

Why Public Managers Use Performance Information

Concepts, Theory, and Empirical Analysis

by

Alexander Kroll

A Dissertation Submitted to the Faculty of Economic and Social Sciences

In Partial Fulfillment of the Requirements for the Degree of

Dr. rer. pol.

THE UNIVERSITY OF POTSDAM

Submitted to

Prof. Dr. Isabella Proeller

Prof. em. Dr. Christoph Reichard

2012

This work is licensed under a Creative Commons License:
Attribution - Noncommercial - Share Alike 3.0 Germany
To view a copy of this license visit
<http://creativecommons.org/licenses/by-nc-sa/3.0/de/>

Published online at the
Institutional Repository of the University of Potsdam:
URL <http://opus.kobv.de/ubp/volltexte/2012/5979/>
URN <urn:nbn:de:kobv:517-opus-59795>
<http://nbn-resolving.de/urn:nbn:de:kobv:517-opus-59795>

Table of Contents

List of Illustrations	II
Acknowledgements	III
Abstract	V
Zusammenfassung	VI
<i>Chapter 1:</i> Introduction	1
<i>Chapter 2:</i> Does the Public Manager Make the Difference? People- Related Explanations for the Use of Performance Information.....	18
<i>Chapter 3:</i> Explaining the Use of Performance Information by Public Managers: A Planned-Behavior Approach	45
<i>Chapter 4:</i> The Other Type of Performance Information: “Unsystematic” Feedback, Its Relevance and Use	68
<i>Chapter 5:</i> Conclusion.....	92
Appendix A: Selected Descriptive Statistics.....	104
Appendix B: Questionnaire (in German)	106
Bibliography.....	115

List of Illustrations

Figure 1-1: The Production Model of Performance	5
Figure 1-2: The PDSA Management Cycle	11
Figure 2-1: Kolb’s Learning Styles	30
Figure 3-1: A General Model of the Theory of Planned Behavior	50
Figure 3-2: A Modified Planned-Behavior Approach to Explain Performance Information (PI) Use	54
Figure 3-3: Results Structural Equation Model.....	62
Figure 5-1: Theoretical Models for Further Research.....	102
Table 2-1: Studies on Purposeful Performance Information Use	23
Table 2-2: A Systematic Overview of Explanation Factors.....	24
Table 2-3: Variables and Operationalizations	34
Table 2-4: Descriptive Statistics and Bivariate Correlations	38
Table 2-5: Regression Results of Performance Information Use Model	40
Table 3-1: CFA Factor Loadings and Correlations of the Latents.....	59
Table 4-1: Operationalization Independent Variables	81
Table 4-2: Factor Analysis of the Potential Sources of Performance Information	83
Table 4-3: Regular Use of Different Information Sources to Make Decisions.....	85
Table 4-4: Regular Use of Different Information Sources to Make Decisions (all items)	85
Table 4-5: Multivariate Test of the Relationship between Sources of Systematic and Unsystematic Information	86
Table 4-6: Regression Models of Information Sources and Their Determinants.....	88

Acknowledgements

This PhD dissertation is the result of the research I have been doing over the last three years at the University of Potsdam. I chose a paper-based (“cumulative”) format because this made it possible to answer my research question by defining sub-questions and using three different theoretical approaches. All three papers are unpublished but under review with SSCI-listed public management journals. They were presented at three conferences in 2011: IRSPM in Dublin, EGPA in Bucharest and the NPS Seminar in Edinburgh. I am the sole author of all the papers.

I want to thank all the people who supported me during the last three years with my PhD work. I would like to begin with Isabella Proeller who was not only my first supervisor but also my boss at the Chair of Public and Nonprofit Management. I was fortunate to work with her for many reasons. She always made time for discussions about my research and provided constructive and pragmatic comments and suggestions. It has been a pleasure to work at her Chair where she has created an open, amicable, and humorous environment. I also want to thank her for the encouragement to present my research findings at international conferences and to take part in the summer schools in Essex and Lugano. Chapter 2 was inspired by her belief that individual public managers can make a difference despite the powerful institutions that surround them.

Furthermore, I want to thank Christoph Reichard who was my second supervisor. He showed much interest in my research and encouraged me to deal with the issue of performance information use since the beginning of my PhD. I also owe thanks to my former and current colleagues. John Siegel provided helpful comments throughout the three years of my PhD research and a discussion with him together with my confusion about what performance information actually is established the basis for chapter 4. Dominik Vogel and Tobias Krause deserve much credit for commenting on different versions of my papers. I

thank Matthias Döring for helping me with the data collection. In connection with the international conferences I want to particularly thank Donald Moynihan, Jan van Helden, Henk ter Bogt, Irvine Lapsley, Tobias Polzer, and Nicole Kuchler-Stahn for their helpful comments on earlier drafts of my papers. I was also fortunate that the Bertelsmann Foundation and the KGSt supported the implementation of my survey.

Finally, I would like to thank my family. My parents always supported me in all imaginable ways. Furthermore, I owe a great debt to my wife, Aarti. She encouraged and supported me throughout the last years and also provided valuable and detailed comments on this manuscript.

Abstract

The dissertation examines the use of performance information by public managers. “Use” is conceptualized as purposeful utilization in order to steer, learn, and improve public services. The main research question is: Why do public managers use performance information?

To answer this question, I systematically review the existing literature, identify research gaps and introduce the approach of my dissertation. The first part deals with manager-related variables that might affect performance information use but which have thus far been disregarded. The second part models performance data use by applying a theory from social psychology which is based on the assumption that this management behavior is conscious and reasoned. The third part examines the extent to which explanations of performance information use vary if we include others sources of “unsystematic” feedback in our analysis.

The empirical results are based on survey data from 2011. I surveyed middle managers from eight selected divisions of all German cities with county status (n=954). To analyze the data, I used factor analysis, multiple regression analysis, and structural equation modeling.

My research resulted in four major findings: 1) The use of performance information can be modeled as a reasoned behavior which is determined by the attitude of the managers and of their immediate peers. 2) Regular users of performance data surprisingly are not generally inclined to analyze abstract data but rather prefer gathering information through personal interaction. 3) Managers who take on ownership of performance information at an early stage in the measurement process are also more likely to use this data when it is reported to them. 4) Performance reports are only one source of information among many. Public managers prefer verbal feedback from insiders and feedback from external stakeholders over systematic performance reports. The dissertation explains these findings using a deductive approach and discusses their implications for theory and practice.

Zusammenfassung

Diese Dissertation untersucht die Verwendung von Performance-Informationen („Kennzahlen“) durch Führungskräfte in der öffentlichen Verwaltung. Unter „Verwendung“ wird dabei die zweckorientierte Nutzung der Daten verstanden, um zu steuern, zu lernen und öffentliche Leistungen zu verbessern. Die zentrale Frage der Arbeit lautet: Wie können Unterschiede bei der Verwendung von Performance-Informationen erklärt werden?

Um diese Frage zu beantworten, wird die bereits existierende Literatur strukturiert ausgewertet. Forschungslücken werden aufgezeigt und eigene Ansätze vorgestellt, wie diese geschlossen werden können. Der erste Teil der Dissertation untersucht den Einfluss von Manager-bezogenen Faktoren auf die Nutzung von Performance-Daten, die bislang in der Forschung noch keine Berücksichtigung gefunden haben. Der zweite Abschnitt testet ein modifiziertes Modell aus der Psychologie, das auf der Annahme basiert, dass die Verwendung von Performance-Informationen ein bewusstes und durchdachtes Verhalten darstellt. Der dritte Teil untersucht, inwieweit sich die Erklärungen für die Nutzung von Performance-Informationen unterscheiden, wenn wir diese nicht nur als Kennzahlen definieren, sondern ebenfalls andere Quellen von „unsystematischem“ Feedback berücksichtigen.

Die empirischen Ergebnisse der Arbeit basieren auf einer Umfrage aus dem Jahr 2011. Im Rahmen dieses Surveys habe ich die mittleren Manager (Amtsleiter und Fachbereichsleiter) aus acht ausgewählten Bereichen aller kreisfreien Städte in Deutschland befragt (n=954). Zur Auswertung der Daten wurden die Verfahren Faktorenanalyse, Multiple Regressionsanalyse und Strukturgleichungsmodellierung eingesetzt.

Meine Forschung förderte unter anderem vier Erkenntnisse zu Tage, die durch ähnliche Befunde der verschiedenen Teile der Dissertation abgesichert sind: 1) Die Verwendung von Performance-Daten kann als bewusstes Verhalten von Führungskräften modelliert werden,

das durch deren Einstellung sowie durch die Einstellung ihres sozialen Umfeldes bestimmt wird. 2) Häufige Nutzer von Performance-Informationen zeigen überraschenderweise keine generelle Präferenz für das abstrakt-analytische Verarbeiten von Informationen. Stattdessen bevorzugen sie, Informationen durch persönliche Interaktionen aufzunehmen. 3) Manager, die sich früh im Rahmen der Ermittlung von Performance-Informationen engagieren, nutzen diese später auch häufiger, um Entscheidungen zu treffen. 4) Performance-Berichte sind nur eine Informationsquelle unter vielen. Verwaltungsmanager präferieren verbales Feedback von Insidern sowie das Feedback von wichtigen externen Stakeholdern gegenüber systematischen Performance-Daten. Die Dissertation erklärt diese Befunde theoretisch und verdeutlicht deren Implikationen für Theorie und Praxis.

Chapter 1: Introduction

This chapter introduces the main concepts I use in my dissertation. It begins by focusing on the non-use of performance information and explaining why this might be problematic. The chapter then develops a definition of *performance information* and its *use*. It distinguishes systematic performance data from unsystematic feedback and purposeful information utilization from other potential uses. Chapter 1 also sets out the approach of the dissertation – the research question, design, empirical field, and outline.

Performance Information: The Problem of Non-Use

Performance measurement practices have spread across the OECD world (Bouckaert and Halligan 2008; OECD 2009; Pollitt and Bouckaert 2004). In recent years, a growing number of initiatives to hold public administration accountable have been carried out in various countries across several level of governments (Bouckaert and Halligan 2008; Proeller 2007¹). These initiatives were strongly influenced by the concept of New Public Management (Osborne and Gaebler 1993; Schedler and Proeller 2010). The logic behind these reforms is that governments have to justify their expenditures by giving account of what has been achieved with it in order to ensure that tax money is spent efficiently and effectively. To do so, public administration entities have to collect information on the impact of their services and report it.

Measuring the performance of public services is an extensive task. Indicators have to be developed, data collected and analyzed, and the results to be reported to various recipients. In some cases, performance measurements might even create their own bureaucracy (Hood 2006; Radin 2006). Since measuring performance consumes resources and creates additional effort on part of the civil servants, practitioners and researchers have started to ask what happens to the data after it has been reported (Moynihan 2008; Van Dooren and Van den Walle 2008). Ideally, public managers are supposed to use this performance information² to make better informed decisions. The (perceived) absence of observations of managers who actually pay attention to this information has, however, raised the concern that the measurement process might not be worth its effort (Radin 2006). Not using the data means

¹ Though this study focuses on strategic management; it also provides a sound comparative overview of the performance management instruments that are used to determine target achievements.

² In this dissertation I use the terms performance information, performance data, and performance feedback interchangeably.

not closing the management cycle after setting goals, defining measures, collecting data and reporting it, which would make the management-for-results logic redundant.

There is some support for the hypothesis of non-use. Pollitt (2006) comes to the conclusion that performance information is seldom highly valued by politicians and citizens. The review, however, remains rather silent on the issue of managerial use. Similarly, ter Bogt (2004) found that Dutch aldermen care less about data from performance reports than about alternative information sources. Laegreid et al. (2006) examined the use of performance information by Norwegian ministries. They called the actual use of the data to reward or sanction badly or well performing agencies the “Achilles Heel” (p. 267) of the performance measurement. So, does this scattered evidence indicate that performance information use is the exception rather than the rule? Maybe. But there is also evidence in favor of data use.

Pollitt (2011) again, in a very recent article, makes the case that there is performance information that has even piqued the interest of non-experts. He refers to the World Bank’s World Governance Indicators, the OECD’s PISA data, and the WHO’s comparative measures of life expectancy, mortality and morbidity and argues that some of these indicators have turned out to be more usable than others. The same might be true for other national performance measures and rankings in the fields of education, social policy, or economy. For example, in the context of Germany the CHE university ranking, sustainable governance indicators, “Bildungsbericht”, or Bertelsmann Transformation Index have received a good deal of public attention. In the case of managerial data use, we could argue that if these measures were noticed and to a certain extent *used* by non-experts, then the responsible public managers would probably also make use of them.

This dissertation does not try to count the evidence for more or less use or non-use of performance information. Like other studies, which I will refer to later, it rather aims to explain why in some cases performance data is more regularly used than in others. Envisioning the potential problem of non-use is still important as it reveals that the mere

existence of data does not automatically lead to its use. Also, there is a real threat that performance management reforms will fail if data production remains as an end in itself (Moynihan 2008; Van Dooren 2008). It is therefore highly important to study factors that foster and constrain performance information use. Understanding this final phase of the performance management cycle is essential to minimize reform failures and formulate realistic expectations for reform outcomes.

Conceptualizing Performance Information Use

The following sections will elaborate on defining the terms *performance information* and *data use*.

Types of Performance Information

It is surprising that even an edited book that is devoted to the study of performance information use (Van Dooren and Van de Walle 2008) does not provide an explicit definition of what performance information is. However, in recent years a handful of books on the concepts of performance and performance management have been published. Instead of listing all possible understandings of the term “performance information”, I will extract what the books definitions’ have in common and thereby synthesize the definition that I will use in this dissertation.

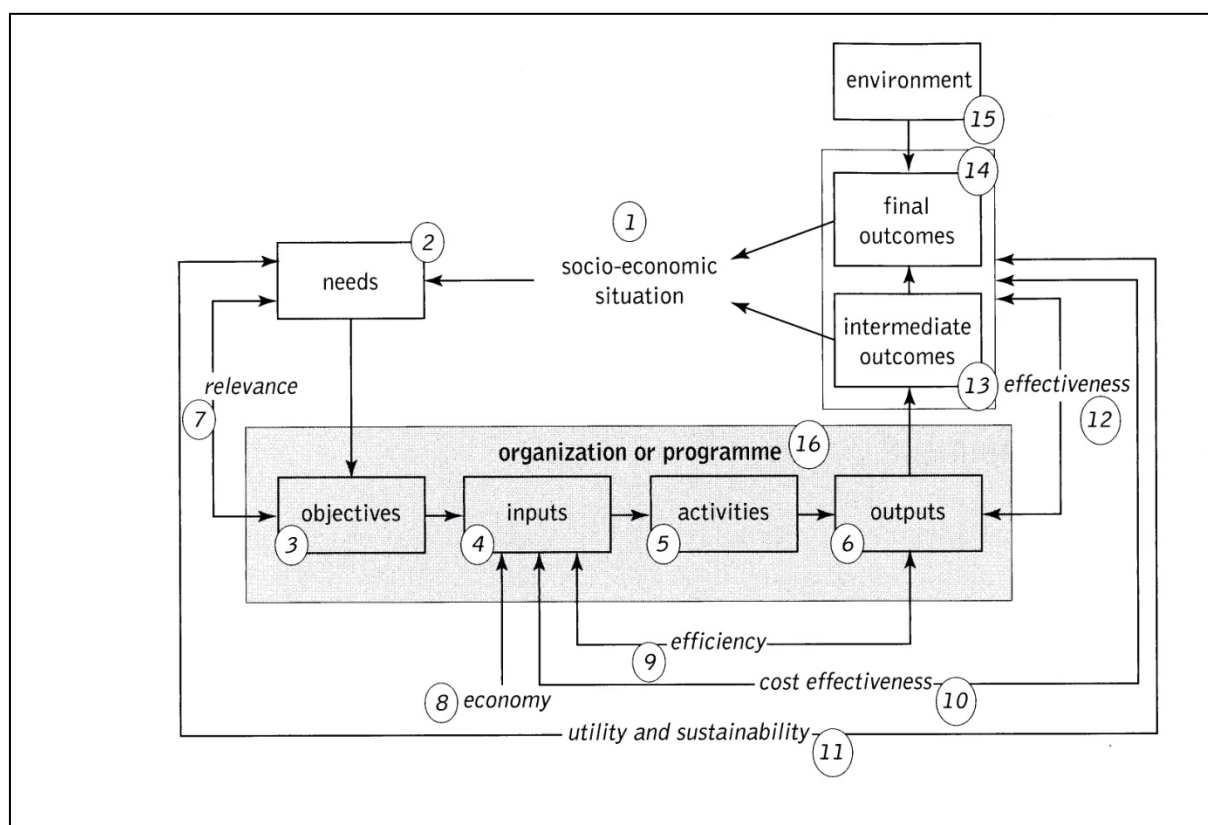
Studying the books by Bouckaert and Halligan (2008); de Lancer Julnes et al. (2007), Hatry (2006); Moynihan (2008); Talbot (2010); Van Dooren, Bouckaert, and Halligan (2010); Van Dooren and Van de Walle (2008) directed my attention to two basic features that seem to appear in most conceptualizations of performance information. This data is supposed to...

- 1) capture dimensions beyond simple inputs, and it is

2) collected and reported in a systematic way.³

The **first part** of this definition indicates that performance information is about more than simply the resources that have been spent (traditional budget information). Instead, the performance of public services is mainly regarded as being dependent on the results that have been achieved. Performance information therefore also tackles dimensions like outputs and outcomes as well as the efficiency (a ratio of outputs and inputs) and effectiveness (a ratio of outcomes and outputs). All these terms are explained more in detail in the books cited above. Figure 1-1 taken from Van Dooren, Bouckaert, and Halligan (2010) provides a comprehensive overview of potential performance dimensions.

Figure 1-1: The Production Model of Performance



Source: Van Dooren, Bouckaert, and Halligan (2010, 18)

³ All cited books agree that performance information is about more than just input data. In terms of its systematic collection and reporting, though the books have used different formulations, they have a similar focus: Van Dooren, Bouckaert, and Halligan (2010, 6) state, for example, that “measuring performance means systematically collecting data”. Hatry (2006, 6) concludes that “regular tracking is a key characteristic of performance measurement.” De Lancer Julnes et al. (2007, xi) define that “an essential component of performance management is performance measurement, the regular and careful monitoring of program implementation and outcomes”.

The **second part** of the definition focuses on how performance information is collected and reported. It is based on a rational, technocratic, almost scientific understanding, and the assumptions that are (sometimes quite implicitly) made in the listed books can be summed up as follows. Performance information is...

- measured against ex-ante indicators,
- regularly collected and self-produced by the public service,
- reported in a quantitative, aggregated form and in a printed manner.

The first assumption emphasizes that performance data is not something collected on an ad-hoc basis. In order to be collected at point P_t , someone had to make that choice at P_{t-1} . In accordance with the logic of performance measurement, this choice had to be based on a set target and the formulation of an indicator to measure its achievement. The second assumption addresses two characteristics simultaneously. First, performance information is produced by civil servants. This should not exclude settings where contractors report data to the public service but rather highlight that public administration is very involved in the measurement process.⁴ Second, performance information is regularly collected. Again, it is not ad-hoc information but time-series data that provides clues about trends and outliers. The third assumption refers to the quantitative format of performance information. Though there might also be qualitative data that is consistent with the other two assumptions, these cases are the exception not the rule (examples can be found in the books cited above). A final characteristic of performance information is that it is printed in reports or appears in a written manner in data bases.

After defining performance information quite explicitly and narrowly, we might want to think about which information this excludes. All verbal feedback is not regarded as

⁴ Performance data is internal information and not bought from external sources (like, for example, evaluation reports).

performance information. In-depth evaluation reports are also not included as they are usually not regularly produced and contain a good deal of qualitative information. Raw statistical data from external sources is excluded as long as this was not measured against ex-ante defined indicators and on a regular basis.

This section introduced my definition of performance information that is in line with previous research. I provided examples of what is not considered performance data which raises the concern that this definition is incomplete as it excludes important sources of feedback. I will elaborate on this point in Chapter 4. That chapter examines the use of both types of performance information: systematic (which is consistent with the presented definition) and unsystematic (ad-hoc, qualitative, or verbal feedback).

Multiple Data Uses

To get an idea what the utilization of performance information means, we could start by listing all possible uses. Van Dooren, Bouckaert, and Halligan (2010) present a list of 44 potential uses but admit that there is some overlap between the suggested functions. Behn (2003) proposes eight uses of performance information: evaluating, controlling, budgeting, motivating, promoting, celebrating, learning, and improving. Some of these functions seem rather unconventional. “Promoting”, for example, refers to the use of performance information by the agents (not the principals) for the purpose of communicating to their stakeholders that they do a good job or at least are trying their best. Behn’s eight uses are still not free from overlap, particularly since “improving” is considered as a meta-use which is an underlying aim for all the other ones.

A good categorization should be parsimonious and at the same able to classify many empirical observations. Moynihan (2009) suggests the “4 P” which seem to do a good job in this respect. *Purposeful* use refers to the original, normative idea behind performance measurement – to improve services by better informed decisions, goal-based learning, or

sanctioning and rewarding. Many of Behn's functions would fall into this category. *Passive* use focuses on compliance behavior rather than the active use for improvement. If managers only report their performance without conclusions within their own zone of discretion, then they will belong to this category. *Political* use means to tactically utilize performance data in turf wars or budget negotiations in order to receive more resources. Performance information here becomes ammunition for political arguments and its interpretation is controversial and role-induced. The political type of use of performance data emphasizes its subjective interpretation and could be well described by an aphorism that became known as Mile's law: "Where I stand depends on where I sit." *Perverse* use captures all types of dysfunctional data use, such as gaming, cheating, and cherry-picking. This kind of behavior is more likely to appear if target achievement is tightly coupled to resource allocation or rewards and sanctions.

