-suited to be used in the management of the municipality. (2018 Results ‘Toolbox’ [a user guide])*

This shift from ‘nice-to-know’ to ‘need-to-control’ information rested on a narrow interpretation of controllability, which required all uncontrollable performance indicators to be removed. More than 10 indicators were replaced, and several were redefined (see Table 6 and

Online Appendix B for the changes between 2017 and 2018). Most of the ‘information indicators’ were removed, including indicators on citizens’ employment rates and health levels. In exchange, new indicators were closely tied to the operations and activities of municipal employees, such as indicators on service costs, wait times, and the volume of activities offered:

*We revised the list of indicators. [...] This new list is, of course, based on these [the six new] principles. A lot is the same, but the focus has been shifted from ‘knowing’ to ‘controlling’. [...] [the PMS] has become more like: “This is our result. Based on this, where should we go in and change things? What can we influence?” (SALAR manager, September meeting 2018)*

Additionally, all school-related indicators were redefined, from including all pupils living in a municipality to only measuring the results of schools operated by a municipality. This narrow interpretation of the controllability principle, it was believed, was necessary to ensure controllability:

*Half of the children may go to school in another municipality, or a private school, for example, and then you have no control over that at all. You can only control the municipal schools, and that is the reason that led us to decide upon only using the results for municipal schools. (CMA manager, September meeting 2018)*

With this change, the performance of pupils going to private schools or public schools in other municipalities would no longer be measured when analyzing ‘municipal quality’.

This major overhaul of indicators (in “Children and Youth” and “Support and Care”) meant the PMS was operating more as a management control tool. Interviewees had mixed reactions to these changes. Some expressed concern about this, arguing that too few things of relevance could be changed in the short term. Purpose was being replaced with controllability:

*In the short term, we cannot change much. We would need to adjust the organization. I mean, if you want to change the school structure and increase the grades in the 9<sup>th</sup> year, or reduce the waiting time within care, a year is not enough. It is virtually impossible. (Interview Quality controller 6)*

*Now they only want to include things we can influence. This creates a problem because we have three overarching targets for the entire municipality [...]. We are responsible for all children, even those attending private schools. [...] And the politicians want to create a favorable environment for the companies too, so that they hire more people. It’s not only about our production. (Interview Quality controller 60)*

Quality controllers who had promoted ‘Political Ownership and Citizen Dialogue’ repeated their concerns from the 2018 April meeting, namely, that this emphasis on controllability represented too great a shift from the PMS’s original purpose. They felt the PMS management team had ignored the fact that quality controllers were heavily divided on this issue. These changes had erased the desires of many community members. Critics believed that politicians no longer received an outward-facing perspective relevant to citizens, and the PMS had become another internal-facing management control tool.

Nevertheless, many participants appreciated the updated PMS, with some early critics becoming more supportive after seeing the results:

*The best part of the changes is that they have removed indicators that the municipality cannot change. Sure, “it looks like this and that,” but if we cannot manage our organization based on the information or even influence the outcome, it’s better to just remove it. (Interview Quality controller 30)*

*The changes have made it simpler for the operations. It [the PMS] is more accessible. You recognize yourself better. The earlier classification was mostly from the perspective of the politicians. That they should be able to have a dialogue about, for instance, accessibility. It is much closer to the internal operations now. (Interview Quality Controller 38)*

Supportive quality controllers agreed with the PMS management team; the solution to achieving greater action was the implementation of ‘actionable’ indicators of controllable activities. This would help mobilize more operational personnel to work towards the types of quality-enhancing initiatives that quality controllers had been employed to implement:

*I think it [controllability] is good because it has become a pedagogical improvement. Because this year I can present [...] that these are ‘purer’ measures that we in the municipality can influence and that we have an influence over. [...] This is much more in line with the mission of the municipality. (Interview Quality controller 1)*

*The changes are good for internal management. Earlier, many indicators were very difficult to influence in the short term, which in turn means that the operations don’t know what to do with the indicators when they get them [...]. The controllability aspect is critical. (Interview Quality controller 26)*

This new version of the PMS also mitigated frustrations with ‘vague targets’ (from politicians) and subjective citizen surveys:

*We once discussed urbanization, and they [the politicians] indicated that one of our goals should be to stop urbanization. I just said: “But how do you think we should do that?” It’s the whole world. It is not [just us]. We cannot influence that. Urbanization is here to stay; people move, businesses move, and they do it at a faster pace. We cannot stop that. (Interview Quality controller 14)*

*All these user surveys, the experience of elderly care, and the experience of the school. If this survey accidentally arrives on the same day as a positive article about a new school opening, there is always a chance that the perception is influenced. (Interview Quality controller 54)*

Quality controllers criticized ‘subjective’ surveys because they believed citizens’ answers could be too heavily influenced by factors beyond their control, giving quality controllers little insight into how to improve services. As controllers seeking to drive improved quality and organizational change, they wanted ‘facts’ (such as the ‘number of days before a child is allocated to a pre-school’). Facts could persuade and motivate changes to improve quality, and this, in turn, would demonstrate the effectiveness of quality controllers.

