Performance Management in the Public Sector: Untying a Gordian Knot

Jakob Majlund Holm

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PhD Dissertation

Politica

ISBN: 978-87-7335-226-7

Cover: Svend Siune
Print: Fællestrykkeriet, Aarhus University
Layout: Annette Bruun Andersen

Submitted 28 February 2018
The public defense takes place 22 May 2018
Published May 2018

Forlaget Politica
c/o Department of Political Science
Aarhus BSS, Aarhus University
Bartholins Allé 7
DK-8000 Aarhus C
Denmark

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Acknowledgements

While you will find that the cover of this dissertation identifies me as the sole author, the truth is that the project would never have made it this far without help from a great number of people. I am very glad to use this space to appreciate all those who have supported me in the endeavor of writing a PhD.

First, I would like to thank my supervisors, Simon Calmar Andersen and Mads Leth Jakobsen. Throughout my work on the project, you have provided invaluable guidance for individual papers, as well as the project as a whole. Your willingness to engage in fruitful discussions on a great number of different ideas and drafts has been an important prerequisite for my academic development. Mads, I really appreciate the encouragement and enthusiasm you have brought to the table. Especially in the early stages of the papers and projects, I have found much motivation in your genuine interest in my work, the way you have challenged me to think of alternative solutions to issues, and in your ability to sketch out the bigger picture. Simon, I have many things to thank you for. You were the one, who encouraged me to think about becoming a PhD in the first place, and I am not sure, I would have started on this journey if you had not taped me on the shoulder many years ago. During my time as a PhD, you have had a lot of patience with me. Whether I have thrown away your key card, delayed our travels by getting myself into trouble at the security check-in, taken almost a year to write my first draft, or asked you to comment on a working paper for the hundredth time, you have always found the time to help. When following such a steep learning curve as I have done, it has meant a lot that you have given me room to develop in my own tempo. You have also been a tremendous help in improving the quality of my work, encouraging me to set the bar at a high level, while also making clear that you believed I could fulfil such ambitions. I find great inspiration in our academic talks and look forward to having many more in the future.

During my PhD, I had the pleasure of visiting Donald P. Moynihan at University of Wisconsin-Madison for a research stay. Don was an excellent host and it was a real privilege to discuss issues on performance management with him. Thank you for helping me see the perspectives in my research and thereby stimulate a number of important realizations that shaped the framework for dissertation. I am also grateful for the lessons on how to sharpen my academic writing, the introduction to many exciting issues in the field of public administration, and the joyful evenings of Monday Night Football.

Besides help from Simon, Mads and Don, my work on this dissertation has benefitted from the thriving research environment at the department of political science in general and the section of public administration in particular. I

feel privileged to be surrounded by such skillful colleagues who not only set a high academic standard but also are willing to provide valuable comments on papers and projects. I also would like to thank Malene, Ruth, Birgit, Helle, Susanne and the rest of the administrative section for helping out with administrative tasks, and Annette and Catherine for invaluable language editing.

I would like to thank a number of people for making the everyday life as a PhD-student very enjoyable; Nina, Anne, Morten, Christian, Martin, Mette, Ulrik, Niels, Louise, Julian, Mathias, Suthan and Casper to mention but a few. I have also had some great official and unofficial office mates; Ulrich, Søren, Mads and Thorbjørn. Thank you for the good company; I have appreciated our talks on the ups and downs of being a PhD-student, as well as the many conversations on other interesting aspects of life. A special group of people deserves a thank you for making it a very pleasant experience to come to work for the last three years, namely Jonas, Rasmus, Mathilde and Mette. I have found a lot of joy in our hallway talks, meetings, coffee breaks and tours of disruptiveness. Developing a friendship with you has been a great additional benefit of working on the PhD.

Finally, I would like to thank my friends, family, and Nanna. Your unconditional love and support has given me an invaluable foundation for writing this dissertation. Nanna, your unwavering believe in me means the world. Nothing in my work makes me happier than when I make you proud. While the last three years of work has been a big project in my life, the most important moments happen with you. The next one takes place this August. I cannot wait.

Jakob Majlund Holm
Aarhus, May 2018

Preface

This is a summary of my PhD dissertation "Performance Management in the Public Sector: Untying a Gordian Knot". In addition to the summary, the dissertation consists of the articles and papers shown below. The purpose of the summary is to introduce the general question underlying my research, develop a theoretical framework and argument, and position the results and contributions in relation to one another. Specific details on the theory, hypotheses, data, designs, operationalizations and analysis are found in the individual papers.

- Paper A (Double Standards)
  Holm, Jakob Majlund. 2017. Double Standards? How Historical and Political Aspiration Levels Guide Managerial Performance Information Use. *Public Administration* 95(4): 1026-1040.

- Paper B (Blame Game)
  Andersen, Simon Calmar, Jakob Majlund Holm and Mads Leth Jakobsen. 2018. Informing a Blame Game? How Political Accountability Impacts the Processing of Performance Feedback. Working Paper.

- Paper C (Iron Cage)
  Holm, Jakob Majlund. 2018. Redecorating an Iron Cage: Managerial Goal Setting in Performance Management Systems. Working Paper.

- Paper D (Problem Solvers)
  Holm, Jakob Majlund. 2018. Successful Problem Solvers? Managerial Performance Information Use to Improve Low Performance. Conditional accept in the *Journal of Public Administration Research and Theory*.

Chapter 1: Introduction

In today's modern public sector, substantial amounts of resources are spent on measuring organizational activities and results, collecting this information, and summarizing it in performance reports. While this tendency reflects a governing rationale with deep roots in public administration (see for instance Simon 1937), it has been particularly dominant in the reformation of the public sector during the last two decades (Hood 1991; Pollitt and Bouckaert 2017). In these reforms, a core political objective was to establish performance management systems that provide public managers with performance data, thereby informing their practice and decision-making (Heinrich 1999; Behn 2003; Moynihan 2008; Taylor 2009; Kroll 2015). Also, performance information should improve hierarchical accountability relations between managers and their political appointees by easing the task of scrutinizing organizational achievements (Hogget 1996). The combination of these two features has proven immensely popular among politicians in Western societies, to the point where the 21st century has been named the era of performance management (Moynihan and Pandey 2005).

In contrast to this popularity are the accomplishments of performance management. When examining the key question of whether reforms increase organizational performance, studies often find no impact (e.g. Andersen 2008; Dee and Jacob 2009) or substantially minor effects (e.g. Brewer 2005; Andrews et al. 2006; Walker et al. 2011; Sun and Ryzin 2014; Speklé and Verbeeten 2014). Research also explains this tendency, namely managerial reluctance to use performance information. This result is remarkably consistent across different policy sectors and countries; for instance, in Germany and Austria (Kroll 2015; Saliterer and Korac 2013), the US (de Julnes and Holzer 2001; Moynihan et al. 2012), and Australia (Taylor 2011). The typical story is that managers find the information rather irrelevant (Lavertu et al. 2013). Naturally, this leaves a stain on the political hopes for the reforms, as performance management systems revolve around the idea that managers use the information to initiate functional organizational change (e.g. Behn 1995; Moynihan and Ingraham 2003; Moynihan 2009; Kroll 2013; Andersen and Moynihan 2016).

As a reaction to these findings, practitioners and scholars have begun to question the relevance of performance management systems in the public sector. To paint with a broad stroke, the situation resembles the Gordian knot facing Alexander the Great when conquering the city of Gordion. Following

his example, an easy answer presents itself in cutting the knot in two, abandoning the idea of performance management in the public sector. While this solution was appealing when Alexander sought to become the ruler of Asia, performance management systems offer a great deal more resistance because of their firm political support and the substantial amount of resources invested in them. Thus, we are left with a more demanding endeavor, namely to untie the knot in a functional way. This dissertation contributes to this challenge by examining the question of *how public managers can use performance information to improve organizational performance*.

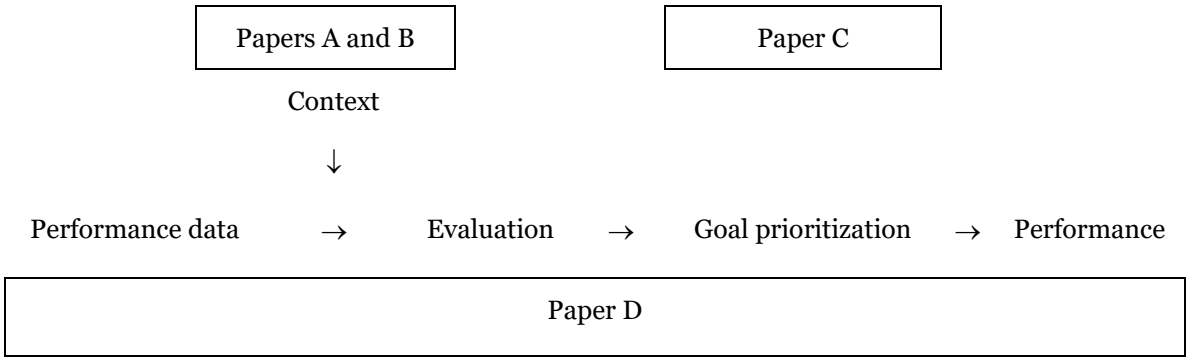
In the dissertation, I examine this question by proposing a model (see figure 1 below) for purposeful managerial performance information use. While we know much about the ways to increase managers' willingness to react to the information, there is much less guidance on how exactly they can use data to create functional organizational change (for exceptions see Rockoff et al. 2012; Nielsen 2014b). To address this shortcoming, I argue that performance management in the public sector is most likely to succeed by turning public managers into problem solvers. With information on how their organization performs across various outcome goals, managers could identify goals with a problematic performance level and correct problems in these areas.