Van Dooren, Bouckaert, and Halligan (2010) refer to the following three use of performance information: 1) learning, 2) steering and controlling, and 3) giving account. The first two would fall in Moynihan's purposeful category, whereas the third one seems similar to what he labeled passive use. According to Van Dooren and colleagues, *learning* is mostly concerned with future improvements, *steering and controlling* with keeping track of present activities, and *giving account* with the ex post communication to external stakeholders.

In this dissertation, I will mostly deal with performance information use that is "purposeful" (Moynihan 2009) and concerned with "learning" and "steering/controlling" (Van Dooren, Bouckaert, and Halligan 2010). Thereby, I am following the understanding of other empirical studies on performance information use which aimed to identify factors fostering and constraining purposeful management activities (see table 2–1 in chapter 2). Explaining political (Moynihan 2008), dysfunctional (Bevan and Hood 2006; Kelman and

Friedman 2009), or merely passive (Gill 2011) uses of performance data is not the focus of the dissertation.

The Approach of this Dissertation

The last section of the introduction will explain the approach of this dissertation. I will derive my research question, justify my research design, introduce the empirical field, and present the outline of this document.

Research Question

It has been proposed that studying why decision-makers use of performance information is “the big question for performance management” (see Moynihan and Pandey 2010). Van Dooren (2008) argues that we have to study the use of performance information if we want to understand the failure or success of performance movements. Its use by public managers is particularly crucial because their decisions can directly affect the efficiency, outputs, and quality of public services and policy programs. There is a vast literature on how managers can affect the performance of their organizations (for references and explanations see O’Toole and Meier 2008). Meier and O’Toole (2009) estimated that the effect of managers on the outcome performance of U.S. school districts can be up to 20%. Taking performance data into account can boost the managers’ effect on organizational performance. This is because their decisions, such as how to allocate resources, achieve goals and reward employees, will be based on an improved basis of information (de Lancer Julnes et al. 2007; Hatry 2006; Van Dooren, Bouckaert, and Halligan 2010).

Though the research field of performance information use is still young, there are studies which have already examined explanations and impact factors. Chapter 2 provides a list of 20 published articles that have empirically studied the use of performance information by public managers, however, in spite of these studies, we do not know as much as we would

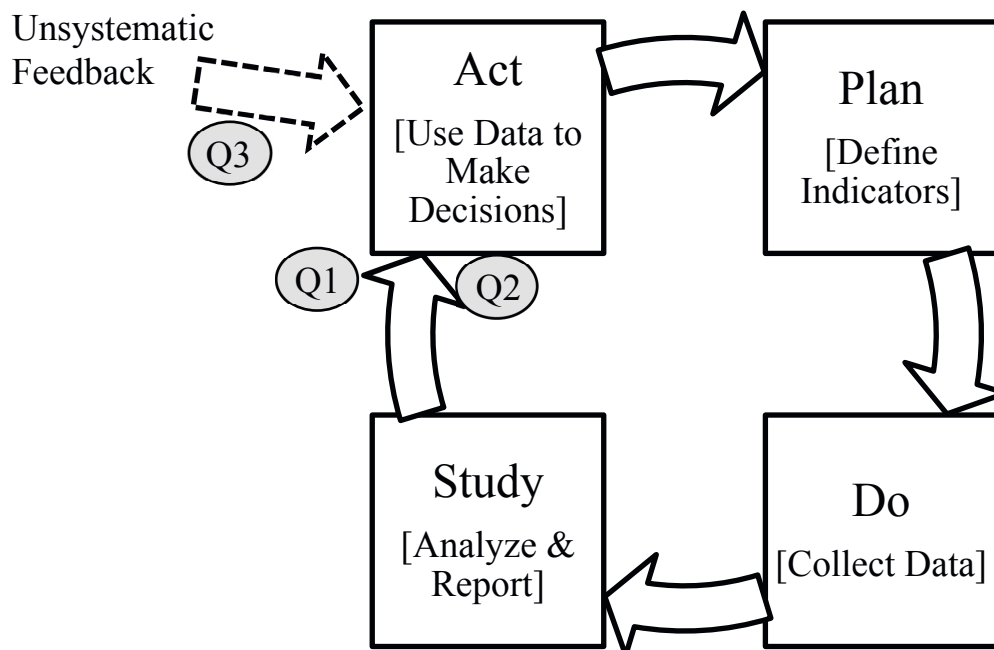
like to (Moynihan and Pandey 2010; Van Dooren and Van de Walle 2008). To highlight important research gaps, I will refer to a typical management cycle, such as the one by Deming (1994, see figure 1-2).⁵ This cycle indicates that performance measurement happens according to a rational-synoptic logic where planning, doing, and studying lead to the production of systematic performance information that allows managers to compare plans to actual achievements. Once managers are confronted with this data, it is assumed that they take action based on their reading of the performance reports.

A good deal of research has been devoted to the first three phases of the performance management cycle. Drawing on the findings from the private sector, public management textbooks focused on issues like the formulation of goals, the collection of data, and its analysis and reporting (see e.g. de Lancer et al. 2007; Hatry 2006, Van Dooren, Bouckaert, and Halligan 2011). However, we still know relatively little about how performance data is used to make decisions. This dissertation is concerned with that “final” stage of the performance management cycle. The first two research questions (Q) focus on human explanation factors behind the use of performance data. Q1: Which personal characteristics of managers foster the use of performance information? Q2: What is the psychology behind performance information use? Both questions are located in figure 1-2. Though the third question is also directed towards the use of performance data, figure 1-2 illustrates that it is based on a different approach (see Q3). This approach does not only focus on performance information that is systematically produced within the PDSA cycle but also looks at the use of alternative types of unsystematic feedback. Question three therefore is: Do explanations of performance information use vary if we distinguish between different types of feedback? The

⁵ The different performance management functions that can be found in parentheses were added by the author as well as “Unsystematic Feedback” arrow.

lead question of this dissertation that incorporates the three sub-questions is: *Why do public managers use performance information?*⁶

Figure 1-2: The PDSA Management Cycle



Source: Adapted from Deming (1994, 132)

Quantitative Design

To answer the main research question, I chose a quantitative design. The reason for this was that there is already a reasonable body of literature that I could use to deduce hypotheses. In order to test them, a quantitative approach seems to be promising as it allows one to test for random and significant effects and can thus offer quite accurate generalizations. Though it is also possible to use in-depth, qualitative case studies to test theories (Ragin 2004; Yin 2010), such an approach often requires case screening and the systematic selection of “intervention” and “control” cases which might eventually become jeopardized by the realities of case

⁶ The “why” does not refer to the rationales behind the use of performance data but to the explanations behind potential impact factors.

access. Having said this, I must acknowledge that this dissertation is potentially prone to the caveats that come with the implementation of large-N research. These will be addressed in every chapter and summarized in chapter 5.

Another reason why a quantitative approach was considered desirable is the measurability of the main variable. In other words, survey items do not seem to be inferior to other methods of data collection. Performance information use cannot be directly observed. Even using a small-N case design, we are at the most able to observe how managers read performance reports but not how they actually incorporate the data into decision-making – because this is a mental, cognitive process. Therefore, even “thick data” approaches have to rely on the managers’ self-assessments and -reflections in interviews (for examples see Ammons and Rivenbark 2008; Moynihan 2008). It is definitely an advantage of in-depth interviews to be able to ask for examples and to relate the concept of performance information use to the idiosyncratic context of every interviewee. Hence, the question for large-N approaches is if a handful of abstract, general survey items is able to capture the purposeful use of performance data by public managers in different contexts.

There are a few arguments in favor of abstract survey items. Some quantitative studies tried to measure many different purposeful uses of different types of performance information and were therefore very specific (e.g. de Lancer Julnes and Holzer 2001; Moynihan, Pandey, and Wright forthcoming⁷). These articles came to the same empirically based conclusion: The different items load on one single factor, which is why purposeful data use can be treated as a single concept. There are two explanations for this observation. First of all, managers who use performance data for certain functions also use it for others. Hence, there are no differences

⁷ There are many more articles which treated performance information use as a single factor. However, the two articles I cited used factor analysis to validate their choice and are therefore stronger proofs for my claim. Other studies based their choice only on Cronbach’s alpha reliabilities which are less convincing because these are biased towards the numbers of used items.

due to functions. Secondly, when filling out surveys, public managers are not cognitively able to differentiate between different uses described by very specific items. In either case the conclusion is that there is no point for using very specific, extensive item batteries to measure performance information use. A handful of abstract items seems to be equally good.⁸

All empirical results in this dissertation are based on a survey I conducted between December 2010 and March 2011. It was addressed to the middle managers from eight selected divisions of all German cities with county status (including the districts of the city states Berlin, Bremen, and Hamburg). I chose cities with county status because they fulfill similar functions which make the performance information use by their middle managers better comparable. At the same time, they provide a good deal of variation in terms of structural and organizational explanation factors. The districts of the city states were included in the sample in order to also consider the developments in Berlin, Bremen and Hamburg. On the whole, the sample turned out to represent the overall population of interest quite well as both do not differ in important characteristics.⁹

The middle managers were asked about *their use* of performance information, not about their perceptions of the overall use in their cities. Since the subsequent chapters will explain the rationales behind my survey design and the properties of my sample, I will refrain from doing so here. Some of the descriptive results which will not be discussed in the following chapters are the focus of the next section. An overview of some descriptive statistics is also provided in appendix A.

⁸ Though the cited studies showed that abstract short scales for performance information use are able to capture the same behavior like very specific item batteries, there is no study that systematically validated a short scale by a large number of in-depth interviews. It would be highly interesting to know if these interviews came to the same conclusions like the quick self-assessments in a survey.

⁹ For example, larger cities (> 400,000 inhabitants) and all surveyed divisions are adequately represented in the sample. Statistical tests showed that the percentage of large cities within the sample is not significantly different from the percentage in the overall population ($p > 0.05$). Also, seven out of eight divisions are neither significantly over- nor under-represented. Further correlational analysis revealed that the respondents from the one overrepresented division did not differently evaluate their use of performance information than all the other respondents ($p > 0.05$).

The Empirical Field: Local Government in Germany

To study performance management practices in Germany, the local level seems to be the most promising empirical field. Compared to the state and federal level, the municipalities and cities have adopted performance measurement reforms more seriously (Bouckaert and Halligan 2008; Proeller and Siegel 2009; Reichard 2003) and already possess more than a decade of experience with the respective instruments (Bogumil et al. 2007).

If we compare the adoption of performance measurement in Germany with the Anglo-American countries, we still have to consider the German local authorities as latecomers. On the local level, performance measurement can be characterized by the terms bottom-up, voluntary, and bureaucratic (Kuhlmann 2010). This means that sanctions and rewards are only loosely coupled to good or bad performance and even in cases where measurement has become obligatory, the authorities and particularly their middle managers still have a good deal of discretion to decide what to measure and what to report. According to Kuhlmann (2010) many local authorities, including small municipalities, have adopted at least single elements of a performance measurement, such as costs and activity accounting (46%); internal indicator-based reporting (22%), or benchmarking (60%). Often, these instruments were adopted to achieve savings or efficiency gains rather than to improve quality or outcomes (Reichard 2010). Though the local level has developed a stronger orientation towards performance and results, the dominant steering mode is still maintained by “Weberian” traditions, a strong hierarchy and legal programming (Kuhlmann, Bogumil, and Grohs 2008).

Aside from this macro-perspective it might be interesting to examine how middle managers in cities with county status make use of their discretion zone when it comes to performance management. To shed light on this issue, I will give a brief overview of some of the descriptive findings of my survey that will be published in Kroll and Proeller (forthcoming).

Without considering traditional financial data, a ranking of performance information, based on the amount of collected data appears as follows: 1) output, 2) process, 3) efficiency, 4) quality, 5) outcome. This implies that information which is easy to measure dominates other data. This finding is in line with studies from frontrunner countries like the United States (Frederickson and Frederickson 2006; GAO 2008¹⁰). The reporting of performance information in German cities seems to vary. A vast majority of all city divisions regularly reports data in a written manner and a time series format. This information also shows up in the budgets and in intra-administrative reports for periods of less than a year. However, less than 30% have a quality check for performance data in place and less than 20% relate the data to their strategic plans if these are even existent. Though performance measurement is, as I have shown, heterogeneous and disaggregated, middle managers have on average a positive attitude towards this kind of data. More than 70%¹¹ stated that they believe the collection of performance information is important and that the use of this data has not yet tapped its potential (Kroll and Proeller forthcoming).

Outline

I have divided my research findings into three chapters. Each of these chapters has a different focus, follows a different approach and has the structure and length of a journal article.

Chapter 2 begins with a systematic literature review which identifies 20 studies that all deal with the purposeful use of performance information by public managers. The review shows that there are some impact factors which we can be more certain about than others. Though former studies have tested the influence of environmental, organization, and

¹⁰ The GAO (2008) reported a similar ranking for the U.S. federal government except that outcome measures have climbed up to rank number two between 1997 and 2007.

¹¹ All the responses for the categories of the right hand side (agreement with the statement) of the middle category were added up.

individual variables, the review concludes that we know surprisingly little about the personal characteristics of managers who reported a regular use of performance information. Thus far, mostly socio-demographic variables have been examined, and the results are largely inconclusive. Chapter 2 proceeds by testing new manager-related factors that go beyond age, education, and gender. It theorizes concepts from middle-range theories which have been neglected in the performance management literature. The effect of these concepts will be empirically tested using regression analysis, and the impact of the results will be discussed.

Chapter 3 approaches the phenomenon of performance information use from a social psychological perspective. It considers this management behavior to be like any other human behavior and suggests applying theories from psychology to explain it. This chapter tests Ajzen's (1991, 2005) Theory of Planned Behavior which emphasizes the importance of factors like attitude, social norm, and perceived behavioral control. The theory is based on the assumption that behavior is not only automatic and habitual or the consequence of operant conditioning. Instead, performance information use is modeled as a function of the managers' beliefs and treated as a reasoned action. The theory is supplemented by the hypothesis that managers who firmly intend to use performance information also engage in the improvement of the data quality which in turn positively affects their information use. To test the theory, I use a structural equation model.

Chapter 4 deviates from how I defined performance data in this introduction. It introduces another important type of performance information – unsystematic feedback. This chapter reviews literature on concepts like trust, informal control, interdependences, and legitimacy and argues that there are at least two crucial sources of unsystematic performance information: organizational insiders and important external stakeholders. The chapter also hypothesizes that managers in organizations with different administrative cultures prefer to use different types of performance information. Chapter 4 uses principal component factoring

to test whether there is empirical evidence for a conceptualization of performance information that clearly distinguishes systematic performance data from other types like unsystematic insider or outsider information. Furthermore, regression analysis is used to examine whether different sources of performance information require different impact factors to trigger their use.

Though every chapter has its own focus, this cumulative dissertation is more than the sum of its parts. Therefore, chapter 5 discusses the three papers in comparison. The idea is not to summarize every paper but to identify key issues and to cross-analyze the findings of the chapters. Chapter 5 also includes the limitations of this dissertation as well as suggestions for further research.

Chapter 2: Does the Public Manager Make the Difference? People-Related Explanations for the Use of Performance Information

This chapter examines the use of performance information by public managers. It begins with a systematic review of the literature which concludes that we know relatively little about the individual characteristics of managers who have reported a frequent use of this data. Studies that have focused on people-related explanations have mostly tested socio-demographic variables but have only found inconclusive evidence. This chapter suggests theorizing more complex individual explanations. Drawing from other fields' middle-range theories, the chapter speculates about the effects of thus far disregarded manager-related factors. An empirical test based on survey data from German cities has revealed the following preliminary findings: Performance information use can be well explained by a high level of data ownership, creative cognitive learning preferences, and the absence of cynicism. Identity, public service motivation, and emotional intelligence were found to be insignificant along with the managers' socio-demographic characteristics.

Introduction

In 1995, Robert Behn put forward three “big questions of public management” in an article that has been frequently cited since then. One of the questions was concerned with the performance management of public organizations. Behn pointed out that it is highly important to understand how to measure performance and how to use performance data to improve public achievements. Today, sixteen years later, there are several books dealing with the concept of public performance and related measurement issues (Bouckaert and Halligan 2008, de Lancer Julnes et al. 2007; Hatry 2006; Talbot 2010; Van Dooren, Bouckaert, and Halligan 2010), but we still seem to know relatively little about the actual use of performance information (Moynihan 2008; Van Dooren and Van de Walle 2008). Elaborating on Behn’s article, Moynihan and Pandey (2010) posed what they have called the big question for *performance* management: “Why do managers use performance information?” If data on efficiency, effectiveness, or quality of public services is merely collected and reported, performance measurement becomes an end in itself. It is only worth collecting this information if it is used during the process of decision-making. Thus, it is highly important to understand information use and to identify variables that foster or constrain it.

This chapter is devoted to the question raised by Moynihan and Pandey. It will examine the final stage of the performance management cycle – the purposeful use of the data by public managers. Though our knowledge of the use of performance information is scarce, there have been studies within the past few years that have provided us with useful clues. This chapter will systematically analyze the existing research. The goal of this analysis is to provide a solid overview of the relevance of factors that might explain performance information use. It will present the number of positive, negative, and insignificant findings regarding every impact factor and thereby help to assess their relative explanatory importance. This review will show that we

know relatively little about manager-related explanation factors. Thus far, mostly socio-demographic variables have been tested in search of explanations on the individual level of the information user but, overall, have turned out to be of little relevance or shown inconclusive results. This chapter will therefore suggest moving beyond such factors and theorizing more complex explanations. In an explorative manner I will draw from middle-range theories from other fields and propose a first set of manager-related concepts that go beyond age, gender, or education. The theory section will remain speculative about the effects on the use of performance information because there has not yet been much research on most of the individual factors in this respect. The theory will be followed by the description of the data and methods I used to test the preliminary hypotheses as well as the limitations of this study. Following this, I will present and discuss the results from a regression analysis. The chapter ends with its conclusions and points to directions for further research.

What we know so far: A Systematic Review of the Literature

Most literature reviews on factors influencing performance information use have been conducted in a narrative manner (Moynihan and Pandey 2010; Taylor 2011; Yang and Hsieh 2006). A problem of narrative reviews is that they might (unintentionally) overestimate significant findings. Since published articles, the basis for a literature review, are biased towards the presentation of significant findings themselves (Rosenthal 1979; Sutton 2009), reviewers will read more pages about the validation of hypotheses than about their rejections or other insignificant observations (especially if they select their articles based on the independent variables). A systematic review aims to balance this bias to at least some extent. Studies are selected based on their similar definition of the dependent variable, and all positive, negative, and insignificant effects on this variable are equally documented. This is done by also taking into

account the findings for control variables which usually receive little attention but are highly informative since one study's control might be another's variable of main interest.¹² Afterwards, a simple "vote count" (comparing the number of positive, negative, and insignificant "votes") can be used to assess the relative explanatory significance of every potential influence factor (Cooper 2010; for another application of this method see Boyne and Walker 2010).¹³

To identify all relevant empirical articles, all Public Management and Public Administration journals accessible through the data bases *WEB OF KNOWLEDGE*, *JSTOR*, and *EBSCOhost* were searched. In addition to peer-reviewed published articles, papers that were referenced on the website of the *Performance Information Project*¹⁴ and already accepted for publication in a *SSCI*-listed journal were also considered. To be included in the sample, the articles had to follow a definition of performance information use that Moynihan (2009) has labeled "purposeful". In line with this definition, Van Dooren, Bouckaert, and Halligan (2010) developed the sub-categories steering and control, learning, and giving account as purposeful uses of performance data. As different studies can use different empirical indicators to measure the same underlying construct, I had to make coding decisions. For example, to measure innovative culture as an independent variable, Moynihan and Pandey (2010), Moynihan, Pandey, and Wright (2011), and Taylor (2011) used Zammuto and Krakower's scale. De Lancer Julnes and Holzer (2001, 706) used different items but similarly described them as "measures of

¹² Though a systematic review cannot solve the "file drawer" problem (studies reporting insignificant results are less likely to ever get published), it aims to balance the predominance and overemphasis of validated results within published articles by systematically including also insignificant findings as well as the results for control variables.

¹³ A systematic review or "vote count analysis" is different from a statistical meta-analysis. The latter does not compare the number of positive, negative and insignificant findings but estimates average effect sizes of the variables weighted by their sample sizes. A meta-analysis is mainly applicable if the studies of interest have reached a high quantity, if they report standardized correlational information for all used variables, and if they have applied similar research designs (Cooper 2010; Lipsey and Wilson 2001). The following paragraphs in this section will show that these requirements are not fulfilled by the studies under investigation.

¹⁴ <http://www.lafollette.wisc.edu/publicservice/performance/index.html> (retrieved on October 10, 2011)

organizational culture and its openness to change”. Johansson and Siverbo (2009, 208) labeled their variable “change routines” but their items point in the same direction as the indicators of the other studies: “(1) opportunities to experiment and trial-and-error, testing; (2) the acceptance of protest and disagreement; (3) openness to novelty; and (4) curiosity.” Case studies were also included (like Moynihan 2005, 212, who examined “a culture of openness and experimentation”). The case studies’ results were not evaluated in terms of their significance but just considered as a simple positive or negative count. The empirical observations of all these studies have been interpreted as clues about the same latent construct – an innovative culture – and its effect on performance information use.

Applying this method of analysis, 20¹⁵ studies of interest were identified (they are all listed in table 2–1). Most of what we know about the use of performance information has been observed in the United States (13 studies, 70%). Three Studies are based on data from Norway, two from Australia, one from Wales, and one from Taiwan. The majority of the articles (13) studied the local level, seven articles focused on the state and only one on the federal level.¹⁶ The mean R^2 of the models predicting performance information use is 43%.¹⁷ This indicates that the studies were on average able to explain a good deal of the observed variation and that the factors tested thus far had reasonable effect sizes. Only eight articles reported standardized correlational

¹⁵ In a first step, 23 studies were selected. Due to the missing disclosure of all used operationalization or the use of rather idiosyncratic explanation factors, in a second step three studies were excluded from the sample. In order to avoid an overrepresentation of singular data sets, only one regression model per publication (if various had been presented) were included in the review. I always selected the model that took the most control variables into account and where the dependent variable came the closest to my presented understanding of purposeful information use (see table 2–1).