In summary, this section shows how, in ‘modernizing’ the PMS, the management team largely ignored one of the structures of wanting (‘Political Ownership and Citizen Dialogue’), prioritizing overcoming the PMS’s lack of ‘Action and Organizational Change’. The introduction of the controllability principle supported this desired change. This combination structure, comprising two epistemic objects, changed the PMS in multiple ways. For example, the types of indicators included (by adding ‘managing indicators’ and excluding ‘information indicators’), types of data preferred (preferring ‘facts’ and counts rather than ‘perceptions from surveys’), and users included for analysis (‘municipality service users only’ instead of ‘all citizens’). Rhetorically, the PMS management team still clung to the belief of ‘Political Ownership and Citizen Dialogue’, but changes showed that controllability boundaries (Gendron and Spira 2009) were now more tightly drawn, giving greater weight to ‘Action and Organizational Change’. This was especially evident in the indicators for education and care

services – services that have historically been dominated by professionalized staff. Only activities or events where these professionals were in control would be evaluated in the revised PMS. In effect, there was little compromise; the earlier structure of wanting was now being deprioritized.

### **Combination structure 2: Compromising on Divergent Structures of Wanting, Broadening the Controllability Principle, and Loosening Controllability Boundaries**

In 2019, the PMS management team planned a second iteration of their extensive overhaul. As many decisions were postponed in 2018, there was a large backlog of unaddressed proposed changes. After initially focusing on the core service offerings of education and care, the PMS management team could now introduce evaluative criteria to report on contemporary societal challenges, such as climate change and social integration. Many municipalities requested this. New measures were expected to be included in a ‘modern’ PMS:

*We used to just measure the same, the same, the same. And we felt that this would kill [the PMS], we must follow the times. This might sound strange, but what is in the pipeline? We were looking at quality, and that could mean the climate issue, the energy consumption, and the water delivery. There are many such things we need to focus on, and not just the traditional core areas that we have and that the law tells us to do. Energy and water have become a core area. It is central to our society and part of the municipality's responsibility. (Interview Quality controller 14)*

As per past practice, the PMS management team drafted a proposal and collected feedback. Feedback highlighted a major problem: many of the suggested social and environmental indicators, for instance, CO<sub>2</sub> emissions, were perceived as lacking controllability. These indicators generated extensive (negative) comments, “particularly due to the controllability principle” (from the 2019 feedback spreadsheet). These comments rejected numerous proposed new indicators. This concerned the PMS management team because they knew citizens and politicians were interested in contemporary issues, such as climate change. They proposed a review of the controllability principle adopted the year before, pointing out that principles are subject to variable interpretation and could be ‘broadened’:



*We think your concerns about controllability are very relevant. However, the climate issue is important and very interesting to politicians. We need to discuss the meaning of municipality controllability when we meet on April 11. We think we might need to somewhat broaden the definition. (from the 2019 feedback spreadsheet)*

The 2019 April meeting commenced with a roundtable discussion of how controllability should be re-interpreted in a municipal context:

*We tried to increase controllability about a year ago when we chose new indicators with more direct control. At the same time, we know that the Municipal Council is interested in things that are not controllable, and so are the citizens [...]. Principles are only principles; they need to be interpreted. And the controllability principle needs to be interpreted [by us] together because it will influence our future decisions concerning the indicators. (SALAR manager, April meeting 2019)*

The review highlighted that, after a year, many quality controllers had developed more nuanced perspectives on controllability. Several of them reasoned that they had considerable control in many situations, especially if they changed the time required to realize targets:

*In the municipality I work for, we have changed the control system so that the targets are more long-term. We reasoned that the politicians want to influence the development of the municipality over longer time periods. They want to have more control. (Quality controller, April meeting 2019)*

A longer-term perspective allowed more indicators to be included, even for issues that had previously been discarded for being beyond the control of municipalities:

*Our municipality has worked to increase the election participation for youths, at least a bit more in the long term. We want to improve local democracy. How do we increase participation? How do we get young people to vote? And we can work towards that, at least indirectly. But it takes a lot of time for it to change. (Interview Quality controller 60)*

Other quality controllers emphasized that influence or control came in many forms; they could influence results by exerting pressure as ‘customers’ or as ‘partners’, for example:

*We discussed financing. Many municipalities have decided to outsource operations to third parties. And you can influence those operations [as the client]. (Quality controller, April meeting 2019)*

*We believe that the municipality also has control by collaborating with companies and other actors. You can still influence a lot in terms of environment and safety within the local geography. And we also said that all municipalities [should] include some indicators in their governance that they*

*don't control just because they want to know the development. They are interesting from a strategic perspective. (Quality controller, April meeting 2019)*

Another group pointed out that even when uncontrollable factors were in play (e.g., via new legislation), municipalities could respond in different ways. There could be degrees of controllability as municipalities had discretion:

*We need to have different degrees of controllability because we always have a choice in how we act. Even external factors that a municipality cannot control, such as a new legal requirement, we can control how we adapt to it. There are also possibilities to influence quality through collaborations with others. And then, on top of all that, we also have our operations, which we can control more directly. (Quality controller, April meeting 2019)*

The interpretation of controllability emerging from this meeting was more diverse, nuanced, and broader. There was now open acknowledgement of different types of municipal control, degrees of controllability, and different time horizons for control to be achieved.

The discussion then moved to individual indicators. The first item was to reconsider last year's shift to only include the performance of pupils in 'Municipality-owned schools' when measuring education quality. This received extensive criticism over the year, and many quality controllers felt that municipalities were excluding relevant information desired by citizens. Politicians and citizens, for example, would like to know about the quality of non-municipality schools, given that many students attend these. The general sentiment favored a modification of last year's decision and the re-inclusion of all pupils irrespective of school type.