While intuitively simple, the model contains a number of important questions that need clarification. How do managers form opinions on whether a performance result is a failure or success? When do they believe a failure requires managerial action? Which problem-solving strategies do they use? Perhaps most importantly, do these strategies give a performance pay-off? In the dissertation, I answer these question by focusing on three phases in the process of using performance information. First, with inspiration from behavioral theories on information processing (Simon 1955; Cyert and March 1963; Kahneman and Miller 1986; Kunda 1990; Bækgaard et al. 2017; Olsen 2017), I examine how public managers *evaluate* performance results. Second, an assumption in the model is that managers direct attention to outcome goals that are deemed performance failures. To test the relevance of this claim, I turn to strategic management (Boyne and Walker 2004; Meier et al. 2007; Rutherford and Meier 2015) and study the managerial task off *prioritizing* organizational goals in performance management systems. Finally, the last phase in the model concerns the effects of these priorities on *organizational performance*. When testing this aspect, I draw on microeconomic principles (e.g. Pritchett and Filmer 1999; Heckman 2000) to theorize on the production process in public organizations and thereby develop a framework for assessing the likelihood that priority yields a performance pay-off.

Overview of the argument and the papers

Papers A (Double Standards) and B (Blame Game) examine the first phase concerning performance evaluations. Here, I test the idea that a performance evaluation is a cognitive process that takes place by comparing results to an aspiration level (Simon 1955), which helps the mental transformation of raw (absolute) numbers into signals of failure and success. Signals of failure should weigh heavily on a manager's mind because information processing occurs in a (political) environment in which it is often consequential if performance does not meet politicians' and citizens' expectations (Gilmour and Lewis 2006; Hood 2010; James and Mosely 2014; Holbein 2016; Olsen 2015; Nielsen and Bækgaard 2015; Nielsen and Moynihan 2017). However, I also take the argument a bit further by pointing to the relevance of contextual factors in evaluations. This part of the model extends the general claim in the literature that processing of performance information is subjective (Moynihan 2008). I argue that not only do evaluations of identical performance results vary across individuals, the same manager is likely to interpret a result differently, dependent on the context in the form of ambiguity (i.e. conflicting performance signals) (Paper A (Double Standards)) and accountability relations (i.e. political interaction) (Paper B (Blame Game)).

Figure 1. Illustration of the argument and the individual papers



Papers C (Iron Cage) and D (Problem Solvers) examine how managers prioritize between various organizational goals in performance management systems. Extending previous work on strategic management (e.g. Boyne and Walker 2004; Meier et al. 2007; Walker 2013; Gilad 2015; Rutherford and Meier 2015), I conceptualize this decision as two-dimensional. One dimension is horizontal and describes a goal's place in the production process (i.e. its focus on resources, activities, or outcomes) (Simon 1946). The other is vertical and concerns the choice of which outcome goal(s) to focus on, reflecting the goal multiplicity in public organizations (Chun and Rainey 2005; Moynihan et al. 2011). Paper C (Iron Cage) examines the horizontal dimension, testing

the idea that managers in performance management systems increasingly prioritize outcome goals, thereby changing the organization's means-end orientation. While this tendency resembles Weber's (1968) notion of a bureaucratic iron cage, I also illustrate the different strategies managers use to ensure outcome achievement, redecorating within the boundaries of the cage.

Paper D (Problem Solvers) concerns the vertical dimensions and the choice of outcome goals. Following a problem-solving logic, I expect managers to prioritize outcome goals with the lowest performance level. Granted, identification of such prioritizations is, perhaps, the most difficult part of studying performance information use (Moynihan et al. 2012; Kroll 2015). I apply an approach that connects performance information with tangible managerial decisions. This allows me to contribute with one of the first accounts of how managers actually decide on performance information (see also Rockoff et al. 2012).

In Paper D (Problem Solvers), I also argue why problem-solving might be a particularly advantageous managerial strategy. As prioritizations of outcome goals are likely to influence performance with a diminishing return, managers' tendency to focus on performance failures may have positive attributes, directing scarce attention to goals with the highest potential for improvement. However, I also note an important paradox in performance management systems. On the one hand, the cyclic nature leads to ongoing decision-making and offers a possibility of changing priorities frequently (Moynihan 2008), while on the other, the complexity of production processes in the public sector demands persistence and time for a strategy to work (Ostrom et al 1978).

Roadmap

The remainder of the summary is structured as follows: Chapter 2 presents the theoretical framework, conceptualizes performance management, and develops a model for purposeful performance information use. In Chapter 3, I present an overview of the data, designs and the different ways I study managerial performance information use. Chapters 4 provides a summary of the empirical findings. Finally, Chapter 5 discusses the results and concludes by discussing limitations and laying out avenues for future research. Needless to say, the chapters draw on content that is also present in the individual papers.

Chapter 2: Theoretical framework

Conceptualizing performance management

Performance management is a concept that has been named in a variety of different ways, for example as results-driven government, managing by objectives and results, results-based management, performance-based management, and governing for results (Behn 2002). Underlying these labels is a common idea for how to conduct management in the public sector, which is manifested in a set of elements that define a performance management system. At a conceptual level, these are organizational goals, performance indicators, -measurement and –information (Pollitt 2013). The idea in the system is to establish routines that measure performance on an ongoing basis, and thereby create a cyclic process where performance information is used to evaluate progress and ensure continuous improvement (Moynihan 2008).

While performance management systems share these defining elements, they are designed in many different ways. One way to conceptualize different systems is to distinguish between internal learning- and external accountability regimes (Jakobsen et al. 2017). These regimes differ from one another, for instance, in the degree to which managers and street level bureaucrats can influence the choice of goals and performance indicators. Performance management systems also vary in more structural ways. In the simplest systems, organizations are measured on one or a few goals, which reflect the organization's core mission (Boyne 2003). Furthermore, there are no supporting mechanisms to incentivize and support managers in reacting to the information. This simple approach can be expanded in many ways. One obvious way is to measure the organization on a large number of different organizational goals. Another feature of more complex systems is to provide managers with information and data in addition to the organization's current results. This data could take the form of benchmarks (Askim et al. 2008), political targets (Boyne and Chen 2007) and historical data (Greve 2003). Finally, in relation to supporting mechanisms for information use, complex systems are typically found with one of two features. One is to tie financial rewards to the achievement of organizational goals (Heinrich and Marschke 2010), while the other is to use learning forums as a tool for deliberation and decision-making based on results (Moynihan 2005).

Taken together these distinctions highlight the importance of considering the complexity and features of the system when examining the impact of performance management reforms. For example, the context for evaluating performance results is substantially different for a manager facing a single goal and no additional sources of information, compared a manager working with multiple goals, benchmarks, political targets and historical data.