¹⁶ One article had a mixed data set.

¹⁷ Since some studies only reported either the R^2 or the Adjusted R^2 , my estimation took both indicators into account. In cases where both measures were reported, their mean was used.

information on all the variables that were used which makes further statistical meta-analysis of the variables' effect sizes not feasible.

Table 2-1: Studies on Purposeful Performance Information Use

Study by...	Regression Model
Ammons and Rivenbark (2008)	<i>Case Study</i>
Askim, Johnsen, and Christophersen (2008)	“Solution Model”
Berman and Wang (2000)	
Bourdeaux and Chikoto (2008)	“Extent of Use Model 2”
Boyne et al. (2004)	
De Lancer Julnes and Holzer (2001)	“Including Adoption Model”
Dull (2008)	“Outcome 2000 Model”
Folz, Abdelrazek, and Chung (2009)	
Ho (2006)	“Second-Stage Model”
Johansson and Siverbo (2009)	“OLS Model”
Melkers and Willoughby (2005)	“Lasting Effects Model”
Moynihan (2005)	<i>Case Study</i>
Moynihan and Ingraham (2004)	“Agency Model”
Moynihan and Landuyt (2009)	
Moynihan and Pandey (2010)	
Moynihan, Pandey, and Wright (2011)	
Moynihan, Pandey, and Wright (forthcoming)	
Taylor (2009)	“Internal Use Correlates”
Taylor (2011)	“Combined Model”
Yang and Hsieh (2006)	

Table 2–2 shows the results of the vote-count analysis. The table only includes factors that have been tested by at least two studies. All factors have been categorized as environmental, organizational, or individual. Additionally, the organizational variables have been grouped as related or unrelated to performance management. Within the categories the factors are ranked based on the number of times they were tested. The following paragraphs will focus on the description of only the clear-cut findings¹⁸ of table 2–2.

¹⁸ I consider a “vote count” as clear-cut if a variable has been tested at least three times, two out of the three studies reported the same significant effect, and the third study did not entirely contradict the findings from the other ones. The results are regarded as even more definite; the more often a factor has been tested and has shown the same effect over and over again.

Table 2-2: A Systematic Overview of Explanation Factors

Factor	# Tests	Negative Effect		Not significant	Positive Effect	
		p<.05	p<.10		p<.10	p<.05
Environmental						
Stakeholder Involvement	12	0	0	4	1	7
Political Competition	4	0	0	2	1	1
General Political Support	2	0	0	0	0	2
Political (Mis-)Use Risk	2	0	0	2	0	0
Organizational						
<i>PM-related</i>						
Measurement System Maturity	15	0	0	3	1	11
Leadership Support	6	1	0	1	0	4
Support Capacity	5	0	0	2	0	3
Data Quality / Usability	3	0	0	1	1	1
Employee Involvement	3	0	1	0	0	2
Information Availability	2	0	0	0	1	1
<i>PM-unrelated</i>						
Organization Size	8	0	0	6	1	1
Innovative Culture	7	0	0	2	2	3
Goal Orientation / Clarity	4	0	0	1	0	3
Financial Distress	3	1	0	2	0	0
Learning Forums	2	0	0	0	1	1
Flexibility	2	0	0	1	0	1
% Unionized	2	0	2	0	0	0
Individual						
Familiarity with Perf. Measures	6	0	0	3	1	2
Job Experience	6	1	0	5	0	0
Upper-Level Position	5	1	0	2	0	2
Gender (female)	4	0	0	2	0	2
Higher Educational Level	3	1	0	2	0	0
Attitude towards Perf. Mngmt.	3	0	0	0	1	2
Age	2	0	0	1	0	1

The involvement of external stakeholders in performance measurement is a highly relevant external driving force behind the internal use of performance information by public managers. Out of 12 studies, eight reported a significant positive effect whereas four did not find definite results. The effect of a politically competitive environment is much more uncertain. Only two out of four studies reported a positive relationship whereas the others found no significant impact. Interestingly, no study provided support for a relevant negative effect in this respect. If a conflict-laden environment makes a difference, it seems to foster data use rather than to constrain it.

Within the group of the organizational variables, which are directly related to performance management, the measurement system's maturity¹⁹ has shown a significant positive effect in 12 out of 15 studies. Since there were enough studies that tested and reported the effect sizes of system maturity and external stakeholder involvement, it is even possible to compare their mean correlations with performance data use (Pearson's r). It turns out that on average system maturity (0.47) has a more powerful effect than stakeholder involvement (0.23). Leadership support for performance measurement has a greater impact than the support capacity (resources for the reporting and analysis of the data) within the organization. The findings for data quality point towards a positive relation. With regard to the organizational factors that are performance management unrelated, there is definite evidence that organizational size does not matter and (less definite) support for a similar effect of the organization's general financial situation. An innovative administrative culture and a focus on goals appear to have a relevant positive influence. Most of the individual factors remain inconclusive (position, gender, age, familiarity with performance measures) or are not significant (job experience, educational level). Aside from singular positive effects of the managers' attitude towards performance data, we know very little about the broader characteristics of the average performance information user.

The literature review showed that we can be more certain about the effects of some factors than of others. Particularly when it comes to explanations on the individual level of the managers, there seems to be a lack of well supported impact factors. This chapter therefore aims to improve our understanding of the effect of the managers' characteristics on their performance information use. In an explorative manner, it will suggest taking into account manager-related concepts that

¹⁹ More mature measurement systems provide a greater range of information; align their reporting to the demands of the addressees, and link information to goals and strategic plans. Though I coded information availability as a sub-item of "measurement system maturity", two studies treated both variables as conceptually different and tested both factors. Hence, "information availability" appears as a separate variable in table 2-2.

have thus far been largely disregarded and offer an initial empirical test. Research that moves in a new direction is subject to certain caveats: Theoretical hypotheses are rather speculative, and empirical results are preliminary (as long as they have not been validated by other studies). These shortcomings also apply to this chapter.

Theorizing Manager-Related Explanations

The first concept I would like to draw attention to is performance information ownership. Though there is no established definition of this term, there is scattered evidence particularly from case studies (Behn 1994; Moynihan 2008) that the managers' performance data use might be a function of their engagement in the measurement process far before reports have reached their desks. The managers ownership of the data is essentially different from the factor "manager's familiarity with performance measures" mentioned in the literature review. Using the latter variable, studies (Dull 2008; Folz, Abdelrazek, and Chung 2009; Ho 2006; Melkers and Willoughby 2005) tested the assumption that managers who are more experienced with performance measures have the better data analysis skills which makes them more likely to use the reported information. Such an understanding focuses only on the decision-making stage where managers are considered as passive recipients of data. However, the managers' role within the phase of data preparation is completely neglected. This article will thus also consider the pre-decisional stage where managers can affect the usability of the data reported to them when they are able to draw their staff's attention from the production of externally required data to the collection of internally useful information (see chapter 3). To identify which data is useful for the steering of their organization, managers have to get actively involved in the measurement process and encourage their staff to do the same (Askim, Johnsen, and Christophersen 2008; Dull 2008). If the managers take ownership of the often externally determined performance indicators, it

becomes more likely that the performance reports they receive will contain more usable information.

H₁: Managers who take performance information ownership in the measurement process are more likely to use this data to make decisions.

A second concept that might help us better understand performance information use is the managers' cynicism towards current performance management reforms and initiatives. Reichers, Wanous, and Austin (1997, 48) have defined cynicism towards organizational change as "real loss of faith in the leaders of change and (...) a response to a history of change attempts that are not entirely or clearly successful". They distinguished cynicism from skepticism and change resistance. They argued that skeptics doubt the success of organizational change but are willing to be convinced of the contrary. Cynics instead are much more pessimistic because they even dispute the motifs behind the change (see also Stanley, Meyer, and Topolnytsky 2005). A vast body of literature supports the hypothesis that cynicism is a serious threat for successful organizational change in private companies (Abraham 2000; Reichers, Wanous, and Austin 1997) and in the public service (Albrecht 2003; Greener and Powell 2003). Radin (2006) found corroborating evidence with regard to the implementation of performance management reforms in the United States, and – as stated in the literature review – some studies have already emphasized the crucial role of the managers' attitude to explain their performance data use (Ammons and Rivenbark 2008; Ho 2006; Taylor 2011). Cynicism can become a self-fulfilling prophecy as when cynical administrators refuse to participate in organizational change, reform attempts fail, and because of that the workforce becomes more cynical. In the context of performance management the impact of cynicism can be hypothesized as follows:

H₂: Managers who are cynical towards performance management practices are less likely to use performance information.

A third concept is the managers' identity. According to Tajfel (1981, 225) identity is "that part of an individual self-concept which derives from his knowledge of his membership in a social group (...) together with the value and emotional significance attached to that membership." What makes identity an interesting impact factor is the shift that came along with the implementation of New Public Management (NPM) reforms. The predominant identity in the public service used to be traditionally bureaucratic and influenced by a public service ethos that is based on values like honesty, integrity, accountability, or probity (Horton 2006; Rayner et al. 2010). NPM reforms, in contrast, have underpinned values, such as efficiency, risk-taking, flexibility, change, or progressiveness that contradicted the old norms to at least some extent. Particularly in continental Europe where the administrative identity has been shaped over a long time by the primacy of law, the shift from *Staatsdienern* (passively implementing *state servants*) to actively shaping managers is fundamental (Kickert 2005; Meyer and Hammerschmid 2006). I hypothesize that administrators who consider themselves as managers rather than state servants are more likely to use performance data. First, a management mentality might fit better with a performance-based steering philosophy which focuses on results and related rewards (instead of process standards and regulative programming). Secondly, I assume that these managers are more interested in performance information because they are striving for improvement and optimization, and data on efficiency and effectiveness provides them with the needed information.

H₃: Managers (or more neutral "administrators") who identify themselves as "shaping managers" rather than "state servants" will tend to use performance information.

A fourth concept that might contribute explaining performance data use is public service motivation (“PSM”, see Moynihan and Pandey 2010).²⁰ It addresses the civil servants’ altruistic and intrinsic motivation to serve the interest of the community (Perry 1996; Rainey and Steinbauer 1999). Empirical research to date has shown that PSM has been a successful concept to explain behavior of civil servants and has therefore turned out to be a valuable alternative to economically founded theories (for an overview see Perry and Hondeghem 2008). The use of performance information requires a great deal of effort on part of the managers because analyzing reports, communicating feedback, and challenging the status quo based on this information creates additional work and conflict. Research has shown that managers who have reported high scores of PSM are willing to take on these additional responsibilities (Brewer 2008, Bright 2007, Ritz 2009). Though performance improvements can be rewarded extrinsically, the actual incorporation of performance information in decision-making is merely an unobservable, mental process (Moynihan, Pandey, and Wright forthcoming). Hence, this behavior might appeal to managers who are intrinsically motivated. Since PSM-oriented managers are motivated by perceiving the significant social impact of their work, they might also be interested in their performance information, especially if the data focuses on improvements in the results and outcomes of their organization.

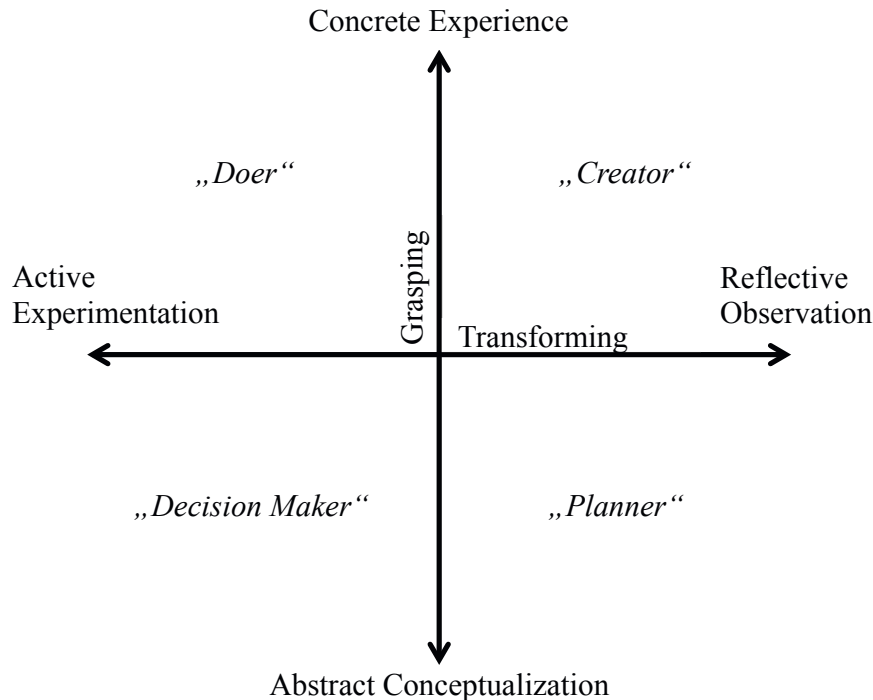
H₄: Managers who show a distinct public service motivation are more likely to use performance information.

A fifth concept is the managers’ cognitive style of information processing. There is firm evidence that people’s preferred cognitive style explains how they search for, prioritize, and work with information (Riding and Cheema 1991; Sadler-Smith 2001). Kolb (1984; see also Kolb and

²⁰ PSM as a potential impact factor was not included in table 2–2 because its influence has only been tested by one study thus far.

Kolb (2009) described information processing as experience-based learning that creates knowledge. Though learning is seen as a cyclical process that requires different modes of grasping and transforming experiences, he argued that different human beings prefer different ways of processing information. As illustrated by figure 2-1, Kolb conceptualized the learning process by the conjunction of different constellations of grasping and transforming information. Grasping occurs through the dialectical modes of concrete experience and abstract conceptualization whereas transforming occurs through the dialectical modes of active experimentation and reflective observation. Combinations of these modes generate the learning styles doer (“accommodator”), creator (“diverger”), decision-maker (“converger”), and planner (“assimilator”).

Figure 2-1: Kolb’s Learning Styles



Author’s illustration based on Kolb and Kolb (2009) and Kolb (2007)

Kolb's framework is just one out of many possible conceptualizations of different personality types or cognitive styles, and its sub-dimensions have been found to correlate with scales of concepts like the MBTI or the "big five" (Sadler-Smith 2001). Nevertheless, Kolb's learning styles provide a straightforward approach to study the use of performance information, particularly if we want to distinguish managers with regard to their cognitive learning preferences. From a performance management perspective, the way managers grasp information seems to be more important than how they transform it. In order to make sense of performance reports, public managers need to be able to abstractly conceptualize data. I therefore associate decision-makers and planners with the use of performance information. There is some evidence for the hypothesis that managers who prefer abstract conceptualizations are also in favor of systematically reported data. Kolb and Kolb (2009) reported that these managers preferred more analytically oriented printed material which they could analyze themselves instead of getting advice from other people. Furthermore, a study by Fox and Spence (2005) found that private-sector managers who tend towards directive and analytical decision styles make better use of computerized management tools.

H₅: Managers who are in favor of abstract cognitive learning (decision-makers or planners) are more likely to use performance information.

A final potential concept that might affect performance data use, which is considered in this chapter, is the managers' emotional intelligence. Simply put, emotional intelligence is the "ability to understand and manage moods and emotions in the self and others" (George 2000, 1027; see also Mayer and Salovey 1997). This concept was established by Mayer and Salovey (1990) and popularized by Golemann (1995). It addresses the ability of human beings to express, regulate, utilize, and appraise emotions. Empirical studies have found that managers with a high emotional intelligence are not only effective leaders (George 2000, Goleman 2002) and more balanced,

sensible decision-makers (Mayer and Salovey 1997; Scott-Ladd and Chan 2004) but also highly valued as optimistic, sympathetic people managers (Lopes et al. 2004; Mayer, Roberts, and Barsade 2008). Research has furthermore shown that people with high scores of emotional intelligence are more successful in group discussions (Day and Carroll 2004), more successful sellers (Elfenbein et al. 2007), and make a more positive impression on negotiation partners (Mueller and Curhan 2007). These findings suggest that the easiest way for emotionally intelligent managers to gather information is through other people. In contrast to managers who just prefer to learn through feelings and empirical experiences (Kolb's "concrete learners"); emotionally intelligent managers might also choose this personal way of data collection because it is the safest way for them to get important and even delicate information. Since these managers appear trustworthy and loyal to others, personal interaction seems to be their most promising data source. As some information sources might substitute for others, I expect these managers to prefer "soft" information sources at the expense of reports that provide performance data in a rather technical way.

H₆: Managers who show high levels of emotional intelligence will tend to neglect using performance information.

To control for influences aside from the manager-related concepts I theorized, I will also include other variables into my model which represent some of the categories of table 2–2. In addition to socio-demographic factors (experience, educational background), some task-related variables (professional tasks, internal focus) were also tested. To account for the variety of organizational influences, technical factors were considered (system maturity, data quality) as well as an innovative administrative culture.

Data and Methods

The hypotheses derived in the theory section will be tested against German survey data collected in 2011. The survey participants were middle managers of eight divisions in all 130 German cities with county status (including the districts of the city states Berlin, Bremen, and Hamburg). Overall, the potential sample population included 1040 (130 x 8) managers, but due to problems like non-functional email addresses or vacant positions; the sample was reduced to 954. In this article, the middle managers are defined as heads of the city divisions who belong to the highest leadership level that is not politically appointed. In contrast to mayors and department heads, the middle managers can be regarded as actual administrative managers rather than executive politicians. The survey was addressed to the managers of the following divisions: organization and staff management, finance, citizen service, facility management, cultural issues, building authority, social welfare, and youth welfare. These services promised enough variation in terms of task-specificity and possible personal backgrounds of the participants.

The response rate of the survey is 29.8%. A non-response analysis (N=164) showed, however, that 36.6% of the non-respondents did not participate in the survey because they stated that their division does not collect any performance information. To study the use and nonuse of performance information, a necessary condition is that this type of data is existent. Therefore, the 36.6% (extrapolated to all non-respondents) could theoretically be excluded from the population of interest, and the adjusted response rate could be considered as 39.8%.

All exact operationalizations can be found in table 2–3. Concepts that are measured through more than one item have been constructed as factors using principal component factoring (PCF). In contrast to additive indices, PCF weighs each item by its actual loading and thereby creates more accurate factors. Items that show higher degrees of commonality are better empirical indicators of the underlying construct.

Table 2-3: Variables and Operationalizations

Variable	Operationalization (PCF rotated factor loadings can be found in parentheses next to the items.)
1. Performance Information Use Explained variance by factor: 0.69 Eigenvalue: 4.12	I use performance information... ...to make better informed decisions. (0.83) ...to track goal achievement. (0.85) ...as a basis for discussing improvements. (0.86) ...to find out what works and what doesn't. (0.82) ...to communicate the work of my division externally. (0.84) ...to communicate the work of my division within the city administration. (0.77) (1 = never ever, 7 = very often)
2. PI Ownership Explained variance by factor: 0.57 Eigenvalue: 2.85	There have been staff trainings regarding performance management in my division. (0.72) In staff meetings I regularly address the issues of goal achievement and performance measures. (0.77) I personally readjust performance measures if they have turned out to be useless. (0.58) I am very much involved in the development of performance measures. (0.84) I have much experience with performance data. (0.84) (1 = strongly disagree, 7 = strongly agree)
3. Cynicism Explained variance by factor: 0.75 Eigenvalue: 2.25	Performance-based steering is one of these "trendy topics" which will disappear as quickly as they have emerged. (0.88) Performance information is barely conclusive. After all, the set targets will be achieved anyways. (0.84) The formulation of performance measures will lead to the creation of data graveyards but not to an improved steering. (0.87) (1 = strongly disagree, 7 = strongly agree)
4. Manager Identity Explained variance by factor: 0.57 Eigenvalue: 1.17	I should receive more managerial discretion. (0.77) I could truly imagine changing to the private sector within the next couple of years. (0.77) (1 = strongly disagree, 7 = strongly agree)
5. Public Service Motivation Explained variance by factor: 0.55 Eigenvalue: 1.65	I unselfishly contribute to my community. (0.66) To me, patriotism includes seeing to the welfare of others. (0.78) Making a difference in society means more to me than personal achievements. (0.78) (1 = strongly disagree, 7 = strongly agree)
6. Planner (Reference: Doer) 7. Decision Maker (Reference: Creator)	In your job you probably often face new challenges that you have to meet. We call this process "learning". Please recall one of these situations that you have recently found yourself in. Please rank the following learning styles from 1 to 4 with regard to your own learning preferences in those situations. The best way for me to learn is... ...to be frank and to have personal contact. ("Concrete Experience") ...trial and error; being active and practically. ("Active Experimentation") ...to carefully observe things from all sides. ("Reflective Observation") ...to analyze, think, and evaluate. ("Abstract Conceptualization")

<p>8. Emotional Intelligence Explained variance by factor: 0.48 Eigenvalue: 1.43</p>	<p>When I am in a positive mood, I am able to come up with new ideas. (0.71) I compliment others when they have done something well. (0.65) I motivate myself by imagining a good outcome to tasks I take on. (0.71) (1 = strongly disagree, 7 = strongly agree)</p>
<p>9. Professional</p>	<p>Please select the four activities that you spend the most time on. (1 = working on operational tasks along with my staff, 0 = others)</p>
<p>10. Internal Focus</p>	<p>Which city department are you working for? (1 = organization and staff management, finance, facility management; 0 = citizen service, cultural issues, building authority, social welfare, and youth welfare)</p>
<p>11. Experience</p>	<p>For how many years have you been working for your current city administration? (metric)</p>
<p>12. Public Administration Background</p>	<p>In what field have you been trained? (1 = public administration, 0 = others)</p>
<p>13. System Maturity (index based on dummies, $\alpha=0.90$)</p>	<p>We measure performance. Performance information (PI) is formally reported. PI is regularly reported. PI appears in the budget plan. PI is reported for periods of less than a year. Performance developments are displayed using time series. PI is used to measure the achievement of “improvement targets”. PI is merged in a data basis. We have a guideline that helps us to formulate performance indicators. The quality of the PI is regularly monitored. We are involved in a PI-based benchmarking with other cities. We have a hierarchical PI system with KPI on the top and specific indicators at the bottom. All PI is integrated in our overall strategic management plan. (1 = yes, 0 = no)</p>
<p>14. Data Quality Explained variance by factor: 0.76 Eigenvalue: 3.79</p>	<p>How do you assess the quality of the performance information in your division regarding the following dimensions? - accessibility (0.85) - steering relevance (0.79) - reliability (0.90) - tangibility (0.88) - overall quality (0.93) (1 = very low, 7 = very high)</p>
<p>15. Developmental Culture Explained variance by factor: 0.79 Eigenvalue: 2.37</p>	<p>The city administration is dynamic and entrepreneurial. People are willing to stick their necks out and take risks. (0.88) The glue that holds my city administration together is a commitment to innovation and development. (0.91) The staff shows great readiness to meet new challenges. (0.87) (1 = strongly disagree, 7 = strongly agree)</p>

The factors' explained variance in all observed items ranges between 48% and 79% and can thus be considered between reasonable and very good. All factors have Eigenvalues above one which further indicates that they can be validated. As I will explain in the following paragraph, not all facets of every theoretical concept could be comprehensively measured. Instead, the items that were available represent certain exemplary aspects of the latent constructs.