The SALAR manager called for a vote:

*SALAR manager: Should we change the definition [back] to "Home municipality" [i.e., all citizens]?  
[audience hesitant]*

*SALAR manager: No...? Do you want to use both?  
[audience more positive]*

*SALAR manager: I need to see hands here [...] Do we want both? Raise your hands. Ok, yes, it is a majority.*

*CMA manager: A quite strong majority. (April meeting 2019)*

This vote to use both sets of performance indicators (based on including and excluding private schools) was passed with ease because it addressed both structures of wanting – ‘Political Ownership and Citizen Dialogue’ and ‘Action and Organizational Change’. It was also costless. Information on both pupil samples was readily available in existing databases. The inclusion of both samples was extended to other measures of educational quality (e.g., the number of pupils eligible for vocational programs). Furthermore, criticisms of the use of subjective user surveys were no longer as strong, and a new indicator based on survey results was introduced. Similarly, a self-rated participation index (in which the municipalities scored the degree to which citizens were able to participate in the development of the municipality) was added. A broader interpretation of controllability was thus enacted. Controllability boundaries were loosened, enabling the accommodation of performance measures that were not strictly controllable.

This section shows how the quality controllers produced a pragmatic compromise via a combination structure (Knorr Cetina 1996), seeking to incorporate both structures of wanting in a more balanced and substantive manner. With more time to reflect on what controllability meant, the quality controllers reinterpreted the principle and loosened controllability boundaries. They now saw that control for ‘Action and Organizational Change’ could be more long-term and indirect (than assumed earlier). This allowed certain lacks against the structure of wanting of ‘Political Ownership and Citizen Dialogue’ to be readdressed via the reinsertion of performance indicators that were perceived to be of interest to all citizens.

### **Combination structure 3: Minimal Compromise Producing Tight Controllability Boundaries Measuring Performance on Grand Societal Challenges**

The second half of the 2019 April meeting considered the measurement area, ‘Society and Environment’. This area was intended to adopt a ‘broader’ perspective (e.g., video commentary from January 2019) and include indicators on new and contemporary societal ‘grand’ challenges. This was a criticism of the earlier PMS – it was not modern enough for

politicians and citizens. It did not measure performance on complex, new challenges. Our interviewees explained that a new generation of citizens viewed municipal quality differently:

*We talk a lot about generations. What was important 10 years ago? Maybe these things that were developed back then were important, and maybe now there is something else. A different type of parent has kids in pre-school, other types of people live at our service homes. We have a different view on children, the rights of the child, and how we talk with children [...]. And we have a completely different view of people altogether. We have new immigrant groups in our care homes, for instance. It is not the same people in our society. (Interview Quality controller 47)*

*Going forward, we need to continue working with the indicators: "Are they still relevant? Is there something else we can use?" [...] The world is changing, and so must [the PMS]. (Interview Quality controller 28)*

It was felt that the PMS still failed to capture newer quality concerns, and this was one reason why politicians were not as engaged. It was felt that performance indicators on how municipalities were managing grand societal challenges should be included.

However, although many indicators were proposed during the meeting, they were typically not associated with a particular service department and were seen as lacking controllability. For instance, indicators on 'citizens' safety' and 'citizens' well-being' were proposed because of their relevance to politicians. These indicators measured citizens' perceptions, but the PMS management team and many quality controllers questioned their utility:

*CMA manager: What we must consider is what kind of discussions you could have in your municipalities based on these indicators. We really share your opinion that these indicators are important—they are core issues for the citizens. However, to have value in [the PMS], you must be able to use them in your management and do something based on the information.*

*Quality controller: We discussed [the indicators'] controllability extensively. To what extent can we really say that we influence a development or improvement ourselves? They're important and interesting to follow up on. [...] But do we have controllability?*

*Quality controller: Another aspect of controllability is that health is in the grey zone of being both the responsibility of the municipalities and the regions. And that is a problem. (April meeting 2019)*

Similarly, a measure of ‘CO2 emissions produced in municipalities’ was seen as problematic because of the marginal influence that municipal organizations had on such results:

*Quality controller: I think that this indicator [on CO2 emission] is too difficult for us to have an opinion on. I've looked into transportation, cars, and so forth. Our municipality has two motorways running through it, and we, of course, have a red value on the indicator. What should we do about that? Decide to close motorways?*

*SALAR manager: I just want to add that we are not discussing whether the climate issue is important now. It is easy to think that this must be the most important indicator. But we have to think: 'Is this [the PMS]?' 'Is it really so when the numbers look like this?' (April meeting 2019)*

Although numerous quality controllers expressed a desire to consider action on climate change, the indicator measuring CO2 emissions was seen as having low controllability – and thus beyond the scope of the PMS (and implicitly beyond the responsibilities of municipalities).

As a result, these indicators (and many others) were voted down and excluded from the PMS. Indeed, all indicators proposed in this measurement area were criticized because their controllability was seen to be too low. This was even the case for indicators quite closely linked to the municipalities’ operations, such as their offerings of cultural activities:

*I am thinking about this last indicator – children participating in music or cultural activities. I want to vote no for all the suggestions, but this last one in particular. Typically, a municipality has only one such class, and that's it. What kind of controllability do you have in increasing or decreasing that? Let's say we have 100%, [...] what should we do then? What kind of analysis is that? (Quality controller, April meeting 2019)*

It is noteworthy that the broader definitions of controllability discussed earlier in the same meeting (such as controllability over longer time frames or concepts of direct and indirect control) were no longer mobilized in these later discussions. Instead, concern focused on, for example, how climate change effects reach beyond the organizational and spatial boundaries of municipal control and beyond the time horizons required for action to yield improvement. The quality controllers failed to find a middle ground. Consequently, once again, they adopted a narrow interpretation of controllability when debating reporting on waste management, climate

change action, refugee integration, citizen health (etc.). Waste, for example, was interpreted as the waste collected in the municipality only, and refugee integration was interpreted as performance in the municipality's language education programs. Quality controllers reasoned that a host of factors beyond municipal control, such as actions by individuals, activities of firms, decisions by the state or the European Union, etc, influenced these complex societal issues. Therefore, they felt it was necessary to focus on their controllable actions.