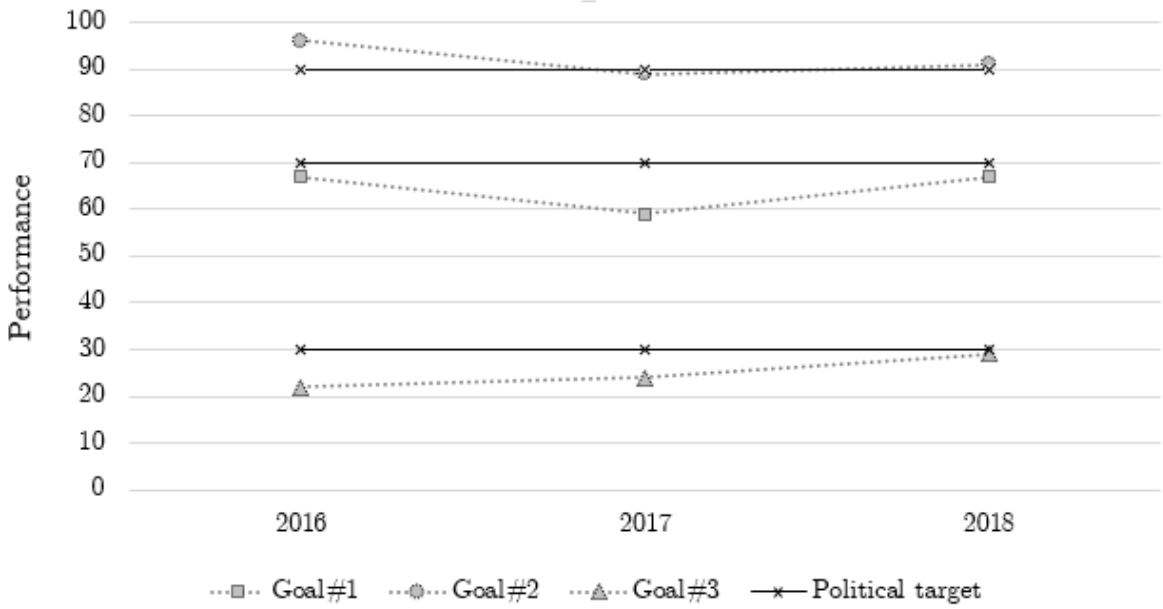
Performance information use

Despite being a key concept in the literature on performance management, the conceptual basis for understanding performance information use is still in its early stages (Moynihan and Pandey 2010; Pandey 2015). A reason for this adolescence is that most research on the topic relies on self-reports from managers, thereby leaving the constitutive features of use to be a subjective matter. So far, the most independent conceptualization is offered by Moynihan (2009, 593), who distinguishes between four different purposes for using performance information. *Purposeful* refers to use that aims at creating organizational improvements, *passive* use describes a situation where managers do not react to the information, *political* use concerns advocacy to political principals, and *perverse* use is dysfunctional behavior where results are either the result of gaming or come into conflict with higher level goals. While this distinction takes the conceptual task a step further, it does not offer insights on how we should expect managers to process the information.

To address this perspective, a first step is to clarify what kind of data managers receive in a performance management system. An important feature of this information foundation is goal multiplicity. Public organizations pursue multiple goals and performance indicators at least partly reflect this multiplicity (Moynihan et al. 2011). In studies of performance information use, this point is rarely considered. Performance is either treated as an abstract concept (in studies based on self-reports), or only one dimension of performance is examined (for example students' final grades). As illustrated in figure 2 below, goal dimensionality leads a manager to receive multiple performance signals that reflect various dimensions of political goals (Andrews et al. 2011). For example, a principal could be held accountable for a school's achievements in relation to learning through various outcome measures, such as test scores, GPA in different subjects, and students' satisfaction with the teaching. In addition to these metrics, the school could be held accountable for outcomes such as student well-being, health and recognition, and parental satisfaction. However, and as noted above, the various signals on outcome performance are not the only types of information a manager receives in a performance man-

agement system. Figure 2 illustrates two additional types. The first is information on how well the organization has been performing in the past two years.

Figure 2. Example of data for performance information use.



The second is political targets that expresses the political goal for the organization. Such targets often play an important role in performance management systems, quantifying political demands for improvements and providing a standard that triggers financial rewards or sanctions (Bevan and Hood 2006). As illustrated in the figure, targets are not necessarily identical across different performance dimensions.

From data to organizational change

So, how do managers turn this data into meaningful messages that inform on how they should change their organization? There are at least two logics that could guide this process. One approach is problem solving. This idea originates from the behavioral model developed in the work by Cyert and March (1963). In this model, managers improve performance through three sequential phases, namely identification of problems, searching for solutions, and implementation of the most appropriate solution (Cyert and March 1963: 34). As identification of problems is challenged by information asymmetries, a manager often needs a stimulus that indicates a problem and a need for managerial action (Mintzberg, Raisinghani, and Théorêt 1976). Performance information could act as this stimulus by providing information on the results of organizational activities.

Another approach is to try to create improvements from successes (e.g. Baum and Dahlin 2007; KC, Staats and Gino 2013). The assumption underlying this approach is that an organization could build competences through exploitation and utilization of tacit knowledge about functional activities (March 1981). A manager could employ knowledge on favorable production factors in two different ways to create further improvements. One way is to dismantle information on the functional activities throughout the organization in an attempt to create best-practice learning (Askim et al. 2008). Another way is to strengthen the work on the successful goal dimension. Here, the knowledge would enter as competence building in an effort to specialize activities, for example by reorganizing resources to enhance the practices that have proven functional.

The approaches above raise two important questions, namely; how do managers form an opinion on how well their organization is performing in relation to the different goals, and when do they believe the evaluation should initiate a managerial reaction? Starting with the first question, a challenging aspect of a performance evaluation is to make sense of absolute performance numbers. In figure 2, for example, how is a manager to form an opinion on whether the performance level of 67 on $goal_{\#1}$ is a failure or success. The key to this process is comparisons. This idea originates from research on general human traits (e.g. Kahneman and Tversky 1979; Mussweiler 2003; Köszegi and Rabin 2006) and managerial information processing (e.g. Cyert and March 1963; Greve 2009; Audia et al. 2015), which shows that judgements rely heavily on comparison to a standard, a norm or a particular piece of knowledge. For a manager who is facing a performance evaluation, the comparative aspect concerns the discrepancy between performance expectations and the actual outcome (Meier et al. 2015).

A variety of different consideration could factor into the formation of expectations. Some of these are non-numerical, for instance the amount of resources on the budget, characteristics of the clients, efficacy to affect the outcome, unforeseen events, and employee motivation. While information of this type can support the formation of expectations, the task is still quite complex because the non-numerical nature of the knowledge makes it difficult to establish a mental expression of a comparable number on the performance scale (Kahneman and Miller 1986).

In addition to information of this type, a manager could rely on an aspiration level to form expectations (Cyert and March 1963, p. 81). An aspiration level is a numerical representation of the least satisfactory performance level for the organization (Simon 1955, p. 103). Aspiration levels reduce evaluation complexity because the expectation is summarized in a single numerical num-

ber that is directly comparable to the absolute number. This feature of aspiration levels enables a simple categorization of the result as either a success (performance above the aspiration level) or failure (performance below the aspiration level) (Simon 1979).

When facing the different types of information as shown in figure 2, three different aspiration levels could be used to make sense of the performance result for 2018. The first is a *historical* aspiration level. This level is the organization's previous level of performance (Cyert and March 1963). Figure 2 provides two historical data points that could be used for a historical comparison, namely the results in 2016 and 2017. The figure also provides the manager with a *political* aspiration level, which expresses the political ambitions for the organization (Salge 2011). Discrepancies from these two aspiration levels are labeled negative and positive feedback.

The last aspiration level is *hierarchical*. When using this aspirational level, managers form opinions on successes and failures by considering the maximum performance level for a given performance dimensions. This will (unless the improbable scenario of a maximum performance) yield a discrepancy for each goal in the organization. By ranking goals in a hierarchy in accordance with this discrepancy, a manager could form opinions on whether a result if fiasco or a success by considering a goals place in the hierarchy. Goals that are at the top should be perceived as well performing, while goals at the bottom are low performing. In this way, the term "low performance" reflects relative performance in the form of a goal's discrepancy from the maximum value for the goal, which is given meaning by comparisons to the discrepancy for other goals.

Performance pressure and contextual contingencies

A point worth noting in figure 2 is the multiplicity of performance signals. The figure illustrates that managers often face a data foundation that allows them to focus on both failures and successes. Naturally, this raises the question of whether they are equally inclined to depart from both types of performance results when initiating organizational change. The short answer to this question no, as I expect considerations for performance failure to weight more heavily on a manager's mind. In the following, I present the reasons for this expectation.

Performance management systems are typically established on firm political expectations for improvements. Some of the most ambitious examples are found in the political wish to leave no child behind in the US educational sys-

tem (Heinrich 2010), the creation of a Program Assessment Rating Tool, covering virtually all US agencies (Moynihan 2008; Moynihan and Lavertu 2012), and the demands for Best Value and target achievement in British welfare provision (Bevan and Hood 2006). This performance pressure persist, or even increases, once a system is up and running. Quantification of organizational achievements provides organizational stakeholders with an easy way of scrutinize the organizational accomplishments, thereby reducing information asymmetries. Accordingly, and as shown in several studies (e.g. Askim 2007; Hood 2010; Saliterer and Korac 2013), performance information have become a focal point in accountability relations. In recent years, this point has lead researchers to examine how two key stakeholders in the form of politicians and citizens react to performance data.

A consistent finding from this line of research is a strong focus on failures. For example, low performance leads politicians to attribute a higher degree responsibility for outcomes to managers (Nielsen and Moynihan 2017), and make citizens' satisfaction (James and Moseley 2014) and performance evaluations become asymmetrical more negative (Olsen 2017). As an empirical example of the last point, Holbein (2016) show that school failure leads parents to vote with their feet and exit poorly performing school. Thus, managerial reactions to performance information take place in a political environment where failures can have severe consequences (Hood 2010). Based on these considerations, I expect that public managers to use performance information to identify and react to signals that their organization is performing poorly.