Based on Van Dooren, Bouckaert, and Halligan's (2010), the indicators for performance information use measure the three purposes of utilization: steering and control (item 1, 2), learning (item 3, 4), and giving account (item 5, 6). Performance information ownership has been measured by items focusing on the managers' influence on the measurement process prior to the stage of decision making. Cynicism towards performance management has been operationalized by items which do not only express a negative attitude but also the belief that performance management reform is just another failure (Stanley, Meyer, and Topolnytsky 2005). Though it was impossible to comprehensively measure the actual identity of the administrators, the items I used focus on two important characteristics of "shaping managers": their demand for more managerial freedom and their perceived closeness to the private sector. To measure public service motivation, I used single items from Perry's (1996) four sub-scales. The factor analysis showed that the item from the "attraction to policy making" scale does not share enough commonality with the other items which is why it was not included in the final factor. The reasonable (but not very high) variance explained by the factor PSM is due to the fact that each item represents a different sub-scale (public interest, compassion, and self-sacrifice) and is therefore by definition relatively unique. The cognitive style preferences were determined using statements representing the four endpoints of the two learning axes (Kolb 2007). The survey participants were asked to rank all items from one to four. Different combinations of the different preferences resulted in the

four cognitive styles suggested by Kolb (see again figure 2-1).²¹ Measures for emotional intelligence were taken from Schutte et al. (1998; validated by Austin et al. 2004). The relatively low explained variance by this factor can again be explained by the concern that the items do not perfectly measure the same broad underlying construct but its sub-dimensions (ibid.).

The descriptive statistics and all bivariate correlations can be found in table 2–4. Conventional regression diagnostics could not identify any serious violations of the OLS assumptions about the normality of the residuals and homogeneity.²² This chapter’s empirical analysis is subject to several limitations. All typical weaknesses of the analysis of cross-sectional data apply. A major concern that comes with this type of survey data is a potential common source bias. Such a bias can create false correlations due to shared measurement errors usually caused by consistency motifs, social desirability, item characteristics or common scale formats (Meier and O’Toole 2010). Different statistical measures seem to indicate that a common source bias is not a serious problem for the data analysis in this chapter. The relatively low correlations between all variables (see table 2–4) and VIF values between 1.10 and 2.29 indicate that the shared variance of the variables is rather low and their discriminant validity is potentially high.

²¹ The axes for grasping and transforming were generated by subtracting the ranking scores of the opposing ways of learning from each other. The four cognitive styles doer, creator, decision-maker, and planner were generated by combining different combinations of the grasping and transforming axes. For example, to be counted as a planner, the participant had to prefer thinking (T) over experiencing (E) (grasping axis) and observation (O) over action (A) (transforming axis). Both axes were then combined to a joint scale with the opposing endpoints planner and doer by adding the values for the differences of the grasping and transforming axes and dividing them by two: $((T-E)+(O-A))/2$

²² Shapiro-Wilk test: $p=0.23$; Cameron and Trivedi's decomposition of IM-test: $p=0.11$. If we were overly skeptical of these tests, we could question the homogeneity assumption based on its 11% p value. To make sure that heteroskedasticity does not become problematic, I will base the regression analysis on robust standard errors.

Table 2-4: Descriptive Statistics and Bivariate Correlations

	Range	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. PI Use	6-42	25.61	8.84	1													
2. PI Ownership	5-35	20.00	6.67	0.67*	1												
3. Cynicism	3-21	7.65	4.03	-0.40*	-0.47*	1											
4. Manager Identity	2-14	7.03	3.00	0.09	0.13*	-0.04	1										
5. PSM	3-21	13.52	3.32	0.13	0.05	0.07	0.09	1									
6. Planner (Ref. Doer)	-2,5 - 2	-0.90	1.39	0.03	0.07	-0.12	-0.09	-0.09	1								
7. Decision Maker (Ref. Creator)	-2 - 2	0.40	1.04	0.08	0.21*	-0.19*	0.00	-0.00	0.02	1							
8. Emotional Intelligence	3-21	15.87	2.51	0.19*	0.17*	0.04	0.12	0.27*	-0.21*	-0.11	1						
9. Professional	0-1	0.24	0.43	-0.29*	-0.26*	0.17*	-0.09	-0.07	-0.09	-0.03	-0.01	1					
10. Internal Focus	0-1	0.52	0.50	-0.13	-0.03	0.04	-0.15*	-0.25*	0.08	-0.03	-0.10	0.06	1				
11. Experience	1-45	23.56	11.16	-0.11	-0.13	0.11	-0.32*	0.01	0.05	-0.09	-0.01	-0.01	0.05	1			
12. PA Background	0-1	0.50	0.50	-0.07	-0.11	0.06	-0.24*	-0.13	0.14*	-0.08	0.03	0.02	0.22*	0.56*	1		
13. System Maturity	1-13	3.55	3.72	0.44*	0.56*	-0.25*	-0.02	-0.02	0.03	0.16*	0.12	0.16*	-0.05	-0.01	-0.13	1	
14. Data Quality	5-35	21.65	6.89	0.68*	0.60*	-0.31*	0.02	0.03	0.14*	0.12	0.09	-0.19*	-0.04	-0.05	-0.03	0.45*	1
15. Developmental Culture	3-21	11.81	3.81	0.14*	0.17*	0.07	-0.03	0.15*	-0.01	-0.00	0.23*	-0.04	0.05	0.03	-0.03	0.19*	0.10

* $p < 0.05$. To provide a more illustrative overview of the descriptive statistics, all factors have been displayed as additive indices in the first three columns of this table.

Another indicator to examine common source bias is Haman's single factor test. According to Podsakoff et al. (2003) this test is relatively simple but has been widely used in business and psychological research. It is based on the assumption that a common source bias is likely to exist if one factor accounts for most of the variance in the used variables. An unrotated principal component analysis showed that it needs eight factors (Eigenvalues between 6.65 and 1.11) to explain 65% of the variance in all items that were used to measure the dependent variable and the theorized manager-related concepts. An underlying one-factor model seems therefore not to be present.

Results and Discussion

The results of the regression analysis are displayed in table 2–5. This table shows that hypotheses 1 can be validated: Managers who showed ownership of performance data during the measurement process also reported significantly higher uses of this information to make decisions ($p=0.00$). This finding suggests that managers do not only influence the measurement process through symbolic behavior and leadership support (Askim, Johnsen, and Christophersen 2008; Dull 2008) but also affect its outcomes when they personally get involved in customizing the indicators. This does not necessarily imply that they have to attend to every detail but that stating their preferences and intervening in cases where their expectations are not met might increase the usability of the reported data.

Hypothesis 2 can be confirmed as well: Managers who reported a cynical attitude towards performance management practices are significantly less likely to actually use performance information ($p=0.02$). The regression analysis shows that a cynical attitude is an important limitation to information use even if technical factors like data quality or measurement system maturity are kept constant. This indicates that technical improvements

will only foster data use to some extent if managers remain critical of the underlying steering philosophy.

Table 2-5: Regression Results of Performance Information Use Model

	<i>b</i>	<i>p</i> Score
Manager-related Explanations		
PI Ownership	0.306	0.000
Cynicism	-0.151	0.022
Manager Identity	-0.015	0.755
PSM	0.082	0.146
Planner (Reference: Doer)	-0.037	0.326
Decision Maker (Reference: Creator)	-0.077	0.055
Emotional Intelligence	-0.048	0.431
Controls		
Task-related variables		
Professional	-0.292	0.006
Internal Focus	-0.139	0.164
Socio-Demographics		
Experience	-0.008	0.135
Public Administration Background	0.076	0.509
Organizational Variables		
System Maturity	0.001	0.962
Data Quality	0.385	0.000
Developmental Culture	0.060	0.285
Observations	195	
R^2	0.598	
Adjusted R^2	0.566	

The estimation is based on robust standard errors. The tests are two-tailed.

Contrary to the expectation of hypothesis 3, identities do not seem to matter ($p=0.76$). Administrators who can be considered as managers rather than state servants do not report a significantly different utilization of performance data if other factors are controlled for. This finding is also confirmed by the correlational analysis (table 2-4, $r=0.09$, $p>0.05$) but requires further research. In this study, identity was only measured by two items that are certainly not able to represent all facets of the theoretical concept.

The results for the effect of PSM are even more surprising. Though a basic positive impact on performance information use seems to exist ($r=0.13$, $p=0.051$), this effect disappears ($p=0.15$) if we control for other factors (see table 2-5). This finding partially challenges the results of pioneering studies on the effect of PSM and prosocial values

(Moynihan and Pandey 2010; Moynihan, Pandey, and Wright forthcoming). Though this chapter confirms the direction of the PSM effect, its importance seems to diminish if we take other manager-related concepts into account. To study the actual impact of PSM, future research should therefore not only test the PSM effect but also account for alternative motivational constructs or other complex individual explanations.

Probably the most striking findings concern hypothesis 5 and 6 and need to be discussed in conjunction with each other. Managers who prefer learning through abstract conceptualization (planners and decision-makers) did not report higher scores of performance data use. In fact, planners showed no effect at all, and decision-makers turned out to be even negatively related to performance data use ($p=0.06$). If decision-makers have a negative effect, this means in turn that their reference group, the creators, has a positive impact. The observation that the purposeful users of performance information prefer a style of information grasping that is based on concrete experience and not abstract conceptualization indicates the following: For using performance data, analytical skills seem to be of minor importance. Instead of studying and analyzing performance reports, regular data users seem to get performance information from sources, such as calls, meetings, or personal talks. This finding confirms a hypothesis from Van den Walle and Van Dooren (2008) who stated that “the use of performance information is probably less formalized than the existence of performance reports and league tables suggests” (p. 4). Furthermore, they argued that decision-makers will supposedly “not sit down with a 200-page performance reports and a cup of coffee” and search for information (p. 3). The observation that performance information – though formalized in reports – is actually circulated through personal communication is in line with what Weiss (1980a) has labeled knowledge creep. She found that systematic research reports do not always directly affect decision outcomes in policy making but that this knowledge creeps subtly into decision-makers’ mindsets and might be indirectly carried by advisors or other stakeholders.

Regular users of performance data can be associated with Kolb's creative learning style. They seem to receive their information through personal talks and to be able to considerably reflect on it rather than jumping to conclusions. According to Kolb and Kolb (2009) "creative" managers, also referred to as "divergers", are imaginative, emotional, and interested in people. They perform well when new ideas have to be created, listen with an open mind and prefer to receive personalized feedback. This learning style is a hybrid. Performance information use seems thus to be likely if managers do not completely rely on intuition or are overly analytical.

The results for the factor emotional intelligence point in a similar direction. In contrast to what was expected, managers who are emotionally intelligent do not neglect to use performance information ($p=0.43$). The relationship between both variables seems to be unclear or even positive as indicated by their bivariate correlation ($r=0.19$, $p<0.05$). Again, a distinct people orientation and the use of performance data complement rather than substitute each other. Managing people *and* information seem to be two equally important elements of effective leadership.

Among the control variables a high engagement in professional tasks has a negative influence on performance data use. It seems that managers should not be overburdened with operational activities if they are expected to be strategic and to manage for results. Furthermore, the quality of the data has a significant positive impact and turns out to be more important than the measurement system's maturity, which is interesting when one considers the results presented in the literature review.

Conclusion

This chapter improves our understanding of performance information use by taking into account thus far disregarded complex individual explanations. In an explorative manner it

theorized six manager-related concepts and tested their effects using survey data from German cities. The major findings include that ownership of performance information during the measurement process and a preference for a creative cognitive learning style show significant positive effects whereas cynicism towards performance-based steering has a negative impact. The managers' identity, their emotional intelligence, public service motivation, and socio-demographics turn out to be insignificant when other factors are controlled for.

The article offers a number of contributions. First, the effort that managers invest in customizing performance indicators seems to pay off. An early engagement in the performance measurement process appears to be an important condition for the actual use of the data. Second, attitudes towards performance management matter. If managers haven an extremely negative attitude and are even cynical, it is less likely that they will take performance information into account when making decision. This also implies that it might not be enough to improve the technical conditions of performance measurement in order to foster data use if at the same time managers are not willing to consider this information. Third, effective performance managers are not data miners. Using performance information is not so much a function of reading reports and conceptualizing aggregated numbers but seems to be fostered through communicating with people. Though performance data appears in systematic reports, purposeful data users seem to receive the data they need through personal talks and interactions with other people. This observation confirms Carol Weiss' (1980a) metaphor of knowledge creep: To become usable, relevant performance data seems to "creep" from formal reports into management decisions using personal communication as a filter.

If we tried to characterize typical and effective users of performance information, their description would be as follows: These managers take on ownership of the data far before reports have reached their desks and support a performance-based steering philosophy as well as associated reform initiatives. They grasp information empirically – particularly through the

interaction with people – and are able to step back and reflect on it. Preferably, these managers are not overburdened with operational tasks and receive performance data of reasonable quality.

There is plenty of space for further research. In fact, it was the main goal of this chapter to systematically document the state of research and encourage exploring thus far neglected explanations on the individual level of the information users. This chapter presented some preliminary empirical findings. Such provisional findings are usually valid as long as they have not been challenged by other studies. More research is therefore needed – different data sets from various levels of government and different countries – to robustly test the explanatory power of the factors presented. Future research should operationalize the manifold facets of the identity concept more precisely. Also, the effect of PSM could be tested under the control of other motivational concepts that would provide alternative explanations.

Chapter 3: Explaining the Use of Performance Information by Public**Managers: A Planned-Behavior Approach**

This chapter examines the use of performance information from a social psychological perspective. It argues that the managers' conscious intention is an important factor which has thus far been disregarded. First, in the suggested model behavioral intention mediates the effects of the managers' attitude towards performance information and the attitude of their peers (social norm). Second, in addition to the direct effect of intention on behavior, there is also a relevant indirect one: Managers who firmly intend to use performance data also actively participate in the improvement of the usability of data collected in their division. Increasing data usability, in turn, fosters information use. The results highlight the importance of "human" factors, such as the managers' dispositions and peer pressure. To develop these arguments, this chapter draws on Ajzen's Theory of Planned Behavior. For an empirical test, a structural equation model is used to analyze survey data from German cities.

Introduction

Performance management practices have spread across OECD countries (Bouckaert and Halligan 2008, Pollitt and Bouckaert 2004, OECD 2009). After establishing performance measurement systems, academics (and practitioners) have posed the question of what happens to performance data once it is collected and reported (Moynihan 2008; Van Dooren, Bouckaert, and Halligan 2010; Van Dooren and Van de Walle 2008). There are different scenarios for the use of performance information (Moynihan 2009). Public managers can just passively comply with set reporting standards (Gill 2011), or they actively exploit and politicize the data as evidence for their claims (Moynihan 2008). The collection of performance information can even lead to dysfunctional management behavior labeled as gaming or effort substitution (Kelman and Friedman 2009). This paper follows the approach taken by most of the studies on performance information which have examined the purposeful use of the data. (Askim, Johnsen, and Christophersen 2008; de Lancer Julnes and Holzer 2001; Dull 2009; Ho 2006; Melkers and Willoughby 2005; Moynihan and Pandey 2010; Moynihan, Pandey, and Wright 2011; Yang and Hsieh 2007). To explain the use and nonuse of performance information, these studies have identified several factors, such as the involvement of external stakeholders or a politically competitive environment. The former factor shows a significantly positive effect (Askim, Johnsen, and Christophersen 2008; Bourdeaux and Chikoto 2008; de Lancer Julnes and Holzer 2001; Ho 2006; Moynihan and Ingraham 2004; Moynihan and Pandey 2010; Yang and Hsieh 2007) whereas the results for the latter one are mixed (Askim et al. 2008; Dull 2009; Moynihan and Ingraham 2004) but tend towards a positive impact (Bourdeaux and Chikoto 2008; Moynihan and Hawes 2010).

A positive effect has also been found for variables closely related to the performance measurement, such as the system's maturity ("degree of adoption", de Lancer Julnes and Holzer

2001; Taylor 2009, 2011; Yang and Hsieh 2007) and the accessibility of the data (Bourdeaux and Chikoto 2008; de Lancer Julnes and Holzer 2001; Moynihan and Ingraham 2004; Moynihan and Pandey 2010). Performance information use can furthermore be associated with an innovative organizational culture (Johansson and Siverbo 2009; Moynihan and Pandey 2010; Moynihan, Pandey, and Wright 2011) and the goal clarity within the organization (de Lancer Julnes and Holzer 2001; Moynihan and Pandey 2005; Moynihan, Pandey, and Wright 2011). Socio-demographic characteristics, however, have been found to be of little relevance (de Lancer Julnes and Holzer 2001; Dull 2009; Moynihan and Ingraham 2004; Taylor 2011).

In line with the studies summarized above, this chapter aims to explain the use of performance information. However, it will take a different approach to this subject. Instead of testing the significance of further environmental, organization, and socio-demographic impact factors, it will examine the managers' data use from a social psychological perspective. In contrast to the public management research cited, social and personality psychology theory is built on a history of behavior prediction based on personality traits and general attitudes of individuals (Campbell 1963; Sherman and Fazio 1983). Empirical research has shown that broad personal dispositions are not efficient predictors of specific behavior (Epstein 1979; Weigel and Newman 1976). Therefore, it became more popular in social psychology to explain behavior through behavior-related attitudes and intentions (Ajzen 2005; for some history of this approach see Dulany 1968; Fishbein and Ajzen 1975).

In psychology, effective theories to predict behavior have used variables, such as intention, environmental constraints, skills, attitude, social pressure, self-image, and self-efficacy. Fishbein and Ajzen (2010) in their recent book make this point and refer to the joint work of the leading psychologists in the 1980s. To bring forward the research on HIV prevention behavior, these researchers presented a list of the crucial impact factors they extracted from their different

theories and developed integrated approaches. Most of these predictors have proved to be essential for explaining various kinds of behavior, and they still appear in the most widely spread psychological theories used today (Bandura 1986; Stretcher, Champion, and Rosenstock 1997; Fisher and Fisher 1992; Catania, Kegeles, and Coates 1990; Bagozzi and Warshaw 1990). Fishbein and Ajzen (2010) argue that the Theory of Planned Behavior takes into account most of the identified relevant factors but is much more parsimonious than the models from the 80s.

This paper uses a social psychology perspective to explain performance information use by public managers. The following section will introduce Ajzen's Theory of Planned Behavior and apply it to the field of public management. Using this theory will contribute to our understanding of performance information use because it models management behavior as a goal-directed, conscious, reasoned action. The theory's underlying assumption thus is that data use, even if repeatedly performed, is not necessarily habitual or automatic but rather intentional.²³ The managers' intention in turn is a function of their attitude and the social norm. Moreover, I will suggest a modification of this theory that accounts for a specificity of the public management context. After developing the theoretical model, I will present my data, methods, and measures. I then will illustrate the results and discuss them as well as the limitations of this study. The conclusion of this paper includes suggestions for further research.