With none of these matters yielding a consensus solution, the development of additional performance indicators was deferred:

*Let's wait with these issues [...] just to make sure that we don't throw in a lot of indicators that we decided to remove earlier. At least not until we have given it some more proper thought. (SALAR manager, April meeting 2019)*

Quality controllers agreed that changes should not be rushed. However, our informal discussions with participants indicated that many were also disappointed with this failure to include performance concerning new societal challenges in the PMS:

*One critique we have [...] is that the PMS is far from all-encompassing. It is an enormous focus on education and care. [...] There is so much in the municipality we don't measure at all. And I understand that this can be difficult in some areas, but I would have appreciated it if we at least tried. (Municipality 53)*

*It is challenging to get everything to work. I think one problem is that they have three audiences now. The politicians, the people in the organization, and the citizens. They have different information needs, so it's difficult to find something that works for everyone. (Municipality 47)*

Unfortunately, the following year (2020) did not see many changes. As the COVID-19 pandemic began, the usually highly interactive and discussion-filled April meetings were moved online. This resulted in most quality controllers becoming passive listeners. Before the relevant meeting in 2020, the PMS management team suggested several new indicators for 'Society and Environment'. But, again, these received 'mixed reviews' (from the 2020 feedback spreadsheet). A lack of consensus among quality controllers led the PMS management team to

defer significant change again. They included only one new sustainability indicator (volume of food waste in the municipality), which satisfied a narrow interpretation of controllability:

*We added another proposal here [...] which is 'food waste in the municipality organization', meaning school, elderly care, pre-school [etc.]. We have received very positive reactions from you [quality controllers] because it is an environmental indicator with high levels of controllability [...]. Therefore, we suggest including it. (SALAR manager, April online meeting 2020)*

In summary, the quality controllers reverted to a narrow concept of controllability, implementing tight controllability boundaries that only considered the societal and environmental impacts of the direct activities of municipalities. Despite many suggestions on new ways to address grand societal challenges, very few performance indicators were able to satisfy narrow controllability demands.<sup>14</sup> The compromises made in the second combination structure for areas such as education and aged care, just hours earlier and during the same workshop day, were not made in the measurement area concerning societal and environmental performance. This demonstrates that the interpretation of a principle can change rapidly and that multiple definitions of controllability can coexist simultaneously across different measurement areas.

The measurement of societal and environmental performance was not abandoned altogether, however, and a few sustainability indicators were included. These were arguably not the most relevant. In a 2023 follow-up interview, SALAR manager 1 (who had moved on to other assignments) described the sustainability indicators as 'pretty boring':

*We picked sustainability indicators based on controllability as well. Therefore, it turned out to be – well, you know, 'environmentally friendly cars in the municipality organization'. Pretty boring stuff. (SALAR manager 1)*

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<sup>14</sup> A few years later (when we analyzed the 2024 version of the PMS), there was little progress adding measures relating to societal challenges. Despite extensive calls to broaden its perspective, only two additional sustainability indicators had been included in the PMS. These measured the amount of organic food and fossil-free cars in municipal services.

Publicly, this combination structure is the basis for claims that performance addressing grand societal challenges is measured in the revised PMS. Stakeholders are informed that the PMS caters to these desires (e.g., as stated in the presentation materials on their website). In practice, however, there has been little progress on assessing how well municipalities address complex environmental and societal issues. Ironically, these modern concerns were one of the reasons for earlier criticism of the PMS as ‘not modern,’ and this had led to the considerable compromise achieved in the second combination structure.

## **VI. DISCUSSION**

### **Divergent Structures of Wanting, Interpretations of Controllability, and Tight or Loose Controllability Boundaries**

The analysis above (represented diagrammatically in Figure 1) has traced the inclusion of the controllability principle in the long-running PMS used to compare the quality of Swedish municipal services. The empirical findings have been synthesized into a theorized storyline (see Paugam, Stolowy, and Gendron 2021). In so doing, it adds to earlier research theorizing the potential benefits and drawbacks of the controllability principle (e.g., Antle and Demski 1988; Ghosh 2005; Jakobsen and Lueg 2014; Merchant 1987), as well as studies on superiors’ and subordinates’ responses to control systems ostensibly lacking controllability (e.g., Bol and Smith 2011; Burkert et al. 2011; Frow et al. 2005; Giraud et al. 2008; Hirst 1983). Earlier studies have typically analyzed controllability as a closed, ‘technical object’ (Rheinberger 1997), generating few controversies. Our field study offers a contrasting framing. The controllability principle unfolded as a secondary epistemic object, subject to controversy and changing definitions (Knorr Cetina 1997). This framing extends extant arguments that perceptions of controllability “[...] are continuously subject to contest and revision” (Gendron and Spira 2009, 987) by investigating the varying effects of the controllability principle.