An important point to note about this conclusion is the contextual aspect of reactions to performance failures. I argue that two factors are likely to reduce the likelihood that managers acknowledge and react to negative feedback and low performance. The first is *ambiguity*. While ambiguity is often mentioned as a premise for performance information use (Moynihan 2008; Bækgaard and Serritzlew 2016), there remains little theoretical and empirical basis for understanding the phenomenon. In the present theoretical framework, ambiguity is conceptualized as a situation in which comparisons to multiple aspiration levels provide a manager with both signals of success and failure. I expect managers to react to such a situation by forming an average between the two aspiration levels. (Kahneman 1992). Because this average level is closer to the absolute performance result than in a situation with only one aspiration level, performance evaluations from conflicting feedback to have a less distinctive direction, either negatively or positively.

The second factor is *political accountability relations*. In close interactions with a politician, for instance in a performance meeting, managers face strong incentives to evaluate performance results positively in order to avoid blame. A personal politicized context could offset a directional processing of

performance information (Kunda 1990), driven by desire to reach a preferred conclusion. This contrasts with the collegiate context, where the participants share common norms, professional expertise, as well as no authority to sanction each other. Thus, in this context, a manager is likely to make an accuracy processing of the information.

Problem-solving: Expressions

If the expectations above are correct, they illustrate that an important aspect of performance management is managerial reactions to failure. Such reactions could unfold in a variety of different ways, for instance by scrutinizing employees, changing the budget, or renegotiating certain programs and contractual relationships with external parties. Most of these reactions are embedded in the broader aspect of public management labeled strategic management. Strategic management concerns the formulation of organizational strategies, which are - broadly defined - responses to internal and external constraints and opportunities (Meier et al. 2007). Such responses are typically conceptualized as a formula for how an organization should achieve its goals (e.g. Boyne and Walker 2004; Boyne and Walker 2010). While this is clearly an important aspect of strategic choices, it is also too narrow an understanding of the concept, as it misses the important aspect of strategy formulation, namely the choice of which organizational goals to focus on.

Following Simon's (1946) idea of a means-end hierarchy, a manager could prioritize organizational goals at the low end (i.e. with a focus on resources), in the middle (i.e. with a focus on activities) or at the high end (i.e. outcomes). This is an important point in relation to reactions to performance information because it illustrates that outcome oriented strategies are necessary for correcting performance failures. The reason is the trade-off between strategies that aim at the low- and high level in the means-end hierarchy in relation to outcome efficiency (i.e. performance impact) and precision (i.e. which dimensions benefits). The more priorities change their focus from the bottom to the top, the more strategy impact is likely to improve on both these dimensions. In this way, a prerequisite for strategic managerial reactions to performance failures is that prioritizations of organizational goals have a high-end focus, focusing on outcome achievements.

So, what strategies do managers actually use when they prioritize outcome goals? One approach is to change practice in the organization by guiding employees in choosing relevant actions and supporting the implementation of these. Here, organizational priorities would concern various initiatives that could improve performance on a given dimension. Another strategy is to streamline the link between resources, activities and outcomes, for instance

by prioritizing the development of employee expertise (a resource) in relation to a particular outcome (e.g. disadvantaged clients). Finally, the last approach is to target the specific outcome goal that is in need of extra attention because of the negative performance results.

Problem-solving: Effects

The last part of the argument concerns the performance effect of these different strategies. When theorizing on these effects, I point to two important features of the production process in public organizations. The first concerns resources' marginal return. As described in the Cobb-Douglas production function, when resources are added to a production process, they are likely to have a diminishing return, meaning that production increases outputs at a diminishing rate. Research on both financial (Hanushek 2003; Andersen and Mortensen 2010) and human resources (e.g. Banerjee et al. 2012) support this point by showing that the mere addition of resources to achieve a goal does not equal success. In relation to managerial reactions to performance failures, resources' diminishing return implies that output or outcome levels could be used to assess a production's potential for improvement. Following this idea, goals with low (hierarchical) performance have a great potential because the production is at a low level and accordingly, the marginal product of adding resources should be high. In this way, managers' tendency to focus on performance failures may actually have positive attributes, directing scarce attention to goals with the highest potential for improvement.

The other aspect to note about on the process where prioritizations of outcome goals influence performance is the temporal aspect. As performance management systems are cyclic, a decision made in the first cycle can be revisited in later cycles (Pollitt 2013). In the situation where managers prioritize outcome goals, they face a choice in the second cycle of either reprioritizing the same goals as in the first cycle or choosing to prioritize a new set of goals. However, as production process in the public sector typically consists of a long and complex production chains (Ostrom et al. 1978), a prioritization in one cycle is probably not sufficient to improve performance. In this way, managers face an important decision in later cycles of the system. In a situation where a goal is only prioritized in one cycle, it is unlikely that the prioritization will lead to improvements, simply because the input to production processes has not had sufficient time to transform into improvements. If the manager chooses to prioritize a completely new set of goals, there is a risk that the initial prioritization will only have superficial attention without any real improvement.

Chapter 3: Research designs and data

Overview of the studies

The ambition in the dissertation is to test the various phases of the model shown in figure 1. A first perspective concerns managerial performance evaluations on the basis of performance data and the expectation that managers primarily identify and react to signals of performance failures. As noted in the theoretical framework, "performance failure" is quite an ambiguous term because managers could make sense of (absolute) performance numbers by comparison to both a political, historical or hierarchical aspiration level. Thus, a comprehensive test of the argument must consider all three types of failure. Paper A (Double Standards) and B (Blame Game) relies on a survey-experimental approach to examine how principals react when they are randomly provided with political and historical feedback (in addition to absolute performance results).

An important part of understanding managerial performance evaluations is contextual factors. In Paper A (Double Standards), I examine the effect of ambiguity by providing principals with conflicting feedback (for example positive political feedback and negative historical feedback). Paper B (Blame Game) tests the influence of political interactions with a novel experimental design that allows manipulation of the context (collegial vs. political) in which a diverse group of public managers (and political science students) use performance information.

Paper C (Iron Cage) and D (Problem Solvers) rely on observational data from daycares and public schools in the form of managerial priorities and organizational performance. Both these papers concern managerial goal setting in performance management systems. Paper C (Iron Cage) examines the horizontal dimension and the idea that managers gradually increase their prioritization of outcome goals in a performance management system. Paper D (Problem Solvers) (only school data) extends this analysis by examining which outcome goals managers prioritize. By matching priorities with information on the performance level across various educational goals, I am able to test whether principals prioritize goals where their schools are low performing (as defined by the hierarchical aspiration level).

Paper D (Problem Solvers) also entails a test of how organizational priorities influence organizational performance. Here, I examine the idea that problem solving on organizational goals with low (hierarchical) performance is a functional managerial strategy because prioritizations have a decreasing return. If this expectation is correct, problem solving prioritizations should provide a higher return to the investment (in terms of performance increase) compared to prioritizations of goals with high performance.

Table 1. Overview of the studies, data and research designs

	Paper					
	A	A	B	C	D	D
Phase in figure 1	Performance evaluation	Performance evaluation	Performance evaluation	Goal prioritization	Goal prioritization	Organizational performance
Research question	How do public managers react to performance feedback?	Does ambiguity moderate managerial reactions to performance feedback?	Does a political context influence managerial reactions to performance feedback?	How does strategic management change in performance management systems?	Do public managers prioritize goals with low performance?	Does problem solving increase organizational performance?
Sample	Principals	Various public managers[1]	Principals and day-care center leaders	Principals	Principals	Sample
Identification strategy	Randomization	Randomization	Fixed-effect (time)	Fixed-effects (unit)	Difference-in-differences	Identification strategy
Operationalization: performance failure	Political and historical aspiration levels	Historical aspiration level	-	Low performance (relative to maximum value)	-	Operationalization: performance failure
Independent variable	Negative and positive feedback	Conflicting feedback	Collegial and political contexts	Time	Relative performance	Independent variable
Dependent variable	Evaluation Managerial attention	Performance evaluation Cause attribution Strategy development	Strategic outcome-orientation	Goal prioritization	Performance	Dependent variable

Note: From health care, youth educations, library services, the military. The sample for Paper B (Blame Game) also includes a group of political science students.

Samples

As shown in table 1, Paper A (Double Standards) uses a sample of principals from an online-survey. A concern in this regard is a participation bias in which principals with certain characteristics self-select into participating. However, on characteristics such as gender and experience, larger samples with response rates around 50% (Pedersen et al. 2011) show similar distributions to the sample in the study. Furthermore, comparisons to population data in relation to the average share of students with non-Danish ethnicity on the school and the average income level in the municipality does not point to any major deviations. The sample in Paper B (Blame Game) consists of a rather diverse group of managers (e.g. coming from public libraries, health care, employment, police and military, and education), meaning that we do not have population data to assess their representativeness. Instead, we test the generalizability of the findings by conducting the same experiment on a group of students.