Ajzen's Theory of Planned Behavior

The foundations of the Theory of Planned Behavior were laid in articles by Icek Ajzen in 1985 and 1991. Ajzen elaborates on this research in a first monograph (2005) and in a joint book

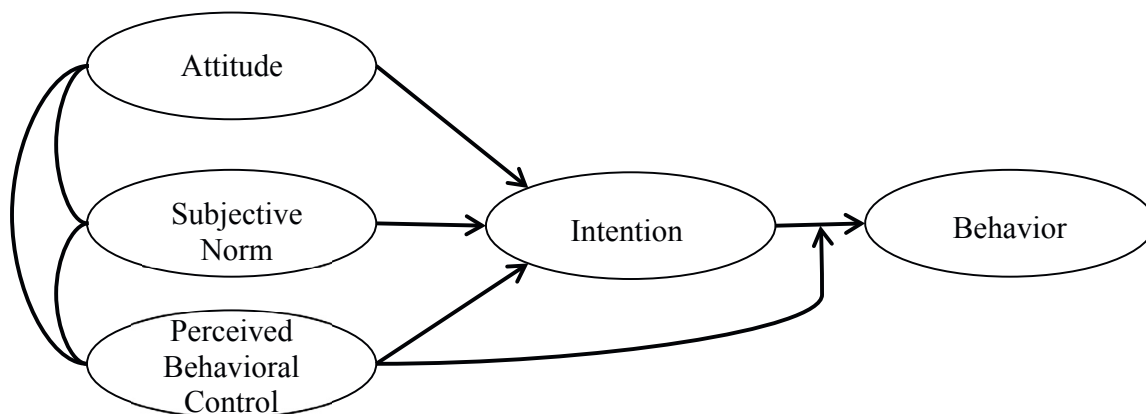
²³ Though the theory is based on a reasoned action approach, it does not assume perfect rationality. Intentions can be formed on an inaccurate, biased, or irrational basis. The theory does also not state that routines are irrelevant. Instead, it argues that even for routinized behavior, conscious intentions are still important.

with Martin Fishbein (2010). The theory has been successfully used to explain various behaviors in social psychology, such as recycling behavior, green consumerism, social networking activity, seat belt use, searching for jobs, playing video games, problem drinking, election participation, losing weight, attending class, shoplifting, and condom use (Ajzen 1991, Fishbein and Ajzen 2010). It has also been applied in the field of business (Cordano and Frieze 2000; Hill, Mann, and Wearing 1996; Kidwell and Jewell 2008) but has remained unused in the field of public management. To date, Icek Ajzen has listed 963 empirical studies on his website²⁴ that have applied the Theory of Planned Behavior.

On a first level, the Theory of Planned Behavior explains behavior based on an individual's intention to perform it. Though this factor intuitively seems to be a good predictor for the performance of a behavior, it is interesting that it has thus far been disregarded in public management research. Research in the field of psychology has shown that the actual behavior and the intention to perform it are, though highly correlated, two distinguishable constructs. There are hardly any studies that have reported a perfect correlation between people's behavioral intention and their actual performance of the behavior (see a meta-analysis by Sheeran 2002).

Behavioral intention generally seems to be a good predictor of behavior; however, to explain a certain behavior, it is important to understand how a behavioral intention was formed. In other words, why does an individual intend to perform a certain behavior and why not? On a second level, the Theory of Planned Behavior therefore identifies three factors that determine the formation of behavioral intentions: attitude, subjective norm, and perceived behavioral control (see figure 3-1).

²⁴ <http://people.umass.edu/aizen/tpbrefs.html> (retrieved on September 26, 2011)

Figure 3-1: A General Model of the Theory of Planned Behavior

A positive attitude towards the behavior increases a person's intention to perform it. The same effect is expected for the existence of social pressure (also referred to as the subjective norm). If a person's peers display a certain behavior themselves or indicate that they expect the person to behave in a certain way, that person's intention to perform this behavior will increase. Perceived behavioral control refers to people's perceptions of their ability to perform a behavior. The effect of behavioral control is twofold. First, it has a direct effect on intention. That is, people's intention to perform a behavior increases if they perceive themselves capable of actually behaving in the intended way. This direct effect of behavioral control on intention has however been questioned as it does not necessarily seem plausible that people intend to show a behavior only because it is easy for them to do so. Second, perceived behavioral control could have a moderating effect on the relationship between intention and the actual behavior. That is, the effect of behavioral intention on the performance of the behavior will be stronger if the perceived behavioral control is higher.²⁵

²⁵ Though Fishbein and Ajzen (2010) firmly support this model of behavioral control, they also acknowledge that there is little empirical support for its described moderation effect. Instead, empirical studies have shown that behavioral control has a direct effect on behavior and have provided thorough evidence for this claim.

The Impact of Attitude and Social Norm

In the next two sections I will apply the Theory of Planned Behavior to the issue of performance information use. First, I will address the factors “attitude” and “social norm” and their meaning in the field of performance management. Second, I will deal with the concept of “perceived behavioral control” and a potential indirect effect of intention on the behavior of performance data use.

As stated above, the mediating effect of intention, as it is suggested by the Theory of Planned Behavior, has not been examined in performance management research. However, there is some evidence for direct effects of attitude and social norm. Ammons and Rivenbark (2008) found support for the importance of the managers’ attitude towards the use of performance information. They compared the data use of municipalities participating in a benchmarking project. A commonality that all municipalities reporting a frequent use of the benchmarking data shared was that their managers showed an “enthusiasm to compare” and thereby had a positive attitude towards performance information. Ho (2006) surveyed mayors in the American Midwest and similarly found that the mayor’s interest in performance and benchmarking data is one of the most crucial impact factors on their actual data use. Taylor (2011) also reported that the manager’s attitude towards performance indicators has been an important determinant to explain their data use. Even after controlling for socio-demographic, technical, cultural, and environmental variables, the managers’ attitude showed a significant impact. Only one study by de Lancer Julnes and Holzer (2001) tested for the influence of attitude and found no significant results. However, this study used a joint measure for the attitude of managers and staff. This measure is not individual – as is common in psychological studies – but collective and can thereby only provide distorted results for the managers’ attitudes. It is also not based on self-

reported data by the managers but relies on how attitudes within the organization were perceived by the performance analysts.

There has been little research on the influence of social norm in performance management research. The impact of external stakeholders cited earlier in this chapter falls in this category. External pressure from stakeholders can encourage public managers to take performance information seriously and signals that this effort is not meaningless. There is, however, barely any research on the influence of the immediate peers of public managers which is the main focus of the Theory of Planned Behavior. In this case, these are the managers' supervisors and colleagues. Research in this direction has been conducted by Folz, Abdelrazek, and Chung (2009) who found that a critical mass of line-managers supporting the use of performance measures is essential for the success of performance systems. Applying the Theory of Planned Behavior to the field of performance management and taking into account the evidence just presented, I hypothesize the following mediation effect.

H₁: A positive attitude towards the behavior and the existence of social pressure, mediated by the manager's intention, positively affect the manager's use of performance information.

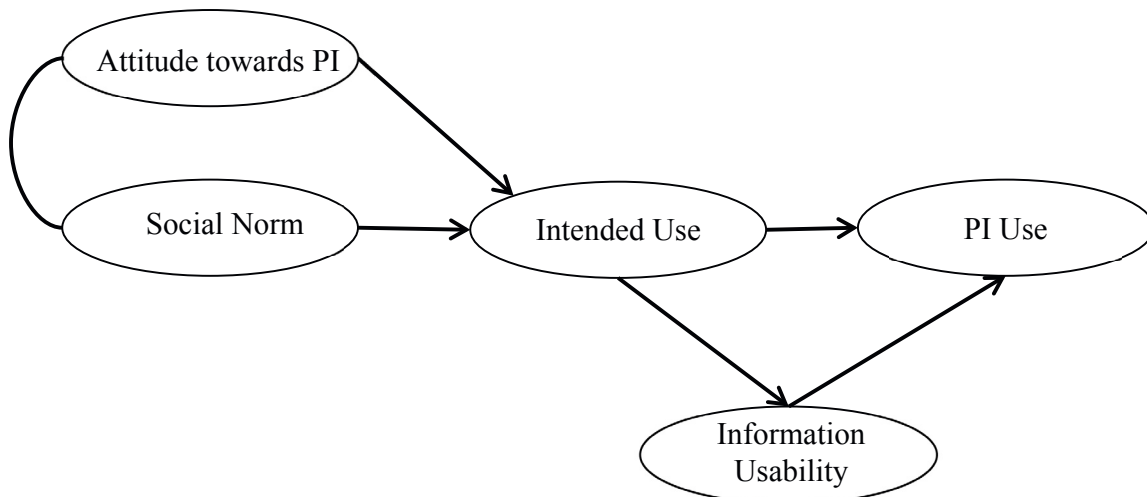
The Indirect Effect of Intention

The Theory of Planned Behavior treats attitude, norm and control as three exogenous factors. This means, these constructs are correlated but there are no assumptions about how the factors influence each other. For example, we do not hypothesize whether a manager's positive attitude towards a behavior shapes the social norm (entrepreneurial perspective) or whether the peers' views influence the manager's attitude (socio-institutional perspective). Perceived Behavioral Control is also regarded as an unexplained factor. It has an important influence on

behavior but within the Theory of Planned Behavior we leave aside all conditions that lead to more or less behavioral control.

With respect to the utilization of performance information, data usability is a crucial factor that can constrain information use and thereby limit the manager's behavioral control. Even if public managers (as well as their most important peers) hold a positive attitude towards this behavior, actual information use could be limited by poor data quality. As I indicated in the introduction, there is evidence for a direct effect of data accessibility on information use. The importance of data quality and usability has been discussed by Brun and Siegel (2006), Greenberg and Willey (1994), and Hatry (2006). Though low data usability is an important limitation to information use, I will argue that it is not a fully exogenous variable. Public managers have the possibility to influence the quality of the data that is produced in their departments. They can readjust measures that have turned out to be of little use, and they can influence their staff's enthusiasm with regard to the performance measurement process. I expect managers, who have firm intentions to use performance information (due to a positive attitude and social pressure), will engage in activities that lead to data quality improvements. Better data usability in turn will foster information use by managers. Therefore, I do not only assume a direct effect of the intention to use performance data on the actual behavior but also an indirect effect that is mediated by increased data usability (see figure 3-2). Information usability, which might limit the manager's behavioral control, is therefore considered as an endogenous and not exogenous variable. The following paragraphs will elaborate on the theoretical explanation of the described mediation effect. It is relatively uncontroversial that higher data usability leads to a higher actual use of performance information. However, the first path of the indirect effect of intention (see figure 3-2) needs to be explained more in detail. I will therefore illustrate how willing managers can actively improve the quality of the data that is provided to them.

Figure 3-2: A Modified Planned-Behavior Approach to Explain Performance Information (PI) Use



When thinking about how performance information is used, we might imagine public managers who “sit down with a 200-page performance report and a cup of coffee“ (Van de Walle/Van Doreen 2008, 3). Van de Walle and Van Dooren have argued, however, that managers receive most of their performance information by communicating with others. In either situation, the underlying assumption is that managers passively receive information and can then choose to incorporate it in their decisions. Such an understanding neglects the whole process that takes place before managers receive performance reports as well as their role in shaping the reports.

Studies on the United States (Moynihan 2008) and on New Zealand (Gill 2011) have shown that it is the rule rather than the exception that managers of public entities have to deal with performance data because they are held accountable based on these numbers by external actors. In these cases, managers might take notice of the data but mainly comply with reporting requirements. If the managers tried to perform well in order to report convenient data, we could even call this performance management. However, we would still have left out the management phase prior to the decision-making stage. In this phase, managers can make a difference by taking ownership of the performance measurement and encourage their staff to do the same.

To claim ownership of a performance measurement system, which is often externally initiated, it has to become customized. The focus must be shifted from the external reporting requirements to the utilization for an improved steering of the managers' unit. The following exemplary practices on how to achieve this shift are based on Behn's (1994) best-practice case study of the performance management within the Massachusetts Welfare, Training and Employment Program. Managers should establish a mission that makes the performance goals meaningful to their staff. They should develop specific goals for their unit, and if there are already goals formulated by external actors, they should combine both and lobby for their internal ones. Furthermore, goal responsibility should be delegated to single staff members and personally monitored in an ongoing dialogue. All this has to happen prior to the stage when the manager is supposed to make performance-informed decisions. If this sounds too much like MBO-like textbook-advice, then consider the results from Moynihan's case study in the field of the U.S. correction administration. Moynihan (2008) found that performance information is used particularly when managers on the agency level were able to make sense of the state-wide performance measurement systems. Again, the system had to become usable for agency-internal management purposes. Moynihan reported that an important difference between agencies who made use of performance information and those that did not was dedicated leadership. In one best-practice case agency managers wanted to reshape the organizational culture and used performance management to initiate this change. In a less successful case, the performance management was just regarded as another mandatory requirement by the agency managers in charge.

Further steps to make sure that internally relevant management information is produced are to get staff buy-in and to increase their commitment to the performance measurement. One way to achieve this is for managers to use symbolic behavior and to show credible commitment. Dull

(2009) has made this point and argued that public officials only truly engage in the data collection and reporting, if they perceive that this is an important priority for the organization leaders: “If they perceive a lack of credible leadership commitment to results-model reform, managers may see reform as a threat or a nonissue, gathering less information from fewer, less diverse sources, engaging fewer people, and leaning on familiar ideas and practices” (p. 6). Even though there is no daily direct contact between leaders and public officials, the latter have a good sense of what is important to the former. Mayntz (1997, 193) calls this an “unspoken dialogue” that is often based on artifacts or symbolic gestures rather than on direct communication. Only if managers continuously signal that performance measurement is important to them, their staff will be willing to devote their scarce resources to an improvement of the collection, analysis, and visualization of the data. The GAO (2004, 2008) found that this is not only an issue of will but also of skill. Managers, who invested in capacity building with regard to performance measurement, also benefited from better usable documents and reports provided by their staff.

Further evidence for the important role of leadership support for the prioritization of performance information by subordinates comes from studies by Askim, Johnsen, and Christophersen (2008), Melkers and Willoughby (2005), and Moynihan and Ingraham (2004). Aside from continuously directing attention to the issue of performance measurement, managers can aim to convince their staff that the production of usable data contributes towards achieving the mission of the organization. Such transformational leadership behavior can also indirectly affect the participation of the staff in performance measurement practices as it fosters goal clarity and an innovative working climate (Moynihan, Pandey, and Wright 2011).

This section has shown that managers can shape performance measurement in their organizations. They can engage in this process and positively impact its outcomes long before a performance report has reached their desk. Making externally initiated performance measures

internally useful and continuously showing credible commitment requires effort on the part of the managers. I therefore assume that particularly committed managers will engage in these strategies.

H₂: Managers who firmly intend to use of performance information also actively engage in the improvement of the usability of the data. Improved information usability, in turn, positively affects the manager's use of performance information

Data and Methods

To test the hypotheses, I use data collected through an online survey in 2011. It was addressed to the middle managers of eight divisions in all 130 German cities with county status (including the districts of the city states Berlin, Bremen, and Hamburg). The overall sample consisted of 1040 (130 x 8) managers. Due to practical problems, such as non-functional email addresses and vacant positions, the sample population was reduced to 954. Middle managers were surveyed as they play a key role in the successful implementation of public management reforms (Ridder, Bruns, and Spier 2006). This group of managers is defined in this article as the divisional heads who are supervised by the heads of the departments. In contrast with the latter, division managers are not politically appointed and can therefore be regarded as actual administrative managers rather than executive politicians. The survey focused on cities with county status because these cities fulfill comparable functions. Furthermore, it is the local level in Germany that has gained to most experience with regard to performance management (Proeller/Siegel 2009). The survey was addressed to middle managers from the following divisions: organization and staff management, finance, citizen service, facility management, cultural issues, building authority, social welfare, and youth welfare. These divisions include all

services that municipalities spend the most money on and show enough variation in terms of an internal and external orientation.

The response rate of the survey is 29.8%. A non-response analysis (N=164) showed, however, that 36.6% of the non-respondents did not participate in the survey because they stated that their division does not collect any performance information. To study the use and nonuse of performance information, a necessary condition is that this type of data is existent. Therefore, the 36.6% (extrapolated to all non-respondents) could theoretically be excluded from the population of interest, and the adjusted response rate could be considered as 39.8%. The managers in my data sample have the following characteristics: On average, they have been working for their current cities for about 23 years and in their current position for about 9 years. 78% of the managers work in cities with more than 100,000 inhabitants. 77% are male, and more than 90% have a college degree. 50% have been trained in the field of public administration.

The operationalizations for all my variables can be found in table 3–1. As indicated earlier, I used measures of purposeful performance information that fall in the categories of “steering and controlling” and “learning” (Moynihan, Pandey, and Wright forthcoming; Van Dooren, Bouckaert, and Halligan 2010). The managers’ intention to consider performance data has been measured using normative behavioral items. To operationalize their attitude, I used one broad and one specific item. The broad item measures their general attitude towards a performance-focused steering philosophy. It addresses the main purpose of performance measurement which is to shift the managers’ focus from merely the inputs to the outputs and results. The specific item consists of a cost-benefit judgment regarding the existing performance measures and is formulated in reverse. The relatively low factor loadings of both items confirm that both indicators do not perfectly measure the same underlying latent construct.

Table 3-1: CFA Factor Loadings and Correlations of the Latents

Latents / Indicators	λ	Correlations			
		1	2	3	4
1. Performance Information (PI) Use					
I use PI...					
... to make better informed decisions.	0.81				
... to track goal achievement.	0.82				
... as a basis for discussing improvements.	0.78				
2. Intention to Use PI					
I intend to use the PI that is available in my division.	0.88	0.78			
When important decisions are made, all relevant, available PI should be considered.	0.68				
3. Attitude towards PI					
A stronger focus on outputs and results would improve the steering of public administration.	0.57	0.54	0.80		
Performance measures create more costs than benefits and therefore create more problems than they solve. (r)	0.49				
4. Social Norm					
For the most public managers I work with, performance-based steering is an important issue.	0.58	0.71	0.74	0.23	
My supervisor shows great interest in our performance information.	0.69				
5. Information Usability					
How do you assess the quality of the performance information in your division regarding the following dimensions?		0.69	0.43	0.30	0.50
Tangibility	0.85				
Reliability	0.88				
Overall quality	0.94				

Note: Agreement and disagreement with these items has been measured via 7-point Likert scales. To measure "information usability", the Likert scale ranged between very low (1) and very high (7). All correlations are significant at a 0.01 level, except for the correlation of factor 3 and 4 which is significant at a 0.1 level.
N = 223

To operationalize social norm, I used descriptive rather than injunctive measures (Fishbein and Ajzen 2010). The latter would be based on statements that measure what the survey participants think that their peers want them to do. But this is usually difficult to capture. The former, in contrast, directly measures the behavior or attitude of the peers as it is perceived by the survey participants. Information usability is based on the ratings of the three categories tangibility, reliability, and overall quality.

At first glance, some of the factor loadings might seem relatively weak. Please note, however, that the lambda loadings are calculated based on confirmatory factor analysis. This type of factor analysis is much more precise than common techniques such as principal component factoring (Kline 2005). Confirmatory factor analysis takes into account measurement error what makes the estimation of “causal” relations between the latents in the structural model more accurate. Principal component factoring, in contrast, ignores measurement error and thus tends to overestimate factor loadings. Even if the loadings in confirmatory factor analysis appear to be lower, they are the more sophisticated measures and are therefore more preferable than principal component estimates or additive Cronbach’s Alpha reliabilities (Kline 2005; O’Leary-Kelly and Vokurka 1998).

Some of the correlations between the latents seem to be fairly high as they have reached a level of 0.7. This can be explained by the fact that we are dealing with perceptive measures of behavioral attitudes, behavioral intentions, and behavioral performance that are by definition highly correlated. Studies from the field of psychology have reported relatively high correlations of attitude and intention that were above 0.7 (Orbell et al. 2001; Kassem and Lee 2004) and of intention and behavior even above 0.8 (McMillan and Conner 2003; Sherman 1980). A way to deal with higher levels of multicollinearity is to use structural equation modeling rather than simple regressions. Instead of ignoring inter-correlation between the independent variables,

structural equation models take this into account when estimating regression weights. As long as the correlations have not exceeded a value of 0.85, discriminant validity can be assumed, and the results of a structural equation model are considered to be interpretable (Kline 2005). Further advantages of this technique are that its measurement model is based on confirmatory factor analysis (see the explanations above), it allows for testing indirect effects (“mediations”), and it provides information about the goodness of the overall model instead of just single coefficients (Byrne 2010; Kline 2005). For the prediction and analysis of the structural equation model, I used AMOS 19.

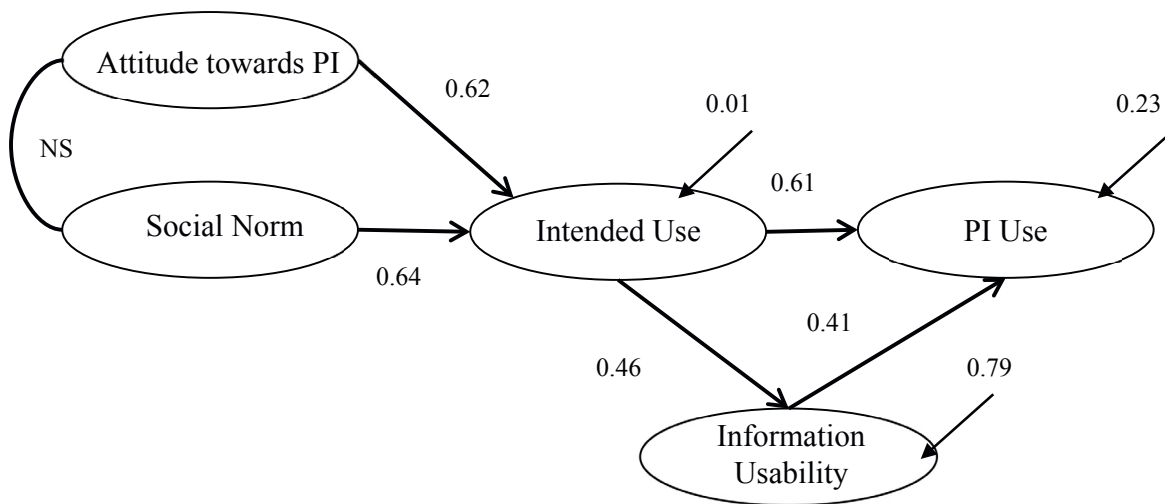
The goodness of fit indicators of my measurement model are as follows: $\text{Chi}^2 = 75.51$, $P = 0.002$, $\text{Chi}^2/\text{DF} = 1.72$, goodness of fit index (GFI) = 0.95, adjusted goodness of fit index (AGFI) = 0.91, standardized root mean square residual (SRMR) = 0.05, comparative fit index (CFI) = 0.98, Tucker-Lewis coefficient (TLI) = 0.96, root mean square error of approximation (RMSEA) = 0.06, p-value test for close fit (PCLOSE) = 0.29. Compared to the conventional goodness of fit standards (Hair et al. 2006; Hu and Bentler 1999; Marsh, Balla, and Hau 1996), my measurement model can thus be considered as a sound basis to test the causal relationships of a structural model. Only the Chi^2 statistics seem to be slightly problematic. Other studies have shown, however, that the results of the Chi^2 statistics can be neglected if the majority of the other fit indexes provide positive results. The Chi^2 test is known to be affected by sample size and is also based on unrealistic assumptions such as perfect normality (Browne and Cudeck 1993; Jöreskog 1993).