In the face of divergent structures of wanting (‘Political Ownership and Citizen Dialogue’ versus ‘Action and Organizational Change’), our longitudinal study reports an



*oscillation between different interpretations of the controllability principle and types of controllability boundaries.* In combination structures 1 and 3, the interpretation of the principle was narrow. Consequently, controllability boundaries were drawn tightly, meaning that only very hands-on organizational activities (such as the library's opening hours, responding to citizens' e-mails within a specified time, or the number of employees in pre-school) were considered controllable. The ability to control was assessed over a short time horizon. The performance indicators chosen measured the activities of organizational employees only. Other areas of interest were excluded from measurement due to their perceived lack of controllability. In combination structure 2 (and before 2017), the interpretation of controllability was broader, and controllability boundaries were drawn more loosely. Controllability was seen to be achieved through indirect means (e.g., through partner collaborations and by putting demands on suppliers) and over longer time frames. Controllability was now more akin to 'influenceability' (Giraud et al. 2008). This interpretation enabled the inclusion of other types of performance indicators and a broader range of activities to be covered.

These interpretations of the controllability principle (narrow versus broad) and categories of controllability boundaries (tight versus loose) can inform future research theorizing the effects of the controllability principle and/or the responses of individuals subject to it (Antle and Demski 1988; Burkert et al. 2011; Ghosh 2005; Giraud et al. 2008). Agency theorists, for example, could consider modelling the effects of divergent 'objective functions' that are present simultaneously but in different priority orders. They could also investigate the determinants and outcomes of varying levels of priority or the speed with which priority orders change (for example, through lagged models). Additionally, the categories of controllability boundaries highlight a trade-off when applying the controllability principle. Tight controllability boundaries are less likely to produce motivational hazards (e.g., Burkert et al. 2011; Burkert et al. 2017; Kunz and Linder 2012) as the PMS becomes more closely aligned

with organizational processes and the responsibilities of employees. However, under tight controllability boundaries, the PMS was unable to capture developments in the municipality context, such as migrant integration or climate change impacts. In contrast, loose controllability boundaries allowed for indicators that were better aligned with the overarching desires of the political leaders of municipalities, engaging with citizens on performance issues that mattered to them. This increased the relevance of the PMS for ‘principals’ (Antle and Demski 1988; Waller and Chow 1985) but also created ‘entrepreneurial gaps’ (e.g., Simons and Davilá 2021) when operational staff and professionals worked under less directly influenceable indicators. This trade-off between broader and narrow interpretations of controllability and the resultant looser and tighter controllability boundaries could help explain practice variations observed in the past. It should be considered when designing and analyzing a PMS.

Our findings are also novel in the sense that interpretations of controllability and controllability boundaries not only changed (as reported by Gendron and Spira 2009) but *changed sequentially* and in *direct response to perceived lacks* (Knorr Cetina 1997) of past interpretations. A narrow interpretation of controllability was followed by a broader interpretation. Controllability boundaries were first tightened and then loosened (in the measurement areas of education and care) because quality controllers felt that too many citizens had been excluded from accountability relations due to overly tight definitions of controllability. Similarly, where no boundaries were set for complex societal challenges, tight boundaries were eventually created to address this lack. It appeared that when confronted with less familiar situations (for example, first implementing the controllability principle or measuring performance on societal matters), stakeholders were prone to follow the principle strictly and adopt a narrow definition of controllability. These interpretations were changed when critics continued to press for the first structure of wanting, and quality controllers could

draw upon their year-long experience of having applied a narrow definition to the management of long-standing activities.

These findings demonstrate the value of theorizing accounting principles as open epistemic objects (Knorr Cetina 1997) – rather than invariant technical objects (Rheinberger 1997) – and thereby investigate how the principle unfolds over time. Our case shows that interpretations of controllability and the implementation of particular controllability boundaries could not only be temporary but also reversible. A narrow interpretation of controllability could later be seen as ‘too narrow’. Tight boundaries could subsequently be seen as ‘too tight’. The absence of controllability boundaries in desired measurement areas could prompt their development, albeit within a narrow definition of controllability.

### **The Combination of Primary and Secondary Epistemic Objects**

Our second contribution is to present evidence that *secondary epistemic objects* (in our case, the controllability principle) can be combined with primary epistemic objects (here, the PMS), creating controversy, debate, and dissension (cf., Werle and Seidl 2015). Earlier accounts of incomplete accounting objects have generally focused on how a single accounting technology (such as a budget or a PMS) fails to fully represent organizational performance (Busco and Quattrone 2018; Dambrin and Robson 2011; Jordan and Messner 2012) or align with multiple evaluative criteria (Chenhall et al. 2013). There are also examples of multiple accounting technologies (such as quantitative ‘tools’) coming into conflict and being layered to account for multiple perspectives (Baud and Lallemand-Stempak 2024). This study is different in that it investigates a PMS where the design space is open, yet governed by the combination of an abstract, open, and changing principle (controllability). It is also different in mapping out the dynamics of different combination structures.

Developing earlier accounts of the operation of singular incomplete accounting objects (see, Busco and Quattrone 2019; Dambrin and Robson 2011; Jordan and Messner 2012), we

demonstrate how the combination of multiple epistemic objects – that is, multiple objects that are simultaneously open-ended, question-generating, and changing – generated much conflict and tensions. A consistent finding from earlier studies is that incompleteness can be positive and productive due to its question-generating capacity (Busco and Quattrone 2018; Chenhall et al. 2013) and continuous display of lack against a (single) structure of wanting (Knorr Cetina 1997). In contrast, our paper shows that the combination made visible divergent structures of wanting, creating conflict and frustration. The introduction of the secondary epistemic object (the controllability principle) made it clear that the PMS was moving away from stakeholder desires for ‘Political ownership and Citizen Dialogue’ and towards the desires for ‘Action and Organizational Change’. The simultaneous openness of two epistemic objects created much uncertainty among PMS users, who struggled to imagine the effects of their decisions. Such uncertainty led to several stalemate situations where the development work was halted.