Data for Papers C (Iron Cage) and D (Problem Solvers) comes from daycares and public schools in a Danish municipality. Since this sample consists of half the data used to test the hypotheses, it is worth discussing more in-depth how representative these managers are. To answer this question, I have made a comparison of the schools in the sample to the population in Denmark on a number of parameters (see table 1 in Paper D (Problem Solvers)), for instance school size, budget per student, student/teacher ratio, and competence-coverage. On the majority of these parameters, the schools in the sample do not deviate from the population (the most diverging parameter is the average share of bilingual students, which is higher in the sample).

For the daycare center managers, there is unfortunately no population data to assess representativeness. However, given that the schools are not substantially different from the rest of the country, there is no reason to expect the daycare centers to be so. In this way, the results from Paper C (Iron Cage) and D (Problem Solvers) are more likely to originate from the nature of the system rather than be characteristic of the managers and their organizations.

Studying performance information use

A key argument in the dissertation is that low performance information is a driver of managerial performance information use. What are the methodological challenges to examine this question? A first challenge is the difficulty in operationalizing and identifying instances where managers “use” performance information. Previous research has primarily approached the question

by relying on self-reports from managers (for examples, see Julnes and Holzer 2001; Taylor 2011; Moynihan et al. 2012; Kroll 2017; although see also Andersen and Moynihan 2016). However, a caveat of this approach is that we do not know what managers believe constitute "use". Is it flicking through the pages of performance report, or, does use reflect a more comprehensive process in which the data is carefully scrutinized? Besides the threshold uncertainty, another problematic aspect of the survey-approach is that when managers confirm that they use performance information, it is unclear whether they have reacted to low or high performance. In this way, the approach makes it difficult to examine and test whether their focus primarily concerns performance failures.

Second, and equally important, is the task of making causally valid claims. A challenge to this objective is that managers who receive different performance results are also likely to be different from one another on a number of important characteristics. Furthermore, not only do managerial characteristics vary in accordance with the information they receive, managers are also likely to process the information in different organizational and political environments.

Taken together, the two points illustrate why examining managerial performance information use is a research question that demands precise identification strategies and creative operationalizations. In the next sections, I describe how I approach these two issues.

Using randomization

The aim of Paper A (Double Standards) and Paper B (Blame Game) is to provide insights into the cognitive processes underlying the decisions. To examine this aspect, I use experimental designs to study (i) how managers use political and historical aspiration levels when they evaluate and react to performance results and (ii) whether contextual factors (conflicting feedback and political interaction) moderate this process.

The obvious advantage of using experimental designs is that it allows me to remove the previously mentioned endogeneity risks and design situations in a way that allow for a precise test of the hypothesis. The idea in Paper A (Double Standards) is to test the relevance of political and historical aspiration levels by having a control group of principals that only receive an absolute number. The treatment groups in the experiment receive the same information but in addition, negative and positive feedback from one of the aspiration levels, or both. In this way, I am able to test both how performance evaluations and reactions change when managers are provided with an aspiration

level, and when they are provided with two which show conflicting feedback (i.e. the ambiguity hypotheses).

In Paper B (Blame Game), we take on a tough challenge, namely to manipulate the context in which managers process performance information. To do so, we design an experiment in which managers are asked to prepare a response to a performance report in preparation for a meeting. The treatment is the participants at the meeting, either two colleagues or a politician and an employee from the administration. As the performance report shows a decline in performance for an organization, the design allows us to test whether managers react differently when they are processing the information and using it in a political context.

Using fixed-effects

In Paper D (Problem Solvers), I use a design that takes advantage of the goal multiplicity in public organizations. The data for the study is from a performance management system that measures principals on 30-40 different performance indicators. After being measured on these different indicators, principals decide on a number of priorities for their school. The system has two attractive features that makes it suitable for testing how performance information influences managerial decision-making. First, because of the large number of performance indicators, principals receive multiple information signals on how their school is performing. Second, the principals' decisions have a manifest expression because the priorities are written down and made publicly available. These features make it possible to connect information and decisions, thereby enabling a test of whether principals' take a goal's performance levels into consideration when deciding on outcome priorities. The idea in the design is to utilize that the system creates variation in performance information within the same organization. By estimating the influence of performance on decisions in a unit fixed-effects model, I eliminate the influence of important organizational and managerial factors, thereby isolating the influence of information. In this way, the design allows for a precise empirical test of the theoretical argument that low (hierarchical) information is likely to attract managerial attention.

Using difference-in-differences

A key expectation that I test in Paper D (Problem Solvers) is that prioritization of goals with low performance will increase performance (relative to non-prioritized goals). The design that examines this question must tackle two issues. First, different factors might influence both a goal's likelihood of being prior-

itized and the performance level. Second, initial performance differences between non-prioritized and prioritized goals would blur the estimation in an ordinary regression model that does not properly capture changes over time. To handle these issues, I use a difference-in-differences model. The difference-in-differences setup compares developments in the performance trends for non-prioritized and prioritized goals, thereby taking the initial performance differences between the two types of goals into account. Following the difference-in-differences design, non-prioritized goals act as a control group that captures time trends, and prioritized goals receive a treatment in the form of prioritization.

Chapter 4: Results

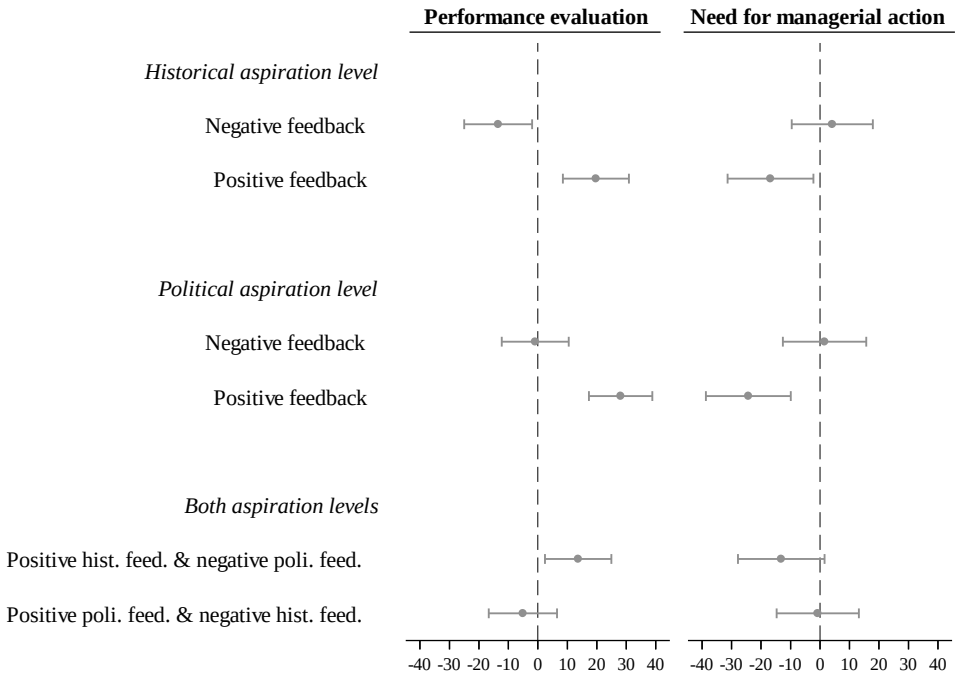
Evaluations and reactions to negative feedback

A key claim in the dissertation is that public managers use performance information to identify and react to performance failures. I start the analysis of this claim by presenting the results of how principals react to being presented with negative and positive feedback from political and historical aspiration levels.

Figure 3 illustrates the results from Paper A (Double Standards) to help answer this question. In the paper, I find mixed support for the claim. The results show that principals react somewhat to negative historical feedback but they do not adjust their performance evaluations in light of negative political feedback (i.e. performance below a political target). Even though principals do perceive a performance decline as a negative result, the results do no point to a negativity bias in their evaluations. For both the historical and political aspiration level, positive feedback has the most profound influence.

Substantially, the results illustrate two interesting tendencies in the way principals rely on aspiration levels. The first is a selective component. Performance below a political goal is not seen as particularly problematic; however on the other hand, a high level of goal achievement is perceived as a great success. Thus, principals use a double standard in reactions to political feedback. Second, negative historical feedback signals a performance decrease of 25%. Such a substantial performance decline only influences principals' reactions to a minor degree. This point is particularly evident when examining the right side of figure 3. Here, it is evident that even though principals to some degree acknowledge the performance decline in their evaluation, they do not believe the result should lead them to take action.

Figure 3. Effects of negative and positive performance feedback on principals' performance evaluations and perceived need for managerial action



Note: Point estimates of treatment effects with 90% confidence intervals. The control group did only receive absolute performance results. The range of the dependent variables is 0-100. Reprint from Paper A "Double Standards? How Historical and Political Aspiration Level Guide Managerial Performance Information Use".

The contingent role of ambiguity and political interaction

A second claim in the dissertation is that managerial reactions to performance feedback are contingent by contextual factors. More specifically, I test whether ambiguity in the form of conflicting feedback and political interactions moderates reactions to negative historical and political performance feedback. The role of ambiguity is examined in Paper A (Double Standards).