Results and Discussion

The results of the structural model are displayed in figure 3-3. All hypothesized causal relationships turn out to be confirmed and my model explains a good deal (77%) of the variation

in “performance information use”. A positive attitude towards performance information ($\beta=0.62$) and the existence of a social norm embracing regular data use ($\beta=0.64$) positively affect the managers’ intention to use performance information. Both exogenous variables almost perfectly explain the variation of the factor “intended use” (only 1% remains unexplained) what indicates a full mediation. A high intention to use performance data ($\beta=0.61$), in turn, positively impacts the performance of the actual behavior. Therefore, the mediation effect, formulated in hypothesis 1, can be confirmed.

Figure 3-3: Results Structural Equation Model



Note: Indicators and their regression weights are omitted but can be found in Table 3–1. All reported regression coefficients are standardized and significant at a 0.01 level (two-tailed). Non-significant coefficients are labeled “NS”. N = 223.

The second indirect effect is also validated. Managers who intend to use performance information also highly engage in the improvement of the data usability ($\beta=0.46$). An increased usability, in turn, fosters the actual use of the data ($\beta=0.41$). Hypothesis 2 can therefore be confirmed as well. The goodness of fit measures of the overall structural equation model show similarly positive results like the fit indexes of the confirmatory factor analysis reported earlier:

Chi² = 83.05, P = 0.001, Chi²/DF = 1.730, GFI = 0.94, AGFI = 0.90, SRMR = 0.06, CFI = 0.97, TLI = 0.96, RMSEA = 0.06, PCLOSE = 0.26.

A closer look at the results displays a few more interesting findings that need to be discussed. If we compare the direct effects of intention ($\beta=0.61$) and information usability ($\beta=0.41$), we can tell that the manager's intention is a stronger predictor of performance information use than the perceived data quality. This finding suggests that "human" factors like attitude and social norm are more important than "technical" ones, such as the data quality. This result has a major implication: To foster performance information use, it is certainly not enough to improve technical features like the sophistication of the measurement instruments, the readability of reports, or the validity of the data. More importantly, public managers have to be intrinsically convinced of the added value of a performance measurement ("attitude"), and it needs a coalition of supporters of a performance-based steering philosophy ("social norm").

Furthermore, the direct and the indirect effect of intention deserve to be analyzed in more detail. On the one hand, we can see that the direct effect of intention ($\beta=0.61$) is much stronger than its indirect effect ($\beta = 0.46 \times 0.41 = 0.19$). This indicates that performance information use can be well explained by the managers' intention even if we do not consider the variable "information usability." On the other hand, the inclusion of the described indirect effect completes our understanding of performance data use. After including the indirect effect, the direct effect of intention dropped down from 0.8 (not reported in figure 3-3) to the reported β value of 0.61 – a partial mediation. Furthermore, the inclusion of the indirect effect improves the explained variance of the variable "performance information use" by notable 13% (from 64% to the reported 77%). It is important to note that I have not claimed that the indirect effect of intention will substitute for its direct one. Instead, I have argued that both effects complement each other: Managers with a high intention to use performance data will do so. At the same time,

these willing managers will engage in the improvement of the reported data which, in turn, fosters their actual information use. The results further show that public managers can influence the data usability to a good extent, though the majority (79%) of the variation in this variable remains to be explained by other factors.

The model that has been presented is a modification of Ajzen's Theory of Planned Behavior as information usability (as a limitation to the managers' behavioral control) has been treated as an endogenous and not exogenous factor. That is, information usability does not determine the managers' intention to use performance data but the managers' intentions determine how well they engage in strategies for data usability improvements. To test this argument, I ran another model where information usability, as suggested by Ajzen's theory, was treated as an exogenous variable (similarly to figure 3-1). Here, information usability was correlated with the other two exogenous factors attitudes and social norm, and there was one regression path going to the intended use and one directly going to the actual performance of the behavior. It turned out, however, that the path between information usability (exogenous) and intended use (endogenous) was not significant ($\beta=-0.09$, $p=0.43$) which provides support for my argument.

Limitations

Just like other studies, this research faces limitations. One constraint comes with the operationalization of Ajzen's Theory. I only used two to three direct measures as indicators for the latent factors. Particularly in the case of the factor "perceived behavioral control", I only focused on data usability as one limitation to the performance of the behavior "information use". Another constraint to the manager's behavioral control that has not been considered in my model could be their ability to use performance data. There might be managers who have developed

better data analysis skills than others. However, these skills would be difficult to capture using survey questions.

A second limitation is caused by the survey instrument itself. The public managers who have been surveyed provided information on both independent and dependent variables which could cause a common-source bias (Chang, Witteloostuijn, and Eden 2010). Such a bias could produce false correlations between variables as their “common measurement contains a source of error that shows up in both measures and thus can contribute to spurious results” (Meier and O’Toole 2010, 4). Sources of common method effects are potentially common raters (e.g. consistency motifs, implicit theories, social desirability), item characteristics (e.g. common scale formats, item wording), item context and measurement context (for a discussion see Podsakoff et al. 2003).

In order to minimize the impact of a common method bias, the anonymity of the participants was protected wherever possible, the items for similar constructs were randomly mixed in one big item battery, and the survey began with a statement indicating that there are no right or wrong answers. To diagnose whether common method variance is likely to appear in the data, I conducted Harman’s single factor test in the post-hoc analysis. According to Podsakoff et al. (2003), this is one of the most widely used techniques to test for common source bias. They, however, acknowledge that it is a descriptive indicator rather than an actual test. The idea behind the Harman’s test is to examine whether all used items can be explained by one single factor. If one factor accounts for most of the variance in all items, a common method variance seems to be present. To run this test, I conducted a confirmatory factor analysis. The evaluation of this one-factor model showed a poor fit and therefore indicates that common method variance was not a serious problem: $\text{Chi}^2 = 465.714$, $P = 0.000$, $\text{Chi}^2/\text{DF} = 8.624$, $\text{GFI} = 0.69$, $\text{AGFI} = 0.55$, $\text{CFI} = 0.69$, $\text{TLI} = 0.62$, $\text{RMSEA} = 0.19$, $\text{PCLOSE} = 0.00$.

Conclusion

This chapter contributes to the discussion on performance information use by offering a social psychological perspective on the subject. Using Ajzen's Theory of Planned Behavior, I have shown that the managers' data use can be modeled as a function of their attitude and the existing social norm, mediated by their intention. This explanation could be labeled as a "human" one because it emphasizes the importance of the managers' mindsets as well as the social pressure they experience from their most important peers. Compared to a "technical" explanation of performance data use ("data quality matters"), it turns out that the human factors are more important. To improve information use, it seems to be promising to convince managers of the advantages of performance management and to form a critical mass of supporters. This strategy turned out to be better than only going for technical improvements, such as increased data usability.

The chapter also showed that "human" and "technical" factors interact. Managers who firmly intend to use performance information also strongly engage in the improvement of the collected data. A higher data quality, in turn, fosters the information use by the managers. My empirical examination of this effect furthermore displayed that the human factors determine the technical ones and not vice versa. It is not high data quality that makes managers willing to use performance information but it is the enthusiastic manager who is willing to engage in data usability improvements which eventually lead to a higher data use. At the same time, I have to acknowledge that the managers' impact on the quality of the data reported to them is limited. The majority of the variance in this variable was explained by factors outside of my model.

Further research should take into account other promising theoretical approaches from the field of social psychology. Elaborating on the Theory of Planned Behavior also has the potential of yielding additional results. In particular more research is needed on the factor "perceived

behavioral control” and its meaning in the field of performance management. My application of this construct focused on data usability as one factor limiting information use. However, research from the field of psychology (Ajzen 2005; Fishbein and Ajzen 2010) documents various ways in which one could operationalize this factor. Another approach to enhance the suggested model would be to use expectancy-value products to model the factors attitude, norm and control instead of using direct item measures. This way, we could learn more about the substantive beliefs behind the behavior of performance data use.

Chapter 4: The Other Type of Performance Information: “Unsystematic”**Feedback, Its Relevance and Use**

The literature on performance information use explains how public managers deal with mainly quantitative data that is systematically collected and formally reported. This chapter argues that such a narrow understanding is incomplete as it excludes all kind of unsystematic performance information (verbal, ad-hoc, or qualitative feedback). If we want to understand how responsive public managers are towards performance feedback, we need to take into account alternative sources of performance information. A literature review suggests considering two important sources of unsystematic feedback: organizational insiders and relevant external stakeholders. Using survey data from German local government, this chapter shows that public managers prefer utilizing unsystematic feedback over systematic data from performance reports. Furthermore, a regression analysis indicates that different sources of performance information require different determinants to trigger their use. This finding is essential as it suggests that explanations of performance information use can co-vary with the information source studied.

Introduction

One of the few undisputable facts about performance management is that the amount of available performance information has increased within the past few years. Current research on organizational performance has therefore been devoted to the final stage of the management cycle: the use of the collected performance data (Van Dooren, Bouckaert, and Halligan 2010; Van Dooren and Van de Walle 2008; Moynihan 2008). When speaking of “use”, students of performance management are usually referring to the impact of performance information on decision-making (Moynihan and Pandey 2010; Van Dooren and Van de Walle 2008). However, there are various “unexpected” (Moynihan 2008, 81) but legitimate ways to utilize performance data – Behn (2003) categorizes eight, Van Dooren, Bouckaert, and Halligan (2010) even list 44 purposes. Studies that have examined the use of performance information have shown mixed results. One overarching finding is that the question of data utilization is not simply dichotomous (use vs. non-use) but contingent upon situational contexts. Generally, the use of information co-varies with differences relating to the individuals involved, the characteristics of the public entity, and its external environment (Dull 2009; Ho 2006; de Lancer Julnes and Holzer 2001; Melkers and Willoughby 2005; Moynihan and Pandey 2010; Taylor 2011).

What most of the studies have in common is their understanding of what performance information is. This in turn is influenced by the New Public Management wave that contributed to diffuse performance management practices worldwide (Bouckaert and Halligan 2008; Pollitt and Bouckaert 2004). The first part of this shared understanding refers to the manifold dimensions of the concept of performance. Instead of only focusing on the inputs; attention is also drawn to the outputs, efficiency, quality and outcomes of public services. The second part of the understanding focuses on the systematization and rationalization of the data collecting and reporting process. I therefore refer to this data as systematic performance information and define it as *1) aiming to capture dimensions beyond simple inputs and 2)*

being measured against ex-ante indicators, regularly self-collected by the public service, as well as reported in a quantitative, aggregated form and in a printed manner (de Lancer Julnes et al. 2007; Hatry 2006; Van Dooren, Bouckaert, and Halligan 2010).

There is another type of performance data that has thus far been largely overlooked: “unsystematic” information. There has always been performance feedback about the work of public organizations. If something went wrong in public organizations, customers complained, interest groups called, other public entities sent letters or emails, the media showed up, or politicians chastised administrators. This kind of feedback is concerned with the performance of public services, and it also addresses outputs and outcomes (namely what had been done by public managers and the consequences). What makes it different from the previously described performance data is that it is not systematic. It can be verbal and it can be ad-hoc. Usually, it is not measured against formalized ex-ante indicators and not necessarily quantified. I thus define unsystematic performance information as *any kind of data that provides feedback about the work of public administration but is not systematically collected and reported.*²⁶

Why should we pay attention to unsystematic performance information? First of all, systematic data is not necessarily more valuable than unsystematic feedback. The expectation that systematic performance measures would automatically make public decision-making more objective, rational, and transparent has turned out to be a misunderstanding. Current research has shown that the definition of indicators, the systematic measurement of the data and its interpretation can be highly subjective and political. Actors make sense of performance data depending on their roles, standpoints and mind sets. Hence, systematic performance data can become politically utilized for advocacy in turf wars or just for symbolic reasons (Moynihan 2008). Through gaming, cheating, and cherry-picking

²⁶ Hence, it is not in line with the criteria described in the second part of the definition of systematic performance information.

performance measurement can even cause perverse effects where systematic data falls short of achieving its intended purpose (Bevan and Hood 2006; Radin 2006).²⁷

Secondly, if we aim to understand the use of performance information, we should not only focus on one specific type of data. It should rather be a goal to capture this management behavior in all its forms in order to avoid misjudgments. If we only study the use of systematic performance reports, we might come to the conclusion that some managers are not responsive to performance information. However, as long as we do not know to what extent these managers use other sources of performance feedback, our conclusions could be incomplete. Therefore, this chapter argues that systematic performance information is just one type of feedback information among others. Essentially, performance management in a pluralist, democratic environment seems to be about more than just quantitative data.

This chapter aims to offer a conceptualization of the term unsystematic performance information based on a literature review and a first test against empirical data. It will also examine the extent to which the use of systematic and unsystematic feedback is related and whether the use of different information types can be explained by different determinants. The first section of this chapter will be theoretical. The concept of unsystematic performance information will be developed more explicitly and hypotheses about the use of the different feedback types will be formulated. The second section will present the data, measures, and methods as well as a discussion of the limitation of the approach used. The third section will display the findings and discuss them in connection with relevant literature followed by a conclusion.

²⁷ I am not arguing that systematic performance information is irrelevant for management decisions or necessarily leads to dysfunctions, particularly since the first large-N studies found that performance improvements are not implicitly accompanied by gaming, effort substitution or trade-offs (Kelman and Friedman 2009; Wenger, O'Toole, and Meier 2008). Also, in his book Moynihan (2008, 75-94) documented detailed examples of purposeful uses of systematic data by lower-level bureaucrats that are worth studying.

Unsystematic Performance Information: Concept and Use

As the introduction of this chapter already indicated, it is much easier to define what systematic performance information is while the concept of unsystematic feedback remains blurry. This section will begin with a literature review in order to identify distinguishable categories of unsystematic performance information.

From an insider-outsider perspective, we could classify systematic performance information as data that comes from within the internal sphere. Before this data is reported to external stakeholders (the principals), it is (usually) internally self-collected by the public entity (the agent). At the same time, there exists another stream of internal information that is produced unsystematically. This stream of internal feedback might be verbal, ad-hoc, or written down in qualitative, in-depth documents and thus be different from what I defined as systematically collected, aggregated performance data.

In this section I will show that there is solid evidence that internal unsystematic information is a unique and important type of feedback and a promising start for a conceptualization. The literature pertaining to it has evolved around concepts like trust, culture, and informal control systems. Trust-Building has been found to be a valuable alternative to formal control mechanisms, particularly if performance cannot be easily measured (Bijlsma-Frankema and Costa 2005). Trust-based performance management and information sharing have been shown to work more easily within an organization than between organizations, though it has been identified as a crucial intra- and inter-organizational steering mode (for references see de Bunt, Wittek, and de Klepper 2005 and Das and Teng 2001). It works better within an organization because trust-based information exchange is easier if the actors involved share similar characteristics and values (“homophily effect”, de Bunt, Wittek, and de Klepper 2005). In this respect de Bunt, Wittek, and de Klepper argue that valuable information that can be classified as “hot gossip” is only shared in

trust-based relations which are more likely to be developed within organizations. Furthermore, trust relations enable the exchange of information that is below the radar of formal control systems. Ouchi (1979) and Child (1984) make this point and emphasize the importance of “clan control” and “cultural control” that are built on informal information flows (which I labeled unsystematic feedback). Here, control works based on shared values, beliefs, and norms; and an implicit information system “grows up as a natural by-product of social interaction” (Ouchi 1979, 839).

Rich and Oh (2000) found that decision-makers prefer internal over external information even if the latter is perceived to be valid and reliable. The reason for that is that internal information is often evaluated as credible and trustworthy since it has been produced by actors sharing similar goals and values. This information is very likely to confirm an opinion already held by the decision-maker, and studies in the field of policy-making have shown that this is an important criterion for information to receive attention (Weiss 1981; MacRae and Wilde 1985). Thus, internal, informal information is one possible sub-category of unsystematic feedback. It can be distinguished from outsider information, and it is different from internally produced formal data I labeled systematic performance information.

H₁: One type of performance information that is distinguishable from others is internal unsystematic feedback.

Another important type of performance information is externally produced performance information. Literature on the importance of external information was evolved around concepts like interdependences, legitimacy, and stakeholder orientation. Freeman (1984), for example, argued that organizations, in order to perform well, have to take into account the needs of all stakeholders that can critically affect the outcome of the organization. To effectively manage these external relationships, the organization’s leaders have to check for signals coming from outside the organization and pay attention to the demands of their most important stakeholders.

Another perspective posits that organizations are less concerned with their performance and more with securing their existence and resource flows. To achieve this, organizations strive for legitimacy from their external environment (Meyer and Scott 1992). In this literature, legitimacy is understood as “generalized perception or assumption that the actions of an entity are desirable, proper, appropriate within some socially constructed system of norms, values, beliefs, and definitions” (Suchman 1995, 574). In order to achieve this legitimacy, organizations have to conform to the expectations of their environment, adapt the language that is spoken around them and help sustain established institutions (Suchman 1995). Meeting external expectations does not necessarily mean that an organization has to show absolute conformity. It may be sufficient for it to be at least symbolically compliant (Brunsson 2003). In either case organizations have to pay attention to their environment and its external signals, may this be to improve the organization’s performance or to ensure environmental legitimacy. Hence, another important type of unsystematic performance information, which is distinguishable from internal information, is external feedback.

H₂: One type of performance information that is distinguishable from others is external unsystematic feedback.

To compare the uses of systematic and unsystematic performance information, I begin by looking at the literature from business management. Here, we can find some evidence for the argument that unsystematic information might be more frequently used than systematic information. Mintzberg (1973; 1975) in his seminal studies showed that managers prefer “soft” information through calls, meetings, and observational tours rather than the “hard” data that management information systems (MIS) provide. He argues that soft information is always timely and therefore it is more likely to contain the specific detail a manager is looking for and that it is less likely that a historically oriented MIS contains this specific data tidbit. Instead of using the terms hard and soft information, Daft and Lengel (1984) distinguish between different degrees of information richness but they make a similar

argument. They developed a hierarchy of information source richness with face-to-face talks on the top and printouts of raw data at the bottom. Highly rich information facilitates rapid feedback, makes the simultaneous handling of multiple information cues possible, enables the establishment of a personal focus, and includes language variety that improves understanding (de Alwis, Majid, and Chaudhry 2006). Daft and Lengel further argue that decision makers in ambiguous and uncertain situations prefer rich information over simple data. Ter Bogt (2004) provides evidence of this in the public sector as he found that aldermen in Dutch municipalities have a preference for rich information. Unsystematic feedback is also more likely to be qualitative, and an increasing amount of research has found proof that humans process qualitative narratives much better than quantitative data (Moynihan 2008; Stone 1997).

H₃: Unsystematic performance information is more regularly used than systematic data.

Sources of performance information can be interdependent. Economic studies have illustrated that two basic effects can occur if products are interdependent: substitution and complementarity. In the case of performance data, there is support for both effects. A complementarity effect could be explained by the existence of a strong mission orientation. If public managers perceive their organization's mission to be attractive and are intrinsically motivated to achieve the organization's goals, they will be willing to show extra-role behavior (Raney and Steinbauer 1999; Wright 2007). For the use of performance information this means that they are willing to engage in the time-consuming effort to search for different sorts of useful feedback. A similar complementary effect could be expected for the pressure that comes from external stakeholders. Studies have shown that the interest of external stakeholders in the work and performance of public administration fosters the internal use of systematic performance data by public managers (de Lancer Julnes and Holzer 2001; Ho 2006; Moynihan and Pandey 2010). This observation is explained by external pressure but

also by the signal the stakeholders give when they reveal that performance improvements are important to them. A similar “stakeholder effect” could be expected for the use of external unsystematic feedback. If stakeholders get highly involved with the work of public administration, public managers will also pay attention to their unsystematic feedback. In this case, stakeholder involvement would foster both the use of systematic data and external unsystematic feedback.

There is, however, also support for a substitution effect. Information types like aggregated data and verbal feedback seem intuitively to be antipodes that are different in all important characteristics. That is why the use of these different types of feedback might require different preference and skills to process information. (for the foundations of this argument see the studies of Benbasat and Taylor 1978 or Taggart and Robey 1981). Another argument for a substitution effect of different information sources can be derived from the cognitive theories of decision-making (March and Simon 1993; Simon 1997). Research on cognitive barriers and informational overload suggests understanding information use as a zero-sum game. Due to limited processing capacities and time constraints we could assume that one type of information can only be increasingly used if it crowds out another. Overall, there seem to be as many arguments for complementarity as there are for substitution.

H_{4.1}: The use of systematic performance information substitutes the use of other sources of feedback.

H_{4.2}: The use of systematic performance information complements the use of other sources of feedback.