Our analysis also foregrounds that *abstract accounting principles* (such as the controllability principle) can operate as secondary epistemic objects that transform the primary object (the PMS). This expands the present focus on accounting techniques and tools as epistemic objects (e.g., Busco and Quattrone 2018, Baud and Lallemand-Stempak 2024; Chenhall et al. 2013) and foregrounds the unique characteristics of accounting principles in this capacity. First, unlike a quantitative tool (Baud and Lallemand-Stempak 2024), the principle was more open to interpretation. The initial instruction was to use indicators that the organizations can only modestly influence to a minor extent. However, no more guidance was issued for determining when influence was ‘not modest’ or usage was ‘no longer minor’. These matters were left to the PMS users to decide for themselves, and this explains the significant shifts in the interpretation of the principle. Unlike an accounting technique, the understanding of the principle could change over the day (as in the 2019 April development workshop), and multiple interpretations of the principle could operate simultaneously for different measurement

areas. Second, the controllability principle was applied as a core design principle. The secondary object did not address just a subset of concerns, as has been the case in earlier studies of multiple epistemic objects (cf., Werle and Seidl 2015). Instead, the controllability principle influenced the choice and definition of all indicators. A core design principle is typically applied comprehensively to a PMS and therefore has the potential to change the primary object much more fundamentally. Significantly, unlike studies of techniques and tools, the PMS users could not relieve the tensions by strategically mobilizing different accounting tools at different times or for different purposes (Baud and Lallemand-Stempak 2024; Graaf and Johed 2020). Instead, the controllability principle had to be integrated throughout the entire PMS, making it apparent how difficult it was to address the two distinct structures of wanting. The large degree of openness and their holistic application are thus important factors to consider in other studies of accounting principles as well.

We recorded a sequential set of three different types of *combination structures* (Knorr Cetina 1996). This typology provides greater detail to Knorr Cetina's (1996) concept, benefiting scholars interested in her work more generally (Miettinen and Virkkunen 2005; Werle and Seidl 2015). It also contributes to accounting researchers' efforts to understand how different definitions of a principle emerge and why specific outcomes (e.g., the degree of compromise) are favored in a PMS. In the first combination, the structure of wanting 'Action and Organizational Change' was prioritized and superseded an earlier concern with 'Political Ownership and Citizen Dialogue.' This shift resulted in a narrow interpretation of the controllability principle. The PMS was then extensively reorganized into new measurement areas, and performance indicators were replaced or redefined. This first combination structure demonstrates that refocusing on another structure of wanting can have far-reaching consequences for the operation of both epistemic objects.

The second combination structure was grounded in *considerable compromise*. Some performance indicators, relevant to politicians and citizens, were excluded (e.g., participation in the latest municipality election and pupils' feelings of safety in schools). Others deleted in the first combination structure were reinstated (e.g., the perceived happiness of individuals with disabilities and the performance of pupils in private schools). The identification of this combination structure contributes to earlier studies on compromising accounts (e.g., Anderson-Gough, Edgley, Robson, and Sharma 2024; Jordan and Messner 2012; Carlsson-Wall, Kraus, and Messner 2016). Chenhall et al. (2013) have stressed that compromises emerge from conflict (about evaluative frameworks, for example), and are temporary settlements requiring ongoing maintenance. In our case, considerable compromise arose after the PMS users had gained experience with the narrow definition of the controllability principle. It was not the breakdown of a compromise (Chenhall et al. 2013) that spurred the second combination structure, but the earlier lack of compromise. This demonstrates how 'old' structures of wanting can remain dormant, reemerge, and continuously probe designers and users to change established combination structures.

The third combination structure is of particular interest. Like the second combination structure, this sought to address both structures of wanting. This is the most original combination structure we recorded because the structures of wanting were not decoupled (Covaleski and Dirsmith 1983; Meyer and Rowan 1977), nor was a substantial compromise struck (cf., Chenhall et al. 2013). Also, this was not a case of 'selective coupling' (e.g., Pache and Santos 2013; Safari and Parker 2024), where PMS users combined unmodified elements from each structure of wanting. Rather, in this combination structure, topics of high relevance for politicians and citizens were included (e.g., climate change) – but they also had to be measured using indicators within a narrow interpretation of the controllability principle. The resultant combination structure had a small degree of compromise, with only a few relevant

performance indicators chosen. Such indicator selection is comparable to the layering of quantitative tools described in Baud and Lallemand-Stempak (2024), in which an applicant's likelihood of approval became smaller with each layer. Our contribution is to show that structures of wanting may also be 'layered,' creating an increasingly small 'gap' for indicators to pass through. The critical analytical difference, however, is that the layering of quantitative tools did not lessen any underlying stakeholder desire (Baud and Lallemand-Stempak 2024). The critical learning point from our study is that the lack of compromise meant that neither structure of wanting ended up being sufficiently satisfied. Failure to compromise constrained and subverted the desire to measure municipal performance on complex grand challenges.