The bottom half of figure 3 illustrates the role of ambiguity in information processing. This part of the figures shows how principals' evaluations and reactions change when they face both negative and positive information. The results confirm the expectation that conflicting feedback make principals reactions to performance information less distinct. However, the analysis show the principals has a skewed weighting of feedback from two aspiration levels, as they are most inclined to follow the signal from the historical aspiration level.

In Paper B (Blame Game), we test how a politicized accountability context influence information processing. In the experiment, a diverse group of public managers (and political science students) are asked to prepare for a meeting following a performance report. The treatment in the experiment is the participants at the meeting who are either a politician and an administrative employee or two colleagues. A first noteworthy result from the paper is that it provides support for the claim that managers perceive political accountability relations to revolve around political scrutiny for the negative results. As an example, when managers are to meet a politician and an administrative employee, they expect a meeting where they are in a defensive position, have to justify choices and are given limited influence on the decision outcome.

We find that this context leads respondents (managers and students taken together) to wish that they can mitigate the negative attitudes. They do this by significant evaluating negative historical feedback (a performance decline of 29%) more positive than the respondents who are to meet with two colleagues. An obvious interpretation of the results is that respondents shield themselves in direct confrontation with a politician. The shield consists of a positive image of the performance result – in line the expectations of direction information processing motivated by blame avoidance. In addition to this result, the analysis shows that respondents who processing performance information in a political context have a different causal logic and make different strategic choices, presumable as a result of a higher wish to avoid responsibility and convince the meeting participants that their strategy will lead to a quick turnaround.

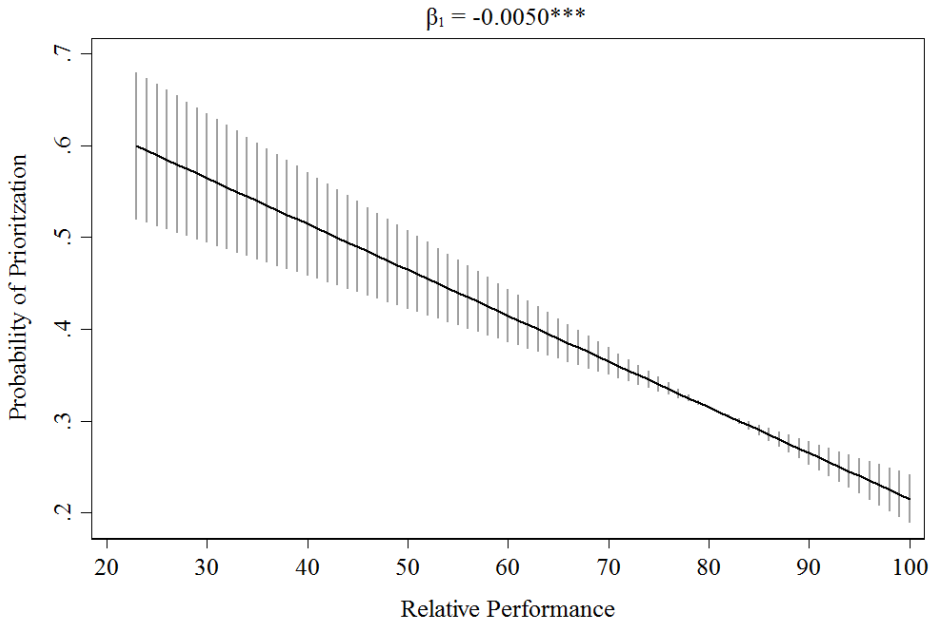
Prioritizations of goals with low performance

In Paper C (Iron Cage) and Paper D (Problem Solvers), I examine strategic decision-making in performance management systems, in particular how daycare center managers (only included in Paper C (Iron Cage)) and principals prioritize goal for their organizations. In Paper C (Iron Cage), I show three different ways daycare center managers and principals increase organizational awareness on outcome achievements. They do so by focusing on certain outcome initiatives, streamlining the link between resources, activities and outcomes, and by prioritizing specific outcome goals. Results also show that this tendency gradually increases over a six-year span, implicating that adoption to performance management systems is an incremental process.

The findings from Paper C (Iron Cage) leaves open the question which outcome goals managers prioritize. In Paper D (Problem Solvers), I look into this question. By connecting the principals' priorities with the performance level

on the various educational goals, I am able to test another aspect of managerial reactions to performance failures, namely the influence of relative performance (as defined by a hierarchical aspiration level) on principals' tendency to make an outcome goal a priority for their school. Figure 4 below shows the result from a fixed-effect estimation, illustrating the relationship between the relative performance for a particular goal and the probability that the goal becomes a priority.

Figure 4. How relative performance influences principals' prioritization of outcome goals



Note: Estimated probability of a prioritization for a given performance level on a goal. 95% confidence intervals. Reprint from Paper D "Successful problem solvers? Managerial Performance Information Use to Improve Organizational Performance"

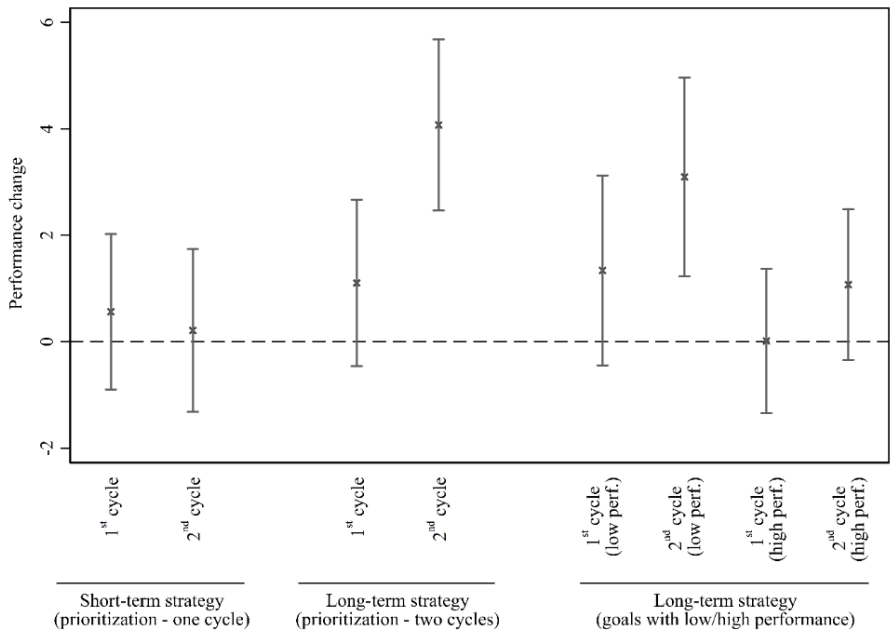
As evident in the figure, the result confirms the idea that public managers use performance to solve problems. The negative relationship means that the lower the performance level for a goal, the higher the probability that a principal prioritize it. An important point to note about this result is that even though relative performance influences principals' prioritizations, the performance differences need to be quite substantial before the information offsets a managerial reaction. Such differences are rather common for the principals as they experience on average, a difference of 63 percentage points between the highest and lowest performing goals in their school. Across such large performance differences, the probability of prioritizing the goal with low performance is 40 percent higher.

Problem solving to increase organizational performance

As the results above nuance the general claim that public managers are react to performance failures, they also raise a question of whether reacting to low performance is a functional managerial strategy. The theoretical answer to this question is that problem solving for goals with a low performance level could be an efficient way to use scarce organizational resources because the goals have the highest potential for improvement. If this expectation is correct, prioritizations of goals with low performance should provide a higher return on investment (in terms of performance increase) compared to prioritizations of goals with high performance.

This expectation is tested in Paper D (Problem Solvers) using a difference-in-differences model. The difference-in-differences setup compares developments in the performance trends for non-prioritized and prioritized goals, thereby taking the initial performance differences between the two types of goals into account. Following the difference-in-differences design, non-prioritized goals act as a control group that captures time trends, and prioritized goals receive a treatment in the form of a prioritization. The results from this analysis are shown in figure 5.

Figure 5. How prioritization of goals influences performance in subsequent years



Note: 95% confidence intervals. The dependent variable "performance" covers various educational performance dimensions (e.g. grades, test scores, student wellbeing and health). Reprint from Paper D "Successful problem solvers? Managerial Performance Information Use to Improve Organizational Performance".

As evidenced by the right side of the figure, prioritizing goals with low and high performance influence performance differently. The most substantial performance increase is found for goals with a low performance level. Here, a prioritization of a goal increases performance by 4 scale points (if the goal is repeatedly prioritized). Figure 5 also shows that short-term strategies do not create improvements. Goals that are prioritized in one cycle experience a small (insignificant) increase in performance in the first cycle; however, they do not gain the most substantial performance increase because they are not reprioritized.