My final argument is that managers in organizations with different administrative cultures might prefer different types of feedback information. A widely used conceptualization of organizational culture is the one by Quinn and Rohrbaugh (1983) which was adapted by Zammuto and Krakower (1991). It distinguishes four types of culture: group, hierarchical, developmental, and rational. Not all of these cultures have been associated with

the use of performance information which is why I limit myself to the formulation of two hypotheses. There is firm evidence for a positive effect of a developmental culture on the use of systematic performance information (Johansson and Siverbo 2009; Moynihan and Pandey 2010; Moynihan, Pandey, and Wright 2011). A developmental culture emphasizes flexibility, adaptability, readiness, and growth (Zammuto and Krakower 1991). It allows experimenting with systematic performance information (“trial and error”), and negative feedback is used for organizational learning rather than punishing poor performance. In organizations characterized by a developmental culture, managers strive for improvements and optimizations, and thus systematic performance data measuring target achievements seems to be a valuable information source. The second hypothesis concerns the effect of a group culture. Such a culture is internally oriented and focuses on human relations, cohesion, and morale (Quinn and Rohrbaugh 1983; Quinn and Spreitzer 1991) and could be associated with a preference for internal unsystematic feedback. This is because in such a culture decision-making is participatory as well as inclusive, and trust-based informal information systems are preferred over systematic reports or outsider feedback.

H_{5.1}: Managers whose organizations tend towards a developmental culture are more likely to use systematic performance data.

H_{5.2}: Managers whose organizations tend towards a group culture are more likely to use internal unsystematic performance information.

The model furthermore includes manager-, task-, and organization-related variables²⁸ that have also been used by other studies as controls in order to predict the use of systematic performance data (Dull 2009; Ho 2006; de Lancer Julnes and Holzer 2001; Melkers and Willoughby 2005; Moynihan and Pandey 2010; Taylor 2011). Since we do not know much about the impact of these factors on different types of performance information, it was not

²⁸ interaction with peers, education, and experience; professional tasks, internal orientation; city size, financial situation

feasible to formulate hypotheses. The variables were still included in the model to exploratively examine whether different types of feedback require different triggers or whether there are some factors that explain the use of different information types similarly well.²⁹

Data and Methods

The data this study uses is taken from a large-N online survey I conducted in 2011. The survey was addressed to the middle managers of eight divisions in all 130 German cities³⁰ with county status (N=954³¹). I focused on cities with county status because their public administrations provide comparable services but they still vary with respect to city size. Furthermore, in Germany it is the city level not the state or federal level that had the most experience with performance management (Bouckaert and Halligan 2008; Proeller and Siegel 2009). The survey was addressed to middle managers because they play a key role in the successful implementation of public management reforms (Ridder, Bruns, and Spier 2006). Middle managers are defined as the heads of the city divisions. They are the highest management level that is not politically appointed.³²

The survey included the managers of the following eight divisions: organization and staff management, finance, citizen service, facility management, cultural issues, building authority, social welfare, and youth welfare. These divisions were chosen because they

²⁹ Please note that it was not the goal of the chapter to present a best-fitting model to explain a great deal of variance in the use of all four information sources. Instead, I wanted to find out whether the use of different information sources requires different or similar triggers and thus used available variables from different levels (manager, task, and city).

³⁰ This includes the 21 city districts of the city states Berlin, Bremen, and Hamburg that possess a county status.

³¹ This number deviates from the potential number of 1040 (130 x 8) for the following reasons: Some email addresses did not work, some positions were vacant, some managers had responsibility for more than one of the eight functions at the same time, the correct email address could not be found.

³² In contrast, the department heads, who are the supervisors of the division managers, are politically elected by the local council.

include the fields that the cities spend the most money on. Also, they promised enough variation in terms of customer vs. inward orientation, potential experience with systematic data, administrative culture, and the educational background of the managers.

The response rate is 29.8%. At the end of the survey period non-respondents were asked why they did not participate. The non-response analysis (N=164) showed the following results: 37.8% did not have the time, 36.6% do not work based on systematic performance measures, 12.2% only take part in surveys very selectively or never, and 13.4% had other reasons. To study the use and nonuse of systematic and unsystematic performance information requires the existence of both types of data. Therefore, the 36.6% (extrapolated to all non-respondents) could theoretically be excluded from the population of interest, and the adjusted response rate could be considered as 39.8%.

The use of systematic performance information has been measured following the precedent laid down by previous studies (Bourdeaux and Chikoto 2008; de Lancer Julnes and Holzer 2001; Dull 2009). These articles showed that systematic data use can be treated as a single factor. Moynihan and Pandey (2010) even measured it with just one item. The logic behind that is that if public managers use performance data for purposes like strategic planning and resource allocation, they are also likely to use it for the purposes of program management, monitoring, and evaluation. If public managers use workload and efficiency information, they also tend to use output and outcome information to make decisions. All items that were supposed to load on the single factor “systematic performance reports” are listed in table 4–2. The survey question was: “How regularly do you use the following performance information to make decisions?”³³ For every dimension of systematic

³³ A recent study by Moynihan, Pandey, and Wright (forthcoming) showed that the broad item “use to make decisions” is highly correlated with other more specific items of purposeful data use and therefore represents this category well. In their study the item “I use performance information to make decisions” heavily loads on the factor of purposeful use (identifying problems, setting priorities, trying new approaches) whereas its loading on political use (communicating, advocating for resources, explaining value) is weak.

performance information three practical examples were provided. Responses could range between 1 = never ever and 7 = very often.

To be able to handle the potentially infinite amount of unsystematic feedback information that public managers have to deal with, I will focus on what can be considered its most important sources. Other researchers have used this approach to deal with the issue of complexity in management information studies (Daft and Lengel 1984; Mintzberg 1973; 1975).³⁴ Therefore, I refer to a list of information sources developed by ter Bogt (2004) and extend it. My list of potential sources of unsystematic performance information has been created using a matrix of possible “informants” (civil servants, politicians, interest groups, customers/target group, citizens, local media) and the way in which the information is provided (written manner, informal talks, formal meetings). The middle managers who were surveyed were asked to evaluate the importance (between 1 and 7) of every information source “to provide decision relevant feedback about the work of their division.” All items are listed in table 4–2.

To measure different administrative cultures, I used the items put forward by Zammuto and Krakower (1991). Developmental culture has been measured by a three-item factor (Cronbach alpha = 0.87) whereas group³⁵ and hierarchical culture have been operationalized through single-item indicators. Like other public management studies which used these measures (Moynihan and Pandey 2005; Moynihan and Pandey 2010; Taylor 2011), I do not expect them to be aggregated indicators of the existing cultures but proxies of how an individual experiences it. This means that the perception of organizational cultures can even

³⁴ Channels of unsystematic performance feedback could also provide systematic data. For example, assistants could read systematic performance reports and then tell their managers about what they found. This overlap might also exist for other sources but is a shortcoming I have to accept because there is no way to determine what information is provided through each source.

³⁵ The group culture measure deviates from Zammuto’s and Krakower’s item to the extent that it focuses on participation and collaboration within the city administration rather than on familiarity (for the different dimension of group culture see Quinn and Rohrbaugh 1983).

differ within an organization or from department to department. The items used are measures for subjectively perceived cultures rather than the actual culture. All other variables are based on conventional measures that can be found in table 4–1.

Table 4-1: Operationalization Independent Variables

Variable	Operationalization (PCF factor loadings can be found in parentheses next to the items. Cronbach alpha values can be found next to the question.)
Developmental Culture (factor)	To what extent do you agree with the following statements? ($\alpha=0.867$) <ul style="list-style-type: none"> - The city administration is dynamic and entrepreneurial. People are willing to stick their necks out and take risks. (0.884) - The glue that holds my department together is a commitment to innovation and development. (0.907) - The staff shows great readiness to meet new challenges. (0.873) (1 = strongly disagree, 7 = strongly agree)
Group Culture	My city administration stands out due to a high degree of participation and the collaboration between the different departments. (1 = strongly disagree, 7 = strongly agree)
Hierarchical Culture	My agency is a very formalized and structured place. Bureaucratic procedures generally govern what people do. (1 = strongly disagree, 7 = strongly agree)
Peer Exchange	I maintain a regular exchange with colleagues from other cities who work in the same field. (1 = strongly disagree, 7 = strongly agree)
Professional	Please select the four activities that you spend the most time with. (1 = working on operational tasks along with my staff, 0 = others)
Internal orientation	Which city department are you working for? (1 = organization and staff management, finance, facility management; 0 = citizen service, cultural issues, building authority, social welfare, and youth welfare)
Public administration education	In what field have you been trained? (1 = public administration, 0 = others)
Experience	For how many years have you been working for your current city administration? (metric)
Large city	How many people inhabit your municipality? (1 = more than 400,000; 0 = others)
Financially stressed city	Is your municipality subject to a budget security regime? (1 = yes; 0 = no)

Altogether, this chapter includes five regression models (table 4–5 and 4–6). All models show no problems in terms of multicollinearity as the all VIF values range between 1.04 and 2.04. The assumption about the normality of the residuals has also not to be rejected (the p scores of the Shapiro-Wilk test for all models range between 0.11 and 0.34), except for model 4 in table 4–6 ($p < 0.05$). However, as I will explain below, model 4 is neither theoretically nor empirically relevant and will be disregarded. The Breusch-Pagan test for heteroskedasticity shows p scores < 0.05 for model 1 and 3 which is why all models in table 4–6 will be estimated based on Huber-White's robust standard errors (White 1980).

The study faces the limitation that it is based on measures that are self-reported. There seems to be no other way to document performance information use of individuals in a large-N setting. In this situation, a potential danger is the existence of a common source bias. In an analysis of the common-method variance potential of 84 survey items, Meier and O'Tool (2010), however, found that measures of performance data use – compared to other public management variables – are not notably problematic.³⁶ Furthermore, the fairly good variation of the mean use of different performance information sources in table 4–4 indicates that the respondents were thoroughly able to rate the usefulness of the different items independently.

Results and Discussion

To test hypothesis 1 and 2 and therefore my conceptualization of unsystematic performance information, I used principal component factoring (see table 4–2). The factor analysis is based on a PROMAX rotation method because I wanted to allow for correlations among the uses of different information sources. The first column of the table shows all

³⁶ Meier and O'Toole examined how items of management behavior are related to a perceptual and an archival measure of organizational performance. They compared the t scores of both predictions. If the t scores were fundamentally different (a delta > 2) – usually due to an overestimation of the perceptual measure –, they concluded that the examined item is prone to a common source bias. The mean delta t score of the six items measuring performance information use in their study is 0.58.

information sources sorted along the categories that they theoretically belong to. The other columns then show the empirical results of the factor analysis. As expected, all systematic data load on the same underlying factor that I labeled performance reports (column 2). This confirms the result of other studies (cited in the methods section) that the use of systematic performance data can be treated as one single factor.

Table 4-2: Factor Analysis of the Potential Sources of Performance Information

Sources unsystematic PI	Factor 1 Outsider feedback	Factor 2 Perf. Reports	Factor 3 Insider talks	Factor 4 Screening documents
Performance Reports				
Input	-0.113	0.791	0.057	0.040
Process	-0.132	0.799	-0.019	0.030
Output	-0.035	0.799	-0.055	-0.055
Efficiency	0.130	0.691	0.000	-0.023
Quality	0.024	0.752	0.050	-0.037
Outcome	0.143	0.700	-0.068	0.471
Internal Sources				
Internal documents	-0.047	-0.088	0.117	0.833
Formal meetings civil servants	0.019	0.042	0.847	0.087
Informal talks civil servants	-0.012	-0.074	0.881	0.038
External Sources				
External documents	0.102	0.133	-0.010	0.743
Written inquiries politicians	0.741	-0.036	-0.175	0.181
Written inquiries interest groups/customers	0.661	0.059	0.064	0.146
Local media	0.799	-0.046	-0.200	0.011
Formal meetings politicians	0.711	0.009	0.146	-0.015
Informal talks politicians	0.747	-0.121	0.147	-0.032
Talks interest groups, citizens, media	0.743	0.049	0.070	-0.076
Talks customers / target group	0.497	0.154	0.289	-0.234
Eigenvalues	4.166	3.621	2.520	1.606

Note: Principal Component Factoring has been applied (PROMAX rotation method).
Explained variance = 0.701, N = 218

We find support for hypothesis 1 along with one surprising observation. As expected, the two internal sources “formal meetings” and “informal talks” load on the same factor. The third source, “internal documents”, is not a part of that underlying construct as is shows the highest loadings on factor 4 (I will discuss this factor in further detail). This implies that internal unsystematic feedback cannot per se be validated as one distinguishable factor but

that we find evidence for the existence of a factor that only captures verbal information from insiders. To account for this specification, I will label this factor “insider talks” instead of “internal sources” in general.

Hypothesis 2 can be confirmed as well. Another type of unsystematic performance information can be labeled as “outsider feedback”. All items show reasonably high factor loading except for “talks with customers” which also cross-loads on factor 2 and 3.³⁷ Since its loading on factor 1 is still almost twice as high as its loading on factor 3, I did not dismiss it from further analyses.

Again, one item – contrary to my expectations – seems not to belong to the category “outsider feedback”. The source “external documents” has to be associated with factor 4. That factor was not considered in the theory section but the empirical evidence suggests that it captures managers’ preference for using written, in-depths, external and internal documents. Also this factor is different from all the others as it does not deal with the supply of feedback by a specific informant. Instead, it refers to the active screening of documents by public managers, may it be internal reports or relevant documents from the outside, such as external evaluations. I will label this factor “screening documents” and consider it for the further analyses.

A comparison of the regular use of the different information sources indicates that hypothesis 3 can be validated (see 4–3): All kinds of unsystematic information sources are more regularly used than performance reports. Talks with insiders, which is probably the fastest way to get new information, as well as screening existing documents seem to be the preferred information sources of public managers. Outsider feedback is ranked number three.

³⁷ This might be explained by the phenomenon of social desirability which is supported by this source’s number one ranking in table 4–4: No matter what other sources of information you prefer, you might want to rank your target group as an important source of information because a high customer orientation is what we usually expect from the public service.

Table 4-3: Regular Use of Different Information Sources to Make Decisions

Source of PI	Mean	Std. Dev.	Obs.
Insider talks	5.01	1.39	237
Screening documents	4.79	1.55	237
Outsider feedback	3.85	1.60	236
Performance reports	3.49	1.79	259

Note: All scales range between 1 (minimum) and 7 (maximum). The information sources have been treated as additive indices in this table.

Table 4-4: Regular Use of Different Information Sources to Make Decisions (all items)

#	PI Items	Mean	Std. Dev.	Obs.	Source of PI / Factors
01	Talks customers / target group	5.18	1.40	237	Outsider feedback
02	Informal talks civil servants	5.10	1.43	236	Insider talks
03	Internal documents	5.00	1.57	237	Screening documents
04	Formal meeting civil servants	4.91	1.34	237	Insider talks
05	External documents	4.57	1.52	237	Screening documents
06	Talks interest groups, citizens, media	4.30	1.59	236	Outsider feedback
07	<i>Input data</i>	4.24	1.92	263	Performance reports
08	Informal talks politicians	3.96	1.81	235	Outsider feedback
09	<i>Output data</i>	3.85	1.81	261	Performance reports
10	<i>Process data</i>	3.79	1.80	260	Performance reports
11	Written inquiries interest groups / customers	3.66	1.62	234	Outsider feedback
12	Formal meetings politicians	3.57	1.68	235	Outsider feedback
13	<i>Efficiency data</i>	3.46	1.82	259	Performance reports
14	Local media	3.22	1.52	236	Outsider feedback
15	Written inquiries politicians	3.09	1.55	237	Outsider feedback
16	<i>Quality data</i>	3.06	1.78	256	Performance reports
17	<i>Outcome data</i>	2.54	1.62	256	Performance reports

Note: All scales range between 1 (minimum) and 7 (maximum).

Table 4-4 shows an even more precise ranking. Here, the variable “performance reports” is further disaggregated. It turns out that input (#7) and output (#9) data from the reports is more regularly used by public managers than quality (#16) and outcome (#17) information. The intensity of data use, however, seems to concur with the existence of the data. Performance reports in German cities consist of much more input and output information than quality or outcome data.³⁸ This might explain why input data is used more

³⁸ Accordant statistics are not presented in this chapter (see Kroll and Proeller forthcoming).

often than outcome information. Table 4–4 also shows that verbal feedback from outsiders is much more valued than written input. In general, local politicians and the media are ranked relatively low in the list of public management sources.

Table 4–3 also tells us that the average use of performance reports is low but that the standard deviation of the means is relatively high. This implies that the use of data from performance reports shows a high variation and that some managers use these reports much more often than others. This is different for insider talks where a vast majority of the managers seem to agree that this is a very important source to help make daily decisions.

Table 4-5: Multivariate Test of the Relationship between Sources of Systematic and Unsystematic Information

Performance reports	b	p(b)
Outsider feedback	0.159**	(0.033)
Insider talks	0.054	(0.462)
Screening documents	-0.130*	(0.057)
	R ²	0.043
	N	218

* p<0.10, ** p<0.05, *** p<0.01 (two-tailed test)

With regard to the alternative hypotheses 4.1 and 4.2 we get inconclusive results (see table 4–5). This regression tested how the use of unsystematic and systematic information is related to each other if we control for the use of various unsystematic sources. The regression model’s R² of 4% indicates that the different sources of information are barely related to each other because they share only a small amount of variation. Though effect sizes are small, the regression coefficients tell us something about the direction of the relationships. The table shows one positive (“complementarity”), one unclear, and one negative (“substitution”) relationship. Making use of outsider feedback and systematic performance reports seem to go together well (b=0.16**). As speculated above, highly influential external stakeholders could foster the use of both sources simultaneously. It is surprising that screening documents and the use of performance reports are negatively related to each other (b=-0.13*) because both

sources seem to be of similar type. This finding contradicts the idea that enthusiastic users of systematic performance information have an affinity for reading long reports, analyzing raw data, or juggling figures. It seems that good data analysts are not necessarily the more effective users of performance reports. Apparently, it requires different or additional qualities to be an enthusiastic performance manager but this relationship calls for further research. This result goes well together with another finding from table 4–5: There is no clear relationship ($p=0.46$) between the use of performance reports and the appreciation of insider feedback. Apparently, talking to insiders is an activity that does not contradict systematic performance management practices. Scattered anecdotal evidence (Behn 1994; Mintzberg 1973) even suggests that leaving the desk and getting involved with the staff is an important aspect of successful performance management. In conjunction with the finding above, we could conclude that performance information use is not just a function of activities like setting goals, finding measures, and keeping track of achievements by studying reports or other printed material.

The regression analysis in table 4–6 examines the effects of potential impact factors on the use of different information sources. The results tell us that the use of different feedback sources requires different impact factors. With regard to the administrative culture the findings are not in line with the hypotheses 5.1 and 5.2. In cities that tend to have an innovative culture, managers prefer using information from internal talks ($b=0.25^{***}$) rather than systematic performance reports ($p=0.45$). This implies that innovation is not necessarily driven by external forces. In the theory section, I presented Ouchi's (1979) and Rich and Oh's (2000) arguments for the importance of internally produced information. My empirical findings provide further support for their claim: To serve the organizational interest, prospecting strategies do not automatically have to follow externally developed best-practices but can also be based on internal ideas and knowledge.

In cities with a strong group culture, managers are more likely to pay attention to outsider feedback ($b=0.19^{***}$) rather than insider information ($p=0.23$). It seems that if an administration creates a climate of open communication and participative decision-making, outsiders will also gain attention and their feedback will be considered as well. Both observations call for further research.

Table 4-6: Regression Models of Information Sources and Their Determinants

	Perform. reports Model 1	Outsider feedback Model 2	Insider talks Model 3	Screening documents Model 4
Culture				
Developmental	0.077 (0.453)	0.001 (0.993)	0.252*** (0.009)	0.111 (0.217)
Group	0.023 (0.747)	0.192*** (0.005)	-0.081 (0.234)	-0.045 (0.516)
Hierarchical	0.016 (0.771)	0.108** (0.029)	0.046 (0.440)	0.078 (0.156)
Manager-related variables				
Peer exchange	0.098** (0.038)	0.111*** (0.007)	0.092** (0.046)	0.021 (0.674)
Public administration education	0.085 (0.603)	0.104 (0.498)	0.204 (0.275)	0.320* (0.063)
Experience	-0.004 (0.644)	-0.006 (0.354)	-0.007 (0.332)	-0.009 (0.227)
Task-related variables				
Professional tasks	-0.334** (0.018)	-0.161 (0.264)	-0.245 (0.135)	0.227 (0.172)
Internal orientation	-0.130 (0.356)	-0.145 (0.320)	0.157 (0.299)	-0.149 (0.313)
City-related variables				
Large city	0.181 (0.345)	-0.077 (0.696)	-0.067 (0.767)	-0.088 (0.690)
Financially stressed city	0.143 (0.346)	-0.298** (0.045)	-0.244 (0.111)	-0.226 (0.157)
	R ² 0.096	0.191	0.125	0.064
	N 195	195	195	195

Note: Estimations based on robust standard errors. P values can be found in parentheses.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$ (two-tailed test)

There is only one variable that positively affects the use of three out of four information sources: the managers' openness to exchange ideas with their peers from other cities ($p < 0.05$).

Managers who display this behavior are also regular users of systematic performance reports, outsider feedback, and verbal information from insiders. A similar effect had been found by Moynihan and Pandey (2010) who reported that managers who are involved in professional communities also pay regular attention to performance data in their everyday work (significant at a 10% level).

All other factors can only be associated with the use of one specific type of performance information. The involvement with professional tasks negatively affects the use of systematic performance reports ($b=-0.33^{**}$). This indicates that managers who are overburdened with operational work cannot devote enough of their time to classic managerial or strategic tasks. Furthermore, in financially stressed cities, managers seem to isolate themselves from the demands of the external stakeholders ($b=-0.29^{**}$). Managers who have an educational background in public administration prefer to screen written documents as the most important strategy to gather information ($b=0.32^*$).