A concerning outcome of the third combination structure is that it nevertheless enabled a public claim that all stakeholder desires were satisfied. This was because the most critical lack – the complete absence of 'modern' indicators in the PMS – had been erased. Compared with the first combination structure, the third combination structure silenced concerns more effectively. It also stopped efforts to integrate both structures of wanting and used a broader set of indicators. Such an outcome is temporary as the epistemic object will continue to induce change, which our follow-up interviews also alluded to<sup>15</sup>. It was, however, an ironic outcome. These societal complexities were one of the original reasons motivating a review of the PMS. However, the third combination structure rendered the PMS incapable of measuring performance on such contemporary activities in a comprehensive manner. While it was possible to claim that these issues had been measured, very few indicators were included. It remains to be seen if the definition of controllability on this matter will be broadened in the future.

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<sup>15</sup> In two of the final follow-up interviews in 2023, two of the PMS designers indicated that there was a mood to broaden the prevailing definition of controllability to enable politicians and citizens to better assess municipal performance on matters such as sustainability.

## VII. CONCLUSION

Our research presents theoretical and empirical implications that can be further explored and refined. We offer a distinction between ‘narrow’ and ‘broad’ interpretations of the controllability principle and ‘tight’ and ‘loose’ controllability boundaries. A larger spectrum of interpretations of the principle and controllability types could be further developed. Further, the detailed use of the PMS in individual municipalities has been beyond the scope of this investigation. Also, our field study focused on the public sector, where structures of wanting are potentially more diverse in the absence of a singular, well-established profit motive. However, we note that even for private sector organizations, regulatory and community pressures to report on societal matters, such as climate change, have increased over the last decade, leading to widespread debates about the appropriate role for accounting in these new disclosure spheres (Vollmer 2024). The impact of multiple, divergent structures of wanting could, therefore, be just as pervasive in the private sector and worthy of investigation.

Furthermore, more effort is needed to understand the dynamic interaction of multiple epistemic objects over time, especially between accounting technologies and accounting principles. We have shown how such interaction generates dissension and controversy, unlike the creation of positive innovation (cf., Busco and Quattrone 2018). When is one outcome more likely than the other, and why? We have also documented the sequential emergence of three combination structures, in effect, a series starting from no compromise to different types and degrees of compromise. When multiple epistemic objects are combined, what other combination structures might eventuate, why, and with what effects? Finally, the last combination structure reported raises questions about the ability of an accounting principle, such as controllability, to enable performance measurement in response to contemporary challenges that breach traditional spatial and temporal boundaries. Uncertain spillover effects over large spaces and over long time horizons make controllability highly difficult. Could the



outcome in this case be reversed in the future, and how? Future research could explore this topic in greater detail, given the widespread regulation of implementing reporting on complex societal matters, such as climate change.

Finally, our analysis encourages further investigation into the openness of other accounting principles, such as relevance, timeliness, or materiality (e.g., Khan et al. 2016). Research could explore how interpretations of such principles vary or how the principles may not yield expected benefits in all circumstances. This is particularly relevant as accounting research and practice increasingly focus on the economic impact of grand societal challenges and tend to mobilize traditional accounting principles (such as materiality) in these efforts (Christensen et al. 2022; Khan et al. 2016). Our analysis shows that it is important to treat these principles as open, questioning-generating, and complex objects.

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**Table 1: Interview details**

<b>Interviewee</b>	<b>Date</b>	<b>Length</b>	<b>Interviewee</b>	<b>Date</b>	<b>Length</b>
CMA Manager	2018-03-02	1h 34m	Quality Controller 23	2019-03-08	33m
-	2018-05-28	1h 2m	Quality Controller 24	2019-03-08	23m
-	2018-11-06	1h	Quality Controller 25	2019-03-13	34m
-	2023-05-22	58m	Quality Controller 26	2019-03-13	32m
SALAR Manager 1	2018-03-08	54 m	Quality Controller 27	2019-03-13	23m
-	2018-05-16	1h	Quality Controller 28	2019-03-13	28m
-	2018-11-05	1h 15m	Quality Controller 29	2019-03-14	39m
-	2023-06-26	53m	Quality Controller 30	2019-03-14	21m
SALAR Manager 2	2018-03-26	2h	Quality Controller 31	2019-03-14	22m
SALAR Manager 3	2018-03-28	1h	Quality Controller 32	2019-03-14	31m
-	2018-11-06	51m	Quality Controller 33	2019-03-14	22m
-	2023-06-26	56m	Quality Controller 34	2019-03-14	40m
SALAR Manager 4	2018-03-08	55m	Quality Controller 35	2019-03-15	31m
CMA Statistician 1	2018-03-21	53m	Quality Controller 36	2019-03-15	20m
CMA Statistician 2	2018-03-21	43m	Quality Controller 37	2019-03-15	27m
Municipality Expert 1	2018-03-21	53m	Quality Controller 38	2019-03-15	38m
Municipality Expert 2	2018-11-08	59m	Quality Controller 39	2019-03-18	31m
Municipality Expert 3	2018-11-07	49m	Quality Controller 40	2019-03-20	41m
Quality Controller 1	2018-11-15	51m	Quality Controller 41	2019-03-27	25m
Quality Controller 2	2019-02-06	31m	Quality Controller 42	2019-03-27	50m
Quality Controller 3	2019-02-08	43m	Quality Controller 43	2019-04-02	48m
Quality Controller 4	2019-02-12	54m	Quality Controller 44	2019-04-02	48m
Quality Controller 5	2019-02-13	30m	Quality Controller 45	2019-04-10	55m
Quality Controller 6	2019-02-13	46m	Quality Controller 46	2019-04-23	31m
Quality Controller 7	2019-02-15	1h 14m	Quality Controller 47	2019-04-24	1h 5m
Quality Controller 8	2019-02-21	50m	Quality Controller 48	2019-04-24	34m
Quality Controller 9	2019-02-21	44m	Quality Controller 49	2019-04-25	46m
Quality Controller 10	2019-02-22	55m	Quality Controller 50	2019-04-25	55m
Quality Controller 11	2019-02-22	59m	Quality Controller 51	2019-04-26	28m
Quality Controller 12	2019-02-22	58m	Quality Controller 52	2019-04-26	1 h 1m
Quality Controller 13	2019-02-28	50m	Quality Controller 53	2019-05-02	32m
Quality Controller 14	2019-02-28	1h 12m	Quality Controller 54	2019-05-02	47m
Quality Controller 15	2019-03-01	59m	Quality Controller 55	2019-05-03	16m
Quality Controller 16	2019-03-04	46m	Quality Controller 56	2019-05-03	57m
Quality Controller 17	2019-03-05	44m	Quality Controller 57	2019-05-06	43m
Quality Controller 18	2019-03-06	35m	Quality Controller 58	2019-05-06	31m
Quality Controller 19	2019-03-06	28m	Quality Controller 59	2019-05-06	25m
Quality Controller 20	2019-03-06	40m	Quality Controller 60	2019-05-14	55m
Quality Controller 21	2019-03-07	1h 13m	Quality Controller 61	2019-05-24	54m
Quality Controller 22	2019-03-07	42m			