Chapter 5: Concluding discussion

Untying a Gordian knot …

In recent times, the establishment of performance management systems represents one of the most widespread trends in the governing of the public sector (Moynihan and Pandey 2005). In contrast to this popularity is the substantial volume of empirical evidence that tells a negative story. To name two problematic findings; the reforms do little to improve organizational performance (Gerrish 2016) and public managers rarely react to performance information (Moynihan and Pandey 2010). To address these findings, the purpose of this dissertation was to provide answers to the lingering question of how public managers can use performance information to improve organizational performance. In answering this question, I advance the literature on performance management in three ways.

First, the dissertation provides one of the first empirical accounts (see also Rockoff et al. 2012; Kroll 2017) on the most prominent claim in the literature on performance management, namely that managerial performance information use improves organizational performance. This finding gives important relevance and perspective to the emerging literature that examines ways of increasing public managers' engagement in performance management systems (e.g. Andersen and Moynihan 2016; Kroll 2015; Moynihan and Kroll 2016; Pandey 2015). By examining how principals prioritize between outcome goals, I illustrate one functional type of performance information use, namely problem solving on goals with a low performance level. In this way, the dissertation opens the black box of understanding what performance information use actually entails, and at the same time, it underscores the importance of considering the content of the information when studying managerial reactions to performance data. I believe, the theoretical framework advanced here, as well as the innovative research designs, offers a solid starting point for this endeavor.

The second contribution is to direct attention to a novel set of factors that affect the success of performance management efforts. Examining such factors is essential in order to move beyond the simplistic claims that systems do or do not work. I extend the sparse volume of empirical evidence on this issue (e.g. Nielsen 2014a; Walker et al. 2011), illustrating the importance of contextual factors for processing of performance information. In relation to the first

part, a recurring finding in the dissertation is that performance evaluations are highly sensitive to contextual influence. The results show that too many signals in the data foundation (i.e. conflicting feedback) make managers' evaluations and reactions become more ambiguous. This finding reveals an interesting twist to the behavioral foundation for using aspiration levels, as these should function as heuristics that allow for efficient information processing (Simon 1955). Along the same behavioral lines is the finding that under certain circumstances, managers apply directional processing (Kunda 1990). The decisive factor for this tendency is politicization, which induces a certain mindset in managers that forms their evaluations and reactions. This is seen in managers' use of a double standard when comparing performance results to a political aspiration level (i.e. not reacting to negative feedback but embracing positive feedback to the fullest) and their overly positive performance evaluations that attempt to mitigate negative political attitudes. Taken together, these findings provide some of the first insights on the behavioral tendencies that characterize public managers' reaction to performance data (see also Nielsen 2014b). In a broader picture, the results illustrate a need for understanding the cognitive foundation that enables and prevents functional managerial reactions to performance information. This dissertation delivers some pieces to this puzzle but many more are worthy of consideration, perhaps with inspiration from the emerging literature on citizens' and politicians' reaction to performance data (Barrows et al. 2016; Andersen and Hjortskov 2016; Nielsen and Moynihan 2017; Olsen 2017; Bækgaard et al. 2017; James and Ryzin 2017).

The third contribution also relates to context and concerns the temporal aspect of reform adoption and success. Two important findings from this dissertation are that (i) adoption is an ongoing process that unfolds over time, as managers gradually increase their strategic focus on outcome goals, and (ii) that this outcome orientation is most likely to yield a performance increase under conditions of stability and persistence (i.e. repeated prioritizations). These results nuance our understanding of adoption processes by pointing to the importance of thinking longitudinally - a factor, which is often lacking in previous research. By the same token, it also encourages more focus on the cyclic aspect of performance management systems. Instead of perceiving decisions in performance information as one category, we should pay close attention to whether they are made in the early, middle or late adoption phases.

… and untangling the results

Another important part of the discussion is to relate the findings to one another. The first point is what to conclude on the argument that managers react

to performance failures. Taken together, the results show that principals do react to low performance, react to a lesser degree to negative historical feedback, and do not react at all to negative political feedback. How can we make sense of this pattern? An important point to note about the results is the difference in their empirical foundation. In Paper D (Problem Solvers), principals decide on organizational prioritizations as part of a comprehensive system where they interact with stakeholders in the decision-making, and afterwards are subject to external accountability, as the decision is made publicly available. In contrast, the results from Paper A (Double Standards) and B regarding performance feedback are from survey-experiments where – despite the effort to increase the ecological validity - the stakes are much lower. However, while the difference in context might account for the managers' limited reaction to negative feedback; it cannot explain the difference between the two types of feedback. One reason for this discrepancy could be an attribution bias (Tetlock and Levi 1982). As the political aspiration level is set externally and at a potentially arbitrary level, it might be easier for managers (especially with no context or incentives) to discard performance discrepancies as (too) high and unrealistic political ambitions.

A related point is why managers prioritize goals with low performance but do not perceive a need to react to negative historical feedback (a performance decrease of 25%). This difference raises a question of whether there is a hierarchy between different types of failures (Kahneman 1992). If managers are mostly inclined to react to low (absolute) performance, it could explain why they do not perceive a need to react to performance decreases, simply because they believe the absolute performance level is still at an acceptable level. Such an explanation would also fit the results from Paper B (Blame Game) where managers' evaluate performance as being a little worse than the average score (on a scale from 0-100) despite a decrease of 29%. Another point that speaks in favor of a hierarchy between different performance signals are the results from Paper A (Double Standards) concerning conflicting feedback. When principals face contradicting performance feedback, they are mostly inclined to follow the signal from the historical aspiration level. Thus, the results indicate that they perceive these signals as more relevant for their evaluations and reactions.

The third point worth discussing is how political pressure forms managerial reactions to performance information. This dissertation is based on the overall argument that the focus on failure in the political environment makes managers more inclined to react to performance failures. However, I only find such a reaction in Paper D (Problem Solvers), while the findings from Paper A (Double Standards) and B (Blame Game) on the other hand, illustrate that political considerations also lead to a discarding of performance failures. What

can explain these patterns? One explanation is that managers feel the political pressure for performance improvements to a lesser degree than I assume. However, in Paper B (Blame Game), we conduct a manipulation check to tap managers' expectations for meeting a politician in light of the performance decline. Results from this question clearly demonstrate that managers expect to be scrutinized in light of the bad result.

Another explanation is that a heterogeneity in the way managers perceive and react to political pressure. Perhaps the effect of this pressure is u-shaped such that situations with too close and personal interaction (as in Paper B (Blame Game)) and too few incentives (as in Paper A (Double Standards)) lower a managers' willingness to react to failures.

Limitations and future research

When combining the points above, the dissertation offers a rather coherent story on promising avenues and pitfalls for performance management in the public sector. In doing so, it develops a theoretical framework that incorporates and extends previous research, uses novel and rigorous research designs, and points to a number of relevant findings. However, and needless to say, it also leaves a number of questions open and points to various potential directions for future research. In the following, I clarify these aspects by addressing some of the limitations of the dissertation.

A first point concerns the generalizability of the results, as most of the findings are from studies with principals as the case in point. As the educational sector has many features that makes it suitable for testing the dissertation's argument (e.g. multiplicity of goals, and measurable outcome dimensions), it naturally raises a question of how far the findings travel. One way to address this concern is to consider whether there are specific characteristics of the principals that should hinder us from finding the same results in other settings. As I note under the description of the samples, the principals under study are quite similar to their colleagues throughout the rest of Denmark; however, it remains unknown how alike they are to other types of managers. A point worth noting in this regard is the results from Paper C (Iron Cage). While I do not specifically test reactions to performance failures in this paper, the results show that principals and daycare center managers follow a similar development in their tendency to increasingly focus their strategic choices on outcomes. This illustrates that perhaps the most interesting aspect of the generalizability is to discuss why the performance management system under study in Paper C (Iron Cage) and D (Problem Solvers) function so well.

One thing to note about the system is the balance between autonomy and coercion. The cyclic performance process includes various checkpoints for

principals, forcing them to make a decision and develop a strategy for improvements. However, they are also given autonomy in their choice of priorities and strategy, which point to an important balance between finding the right means to engage managers but leaving sufficient room for management. Since the forums seem to play a role in creating successful performance management, the specific features that enable this success are an obvious avenue for research to detangle.

A second point worth discussing is the argument in Paper D (Problem Solvers) that performance use improves organizational performance. As I only test this claim implicitly in a two-steps analysis, one might speculate that improvements are driven by other factors than the prioritizations of goals with low performance. Granted, this is a caveat to note; however, besides a substantial number of robustness checks, I believe the strongest argument against this concern is that performance primarily increases for goals with a low performance level (as shown in figure 5). This illustrates that it is not just goal prioritizations that improve performance but rather, principals' tendency to follow the signal in the information.

A third point is the mechanism that produces improvements found in Paper D (Problem Solvers). In the analysis, I do not offer any empirical insights on the process that leads a prioritization to increase performance. This a highly relevant point, especially in light of the studies that warn us to note whether improvements occur because of gaming (Jacob and Levitt 2003; Bevan and Hood) or goal displacement (Bothe and Meier 2002). In the performance management system under study, there is no recipe for what a strategy should entail. To exemplify, a strategy for improving parental satisfaction could be a newsletter, increasing the number of parent-teacher meetings, or by highlighting the importance of a good relationship with the parents. Principals describe their strategy in a development plan (which is a document outlining the overall strategy for the school), and superiors in the administration approve the plan. Thus, while it is not possible to create a measure of how many and what kind of resources are entailed in a prioritization, the accountability mechanisms should ensure that improvements come about through functional processes. In a broader perspective, the findings highlight the importance of understanding what kinds of changes managers initiate in problem solving. For instance, do they primarily choose to provide a goal with humane or financial resources as part of their solution? Such questions are important to address in future research, when putting the pieces of performance management together.

Fourth, one might note that I only study performance information use in relation to one specific type of decision-making, namely strategic management. Granted, in both the observation data and the survey-experiments, the

outcomes represent strategic decisions in some form. However, I would argue that the broad nature of the this form of management means that it entails many lower level managerial practices, for instance employee relations, financial management, communication, and planning and changing organization and structures.

Practical implications

As a final point, it is worth presenting the practical implications of the dissertation, all of which are ideas on how to improve the functioning of performance management systems.

The first is to think long-term, as there are no quick fixes in public organizations. The results clearly demonstrate that time and stability are two important prerequisites for successful performance management practices. As it is a challenging and difficult managerial task to change an organization's culture and means-end orientation, one might fear that managers do not begin adopting performance management reforms without sufficient financial incentives. However, the findings (from Paper C (Iron Cage)) illustrate that in a system without such incentives and with a relatively high degree of autonomy, managers gradually change their strategic focus towards outcome achievement. Along the same lines, a key finding is that organizational strategies need time to provide a performance payoff. Working with too narrow a time frame (less than a year) and with too frequent shifts in organizational priorities will most likely result in wasted resources. If performance strategies are to function, they need to be deployed with a medium- and long-term perspective. I believe both of these points are worth emphasizing in relation to a political environment that may demand new initiatives each year and grow impatient if a strategy does not yield a fast payoff. Such rapid changes are likely to undercut long-term thinking and strategies that need time to bear fruit.

The second practical implication is to think carefully about how to design a system that supports managerial use of performance information. A recurring finding in the dissertation is that contexts influence the processing of performance information. Two pitfalls are especially worth emphasizing. The first is burying managers in contextual information. While benchmarks, historical data points and political targets all provide relevant standards for comparisons, too many aspiration levels might hinder a manager's ability to identify and react to signals in the information. This point has a clear practical connection to the question of how to visualize and present performance data in a meaningful way. When connected to the finding that principals prioritize goals with the lowest (absolute) performance level, perhaps a simple ranking of outcome goals is sufficient to allow for purposeful use of the information. The

second pitfall is to trade learning experiences for accountability. The dissertation has shown that relational aspects influence how managers approach performance information. I believe this is an important point when considering how to design forums where the information enters as part of discussions and decisions. If these forums are created for pure accountability purposes, they risk being nothing more than battlegrounds for assigning blame.

So, what are the guidelines for creating functional (learning) forums? Aside from the points noted under limitations, I believe it is important that the forums strike a balance between outside involvement and managerial autonomy. The deliberation between stakeholders might help overcome some of the biases that have been shown in individual processing of performance information, while at the same time allowing managers to feel ownership of the process. However, in order to eliminate biases, the findings from Paper B (Blame Game) illustrate the importance of choosing the right stakeholders and creating an environment without too much focus on accountability.

The third practical implication might seem like a rather trivial point, namely to make the most of performance information. While the focus in this dissertation has been on how to create improvements based on performance failures, the framework also noted an alternative approach, namely to utilise successes for the purpose of further development in functional work areas. As the results from Paper A (Double Standards) illustrate that managers have a profound tendency to recognize historical (and political feedback), they point to a potential for using this kind of feedback for learning purposes.

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English summary

In the public sector, it is increasingly the norm to set outcome goals, measure organizational activities and results, and to summarize this (performance) information in reports. The hope is that public managers will use the information to create better results, in other words that it is used for performance management. However, research shows that managers are reluctant to use performance information in their practices and decisions, which means that performance management systems rarely improve the results (substantially) in public organizations. For this same reason, the debate on performance management has mostly focused on the ways to motivate managers to use the information. This has meant that the question of whether such use actually improves organizational performance is left unanswered.

The purpose of this dissertation is to examine this question. To do this, I contribute two perspectives to our understanding of how performance management function in the public sector. First, I present a model for how a process of purposeful use could unfold - from a manager receives a data-report to the organization has improved its practice and results. The underlying argument is that in a public sector where politicians and citizens focus on performance failures and errors, public managers will be motivated to use performance information to solve problems. This means that they identify areas of their organizations' work where the results indicate a failure and use this knowledge to initiate a process that aims at correcting problems and improving service. With the use of a series of strong research designs, I test this hypothesis and find support for it, although the results also illustrate the pitfalls that can occur in the process.

To illuminate these pitfalls is the second contribution of the dissertation. In addition to showing an example of functional performance management, I contribute to our understanding of this process by pointing out which factors determine whether a problem solving is a successful approach. First, two contextual relationships can reduce public managers' responsiveness to performance failures. One is if managers interpret the information in an environment with several standards for forming on opinion on whether a result is a success or failures. The other is political interaction. A finding from my studies is that managers who process performance information as preparation for a meeting with a politician are driven by a wish to avoid blame, which could lead them to evaluate performance information more positively. The last conditioning factor worth emphasizing is time and durability. The results from my studies show that it is a prerequisite for success that the managers think long-

term and give their decisions time to work when they initiate a strategy to solve the problems.

Dansk resumé

I den offentlige sektor er det blevet mere og mere almindelig praksis at fastlægge resultatmål, måle organisationers aktiviteter og resultater samt at sammenfatte denne præstationsinformation i rapporter. Håbet er, at informationen kan anvendes af offentlige ledere til at skabe bedre resultater - med andre ord, at den kan bruges til resultatbaseret ledelse. Der er imidlertid meget forskning, som viser, at offentlige ledere er tilbageholdende med at integrere præstationsinformation i deres praksis og beslutninger, hvilket også betyder, at resultatbaserede ledelsessystemer sjældent løfter resultaterne (substantielt) i offentlige organisationer. Af samme grund har en stor del af debatten om resultatbaseret ledelse handlet om at finde midler, som motiverer lederne til forholde sig til data. Dette har samtidig betydet, at det vigtige spørgsmål om denne anvendelse rent faktisk gør en forskel for organisationernes serviceniveau, er gledet i baggrunden.

Formålet med denne afhandling er at undersøge dette spørgsmål. I besvarelsen bidrager jeg med to perspektiver til vores forståelse af, hvordan resultatbaserede ledelsessystemer fungerer i den offentlige sektor. For det første præsenterer jeg en model for, hvordan en funktionel anvendelsesproces kan se ud - fra en leder modtager en rapport med data til organisationen har forbedret sin praksis og resultater i den anden ende. Det tværgående argument i modellen er, at i en offentlig sektor hvor politikere og borgere er særdeles opmærksomme på dårlige resultater og fejl, vil offentlige ledere være motiverede til at bruge præstationsinformation til at løse problemer. Dette vil, mere præcist, sige, at lederne identificerer områder af deres organisationers arbejde, hvor der er leveret et dårligt resultat, og bruger denne viden til at igangsætte en proces, der skal forbedre service. Ved hjælp af en række stærke forskningsdesigns tester jeg denne hypotese, og finder støtte til den, om end resultaterne fra mine studier også illustrerer de faldgruber, der kan opstå i processen.

At belyse disse komplikationer er samtidig det andet bidrag i afhandlingen. Udover at vise et eksempel på funktionel anvendelse af præstationsinformation, nuancerer jeg vores forståelse af denne proces ved at påpege, hvilke faktorer der betinger hvorvidt en problemløsningstilgang bliver succesfuld. Først og fremmest kan to kontekstuelle forhold mindske offentlige lederes anerkendelse af dårlige resultater. Det ene er, hvis informationen fortolkes i et miljø med flere forskellige kilder, der kan bruges som standard til at vurdere, hvorvidt et resultat er godt eller dårligt. Det andet er politisk interaktion. Et resultat fra mine studier er således, at ledere når fortolker præstationsinformation som forberedelse til et møde med en politiker, er de drevet af et ønske

om at undgå at blive tildelt skyld. Dette kan medføre, at de evaluerer præstationsinformation mere positivt. Den sidste betingelse, som er værd at fremhæve, er tid og ihærdighed. Resultaterne fra mine studier viser, at det er en forudsætning for succes, at lederne tænker langsigtet og giver deres beslutninger tid til at virke, når de igangsætter en strategi til at løse problemerne.