**Table 2: Observation details**

<b>Event</b>	<b>Date</b>	<b>Length</b>	<b>Format</b>
Kick-off for measurements	2015-09-16	3h	Recording
Results presentation	2016-01-19	3h 45m	Recording
Kick-off for measurements	2016-09-14	3h	Recording
Results presentation	2017-01-19	4h	Recording
Introduction for new members	2017-09-20	3h 30m	Recording
Kick-off for measurements	2017-09-21	3h	Recording
Results presentation	2018-01-24	6h	On-site observations
Development workshop	2018-04-18	6h	On-site observations
Introduction for new members	2018-09-05	6h	On-site observations
Kick-off for measurements	2018-09-06	6h	On-site observations
Results presentation	2019-01-23	6h	On-site observations
Development workshop	2019-04-11	6h	On-site observations
Introduction for new members	2019-09-06	3h	On-site observations
Kick-off for measurements	2019-09-06	3h	On-site observations
Results presentation	2020-01-23	6h	On-site observations
Development workshop	2020-04-02	3h 30m	Live online
Kick-off for measurements	2020-09-09	3h 30m	Live online
Results presentation	2021-01-21	3h	Live online
<b>TOTAL</b>		<b>78h 15m</b>	

**Table 3: Conflicting structures of wanting**

Structure of wanting	Political Ownership and Citizen Dialogue	Action and Organizational Change
Description of desires	The PMS should provide a snapshot view for senior politicians to assess a municipality's quality holistically. Political governance and citizen dialogue should be the focus. Emphasis should be placed on finding the best representations of the quality that citizens receive.	The PMS should serve as a tool for civil servants to manage municipal services effectively. Analysis and organizational change should be the focus. Emphasis should be on identifying indicators that help organizational actors enhance their services.
Illustrative empirical example	<p>“One of the biggest challenges for the municipalities is to develop dialogue with citizens on the municipality's service quality. [The PMS] originated based on this need to give a good picture of the municipality's quality for the elected officials [...]. The politicians' mission, which is based on the citizens' perspectives, [has earlier] rarely been captured in the indicators and accounts of the municipality. There is a great need for the politicians to communicate with citizens about how efficiently tax money has been spent and what quality results have been produced [...]”</p> <p>(From ‘Manual to PMS’, published in 2009 by SALAR)</p>	<p>” For the presented indicators to make a difference in the municipal operations – and not only being numbers that are presented for the municipal council – the results from [the PMS] must be integrated into the [municipalities'] control systems. They must be integrated into the municipalities' continuous improvement work. Targets must become concrete and measurable. Indicators must show how a municipality performs its tasks. The results must be analyzed to create an understanding of what you are looking at and what improvements must be made.”</p> <p>(From ‘Manual to PMS’, published in 2015 by SALAR)</p>

**Table 4: The six formal design principles as defined in 2018 (emphasis added to point 6)**

1	The PMS has political ownership and takes the perspective of the Municipal Council, with governance and citizen dialogue in focus.
2	The PMS is developed in collaboration with SALAR, CMA, and members.
3	The number of indicators should be limited.
4	The indicators should reflect quality and costs and include both the welfare mission and the development of the local community.
5	The indicators should be comparable.
6	<i>Indicators that the municipality cannot or can only modestly influence should only be used to a minor extent.</i>

**Table 5: Changes in measurement areas**

Measurement areas 2007–2017 (No. of indicators 2017)	Measurement areas 2018–present (No. of indicators 2018)
Your municipality's accessibility (8)	Children and youth (11)
Safety aspects in your municipality (3)	Support and care (14)
Your participation and the municipality's information (3)	Society and environment (11)
The efficiency of your municipality (15)	
Your municipality as a builder of community (8)	

**Table 6: Summary of changes to the indicators 2017-2019**

Types of changes	2017 to 2018	2018 to 2019
Discontinued indicators	10	4
Added indicators	9	11
Indicators with changed definitions	10	2



**Figure 1: Model of the interaction between primary (the PMS) and secondary (the controllability principle) epistemic objects**