Conclusion

In this chapter I have argued that there is a type of performance information that has been overlooked thus far: unsystematic feedback. I illustrated why this type of performance data is important and empirically showed that it is more frequently used by public managers than information from systematic performance reports. A differentiation of various types of data sources improves our understanding of performance information use because we are thereby able to draw a more accurate picture of real-life public management decision-making. It is overly simplistic to associate public managers' responsiveness to feedback with their ability to study performance reports that contain systematic, quantitative data. Talking to customers or interest groups, attending meetings of politicians, and interacting with colleagues and staff are also important sources of feedback and should be recognized as crucial activities for the performance-oriented manager. If we consider the various methods of

information gathering, when talking about performance information use, we will be able to capture substitution effects of information sources and consequently draw better informed conclusions about the use of performance information. From this perspective we should not be worried if managers pay only little attention to systematic performance reports as long as they are responsive to some other kind of performance feedback. Though it would be desirable if public managers paid attention to all different sources of performance data, this expectation might be unrealistic.

Another finding is that the use of different information sources is triggered by different factors. Therefore, the explanatory power of an independent variable depends on the information type studied. In the four regression models that all use the same independent variables, the number of significant determinants varied between one and four, and the explained variance ranged from 6% to 19%. This implies that different information sources have to be treated as conceptually different and that the goodness of a model predicting performance information use can vary with the definition of the dependent variable.

In search of determinants that foster the use of various information sources, my research provided the following result: Among the variables I tested, there is only one factor that triggers the use of more than one type of performance information – the managers' willingness to exchange ideas with their peers from other cities.

The chapter presented two observations that deserve further examination in the future: First, making use of performance reports and the general attitude to screen documents are two distinguishable activities. Both behaviors cannot be explained by a common underlying cognitive style of information processing or an affinity to juggle figures. Second, innovative city administrations value the internal ideas of their staff. Innovation does not only require external initiation or best practices. In this respect, this chapter has emphasized the importance of internal information sources that are perceived as trustworthy and likely to match the managers' mindsets. In contrast to other studies, this chapter found no significant

relationship between the existence of an innovative culture and the use of *systematic* performance reports.

Further research on performance information use should take into account whether the conclusions remain constant if the definitions of the dependent variable vary. To date, we know much more about the use of systematic data than about unsystematic feedback. As I have empirically shown, the latter is an important information source for public managers. Therefore, we should devote more research to the inquiry of unsystematic performance information.

Chapter 5: Conclusion

This chapter cross-analyzes the results of chapters 2, 3, and 4. The analysis results in four key findings that can be supported by the empirical evidence that the different chapters provide. These findings concern 1) the important role of the managers attitude and their conscious intention to use performance information, 2) the surprising contradiction that enthusiastic users of performance information did not show the characteristics of classical data analysts, 3) the importance of taking on ownership of performance information and 4) the conceptual clarification that there are other critical sources of feedback besides systematic performance reports. This chapter proceeds by discussing the impact of these findings for theory and practice, the limitations of this study, and directions for further research.

A Cross-Analysis of the Chapters 2–4

The first section of this chapter discusses chapters 2, 3, and 4 in order to extract their main implications for theory and practice. To cross-analyze the findings, four key issues which more than one chapter has addressed are identified.

The Role of Attitudes

A first major finding is that the use of performance information is highly dependent on what managers think of this data and of the underlying performance-based steering philosophy. Chapter 2 showed that that cynicism towards performance management reforms – as an extreme kind of attitude – has a significant negative effect on the use of performance data. Similarly, Chapter 3 found that data use is very likely if the managers' attitude towards performance information as well as the attitude of their immediate peers is positive.³⁹ At first glance, these results might seem quite simple and straightforward but they are in fact innovative⁴⁰ and have critical implications for theory and practice.

These findings imply that performance information use is not necessarily a habitual, automatic or non-conscious behavior as some theories from psychology would suggest (Bargh et al. 2001; Hassin et al. 2009). According to these theories, routines with regard to performance management and the familiarity with these practices would be the best predictors of information use. The more routines managers develop in terms of performance management and the more experience they gain, so these theories argue, the more habitual, automatic, and therefore more likely their information utilization. Though I have not directly tested such a hypothesis or disconfirmed it, this dissertation has found evidence for an alternative explanation (Ajzen 2005; Fishbein and Ajzen 2010). Chapter 3 explicitly showed

³⁹ This effect was mediated by the managers' intention to use performance data.

⁴⁰ So far only three studies (Ammons and Rivenbark 2008, Ho 2007, Taylor 2011) have tested the impact of attitude.

that the managers' conscious intention to use performance information is a very good predictor of this behavior. This means, managers use performance data if they firmly intend to do so, and their intention is a function of their attitude, the social norm, and their perceived behavioral control.⁴¹ This finding is supported by an unpublished study by Moynihan and Lavertu (forthcoming). They found that the engagement in performance management routines is only a good predictor for the passive use of performance data (mainly complying with reporting standards) but not for its purposeful use. As my findings from chapter 2 and 3 showed, the latter type of use can be associated with a positive attitude and the conscious, reasoned intention by managers to use this data for improvements within their own zone of discretion.

The implications for public management in practice are twofold. First, if it is uncertain that routines directly lead to a more regular purposeful use of performance information, then the impact of formal reporting requirements needs to be questioned. Though these routines seem useful to provide principals with more information about the work of their agents, reporting requirements and emerging routines are not so effective in fostering purposeful data use on the part of the agents (middle managers).

Second, if conscious intention matters and intention is a function of attitude and social norm, then it does not seem to be enough to foster data use through only technical improvements. In practice, this means that fine-tuning indicators, regularly updating data bases, and designing more appealing reporting formats only increase data use to a certain extent. At the same time, workshops, testimonies, best-practice examples, and powerful narratives are needed to convince managers of the value added by performance measurement practices (see Borins 2011). Only if the managers are intrinsically convinced that they need

⁴¹ Please remember that I used data quality as an indicator for the limitations of the perceived behavior control by the managers and that this indicator was not modeled as being exogenous but affected by the managers' intention.

performance measures, they will engage in time-consuming practices to make these measures usable and eventually use them for decision-making. Another aspect is the attitude of their direct peers (social norm) that needs to be shaped in favor of performance information use. For this purpose, winning a critical mass of promoters for such a steering philosophy is essential (see Armenakis, Harris, and Field 1999).

Performance Managers are not Data Miners

In contrast with existing research I found that regular users of performance information do not have a general preference to analyze reports and work with aggregated numbers. Chapter 2 used Kolb's (1984) learning styles to categorize the information processing preferences of the surveyed managers. Surprisingly, that chapter could not find a positive relation between the use of performance data and the preference to abstractly and analytically grasp information. Instead, enthusiastic users of performance information reported that they tend to gather information through first-hand experience and the interaction with people. Furthermore, chapter 2 showed that managers with high values of emotional intelligence, who can thus be considered effective people managers, are not negatively related with the use of performance information.⁴² Overall, performance information use can be positively associated with people-oriented management rather than data-driven management practices. Put differently, performance managers are not classical "data miners".

Chapter 4 found similar evidence. That chapter distinguished between the uses of different sources of performance information. It showed that managers who reported to use the systematic information from performance reports do not at the same time have a preference to study written documents in general. In fact, this relationship was even negative and therefore indicated a substitution effect for both types of information sources.

⁴² Bivariately, this relationship was even positive ($r=0.19$, $p<0.05$).

How can we explain the supposed contradiction that frequent users of performance information neither prefer to analytically gather data nor to screen written documents? One explanation is Weiss' (1980a,b) concept of "knowledge creep". Based on studying how systematic research results are used by policy makers, she theorized that information use is not always direct. Instead, knowledge can "percolate" through the different layers of a policy field and might eventually reach the decision-makers through talks with advisors, interest groups, and experts. We could expect something similar for the use of performance information. Managers do not study these reports themselves (which is why their analytical skills are not so important) but get the most critical data from the reports by talking to their advisors and the specialists around them. Another explanation could be taken from Mintzberg (1973, 1975) who argued that performance-oriented managers do not only base their decisions on backwards-oriented management systems that provide merely simplified, aggregated information. Instead, managers "wander around" (Peters and Waterman 1982) and talk to their employees in order to collect "rich" feedback (Daft and Lengel 1984). These verbal sources might also provide systematic performance information but in contrast to performance reports, they also offer interpretations and explanations of the numbers and make it possible for managers to ask questions and receive answers right away.

What does this mean for the management practice? First, since managers do not seem to spend much time on analyzing performance reports themselves, practical executive summaries that include visualization and first interpretations instead of raw data can be quite important (Brun and Siegel 2006). Second, the support staff seems to play a crucial role. Though this does not mean that large armies of analysts to support managers are necessary, their qualification and data analysis skills seem to matter (Kroll, Proeller, and Siegel 2011). As we can assume that managers do not "crunch" numbers themselves, they need support staff that is able to do this and extract the most important findings for the managers. Third, it becomes questionable whether we need more sophisticated software solutions which offer

more and more ways to integrate and analyze data – at least from the perspective of the managers. Though these tools might be useful for the support staff, the results from chapter 2 and 4 indicate that managers who regularly use performance information prefer other sources to receive their data summaries. Attempts to improve reports that contain systematic performance information should take into account that public managers might be the users of these reports but not necessarily their readers.

Performance Information Ownership

A third major finding concerned the ownership of performance information. This dissertation documented that data use is high if managers take on ownership of performance indicators at an early stage and thus make sure that the collected information will be usable for them. Chapter 2 reported a significant positive impact when managers engaged in the customization of performance measures for their purposes, personally readjusted measures, or regularly addressed goal achievement in staff meetings. Likewise, chapter 3 found that managers who firmly intend to use performance data also engaged in activities to improve the quality of the information. Increased data quality in turn led to a more regular use of performance information. Again, the conscious decision to make the data usable for management purposes and thereby taking on ownership was the critical impact factor.

For practice, these results clearly emphasize the importance of the bottom-up development of performance measurement systems. If managers can define indicators which seem useful to them and they have the freedom to readjust measures they find useless, they are more likely to collect information that will be usable for their specific management needs (Perrin 2002). To provide a balanced view, we have to acknowledge that German middle managers already possess a good deal of discretion when it comes to the task of performance measurement. Risks of the bottom-up approach certainly are that performance indicators for different city departments might end up quite fragmented and disintegrated. Also, favorable

indicators might be chosen (“easy targets”), and performance measurement will not happen if the actors at the bottom do not show any interest in this practice. Therefore, Mayne (2007) concludes that performance measurement ideally should be both top-down and bottom-up.

Performance Information is One Feedback Source among Many

The last major finding stems only from chapter 4 and thus cannot be cross-analyzed. I still wanted to mention it in this conclusion because I believe that it is interesting and important. Chapter 4 found that systematic performance information that we usually find in quantitative reports is conceptually different from unsystematic feedback provided by organizational insiders and important external stakeholders. The managers I surveyed preferred to use unsystematic feedback over systematic reports. The use of the different feedback sources turned out to be triggered by different impact factors.

For theory, these findings are critical because they suggest that we might miss a good deal of the managers’ responsiveness to performance feedback if we only study their use of systematic data. Furthermore, when we aim to explain performance information use, we should be aware that our results might vary if the definition of performance feedback changes. To receive reliable results, we should therefore not only examine the utilization of systematic data but also test whether our explanations remain the same if we use unsystematic feedback as alternative dependent variable.

For practice, the results emphasize that we should not formulate unrealistic expectations when it comes to the use of systematic performance reports. They are only one potential source of feedback that is in a competition with other sources to get the managers’ attention. Therefore, even performance measurement systems which are almost perfectly designed to meet the demands of its users are still unlikely to be the preferred information source in every decision situation. The attempt to develop such perfect systems rather increases the likelihood

that managers will be overloaded with data and offered more choices and alternatives than they can cognitively process (Simon 1997).

Limitations of this Study

The results of this dissertation are limited by the caveats of large-N research. As indicated in the introduction, quantitative approaches cannot use process tracing techniques to disclose causal chains and relationships.⁴³ Though they can precisely estimate the size and significance of effects, causal explanations have to be deduced from theory. To overcome this challenge, Chapter 2 began with a systematic review of the literature, and all empirical chapters are structured in a deductive manner – they formulated hypotheses and tested them.

A major limitation for studies where all variables stem from the same survey is the danger of common source bias. Such a bias might cause false correlations due to shared error variance. This problem can occur when common raters follow consistency motifs, are influenced by social desirability, or when scale formats or items wordings are similar. The chapters 2 to 4 already discussed this problem but I still want to summarize here the major arguments why a common source bias does not seem to be a serious problem for my data set.

First of all, a common source bias does not usually cause completely false correlations but rather slightly attenuates or increases statistical relationships (Crampton and Wagner 1994; Spector 2006). Secondly, Meier and O’Toole (2010) found that items of performance information use are not particularly prone to a common method variance if compared with other variables. They showed that the relationships between common measures of performance data use and an archival and a perceived measure of organizational performance were not statistically different. Thirdly, Chapter 2 and 3 reported that the items used in my

⁴³ Qualitative case research has its own shortcomings, such as ensuring construct validity, internal validity, external validity, and reliability (Yin 2010).

models do not share so much variance that they can be explained by one single factor. Hence, a very serious common method bias problem seems not to exist.

Another problem of statistical multivariate analysis can be that regression analysis is used even though the assumptions of this method are violated. To avoid such a pitfall, all empirical chapters conducted the common regression diagnostics: testing for multicollinearity, the normality of the residuals, and homoscedasticity. In cases where problems were identified, the estimation procedures were adjusted. If, for example, a problematic degree of heteroskedasticity was found, the regression estimations were based on robust standard errors (White 1980).

Further Research

Thus far, this chapter cross-analyzed the major conclusions of this dissertation and highlighted their implications for theory and practice. The conclusions might lead to new research directions and raise follow-up questions because this dissertation could only offer three new approaches to think about performance data use, and there are certainly many others. Some of my conclusions have to be regarded as preliminary and even call for further research. This section offers five suggestions how to proceed with the research on performance information use (see figure 5-1).

Though often implicitly assumed (de Lancer Julnes et al. 2006; Hatry 2006; Van Dooren, Bouckaert, and Halligan 2010), we still know very little about the relationship between performance data use by public managers and the actual organizational performance. The research on organizational performance has not yet identified managerial data use as a critical impact factor (for an overview of potential determinants see Walker, Boyne, and Brewer 2010). We might also not intuitively expect that this kind of management behavior shows a major direct effect on the performance of organizations. Nevertheless, information

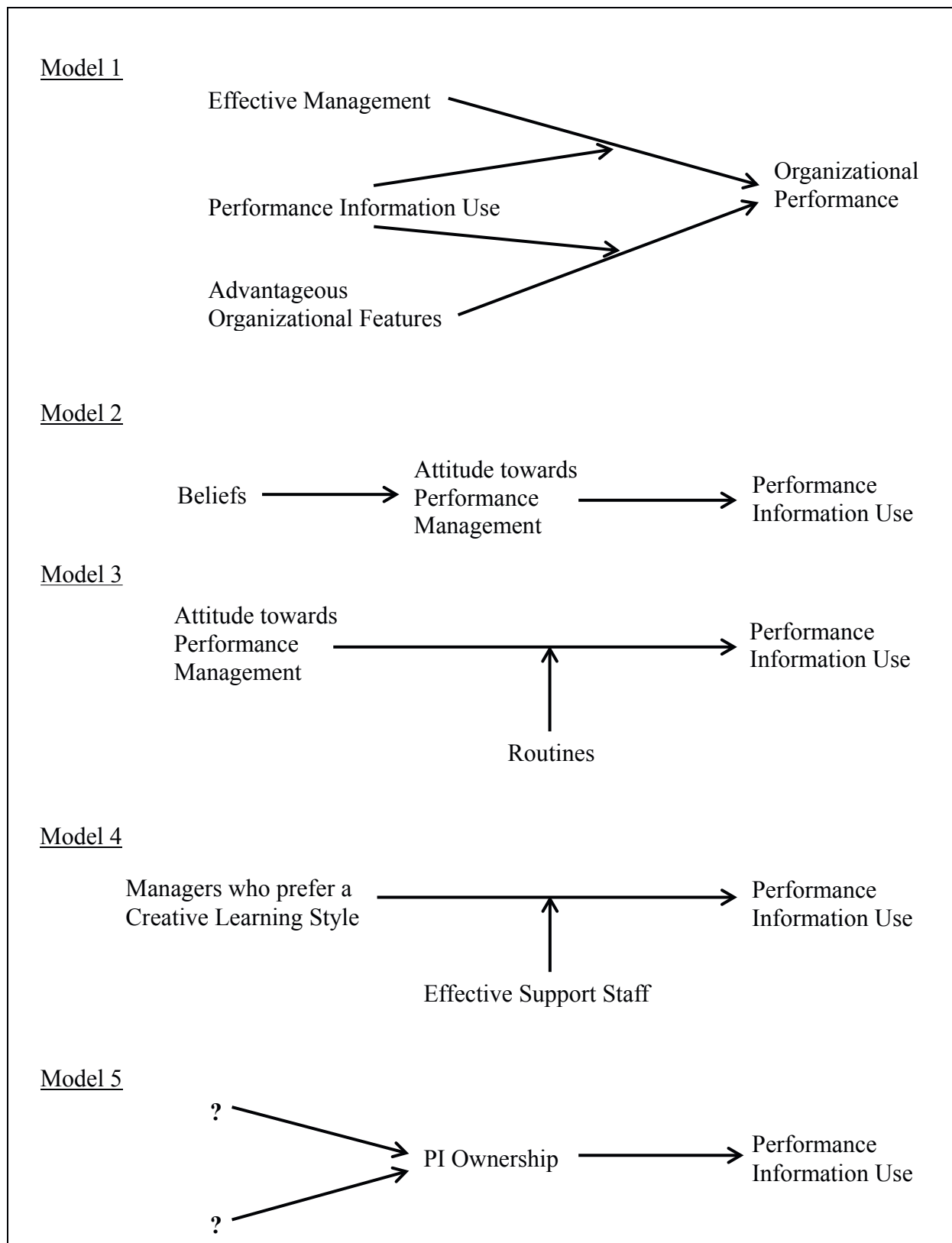
use could have an indirect link. As model 1 in figure 5-1 indicates, we could assume that the effects of other management practices and advantageous organizational features are moderated by the managerial incorporation of performance data in decision-making.⁴⁴ In other words, the impact of effective management practices or beneficial organizational variables on an organization's performance becomes stronger if at the same time managers pay attention to performance information.

Chapters 2 and 3 have shown that the managers' attitude towards performance information matters. But we still do not know much about the beliefs behind these attitudes. Following an expectancy-value model (Ajzen 2005; Fishbein and Ajzen 2010), we could try to identify managers' more general beliefs about public management and a performance-based steering philosophy in order to understand the substantial antecedents behind the behavior of performance data use (see model 2).

Another finding from this dissertation is that performance data use can be understood as the consequence of a conscious intention to perform this behavior. Likewise, a pilot study by Moynihan and Lavertu (forthcoming) showed that reporting routines do not trigger purposeful data use. However, since there is a good deal of organizational theory that emphasizes the meaning of routines and habitual actions in order to explain behavior (Becker 2005; Feldman and Pentland 2003; Levitt and March 1988), I would not dismiss these factors too quickly. Again, routines might not have a direct effect but could play the role of moderators. In such a case we could expect to observe the most intensive use of performance information if managers had a positive attitude and at the same time have developed measurement and management routines (see model 3).

⁴⁴ Examples of management practices are networking skills or perceived management quality (see O'Toole and Meier 2008). Important organizational characteristics might be an organization's structure, flexibility, culture, strategy, or workforce (see Walker, Boyne, and Brewer 2010).

Figure 5-1: Theoretical Models for Further Research



Chapter 2 and 4 found that managers who enthusiastically make use of performance information do not show the classical characteristics of data analysts. Instead, creative,

people-oriented managers used performance data quite regularly. One explanation was that managers do not have to be data analysts themselves if they can rely on support staff for this function. To examine this argument in future research, we could test whether the relationship between creative managers and the use of performance information is of a particularly high magnitude if these managers are at the same supported by effective analysts and staff (see model 4).

Chapter 2 and 3 documented that the managers' ownership of performance data is an important antecedent of its use. This is an interesting finding by itself because it shows that the managers' early engagement in the measurement process eventually pays off. However, we do not know yet why some managers show more ownership than others. Future studies could therefore treat data ownership as an important mediator of information use and try to theorize factors that explain higher or lower degrees of information ownership (see model 5).

Concluding remarks

This dissertation has contributed to an improved understanding of the phenomenon of performance information use. In spite of the limitations that come with large-N research the dissertation offered – as indicated by its title – additional conceptual, theoretical, and empirical insights. It has been empirically innovative as it tested previous models against survey data from Germany – a country that has been disregarded in the academic discussion of performance data use. It has been theoretically innovative as it suggested thus far neglected explanations of performance information use that are based on the attitudes, motivation, identity, behavior, and the psychology of the involved managers. The dissertation has also been conceptually innovative because it offered an alternative definition of performance information which includes unsystematic feedback. It showed that the behavioral antecedents vary if we use such a conceptualization of performance information use.

Appendix A: Selected Descriptive Statistics

Item	Obs.	Mean	SD	1(in %)	2(in %)	3(in %)	4(in %)	5(in %)	6(in %)	7(in %)
The Use of Different Data Types										
How regularly do you use the following performance information to make decisions?										
Input data	263	4.24	1.92	never ever	10.27	14.45	11.41	20.91	17.87	very often
Process data	260	3.79	1.80	12.17	15.00	15.77	18.01	20.77	14.23	5.38
Output data	261	3.85	1.81	14.56	12.64	14.18	18.01	18.01	18.01	4.60
Efficiency data	259	3.46	1.82	16.99	20.08	16.99	13.51	17.37	8.88	6.18
Quality data	256	3.06	1.78	24.61	22.66	14.45	14.84	11.33	8.20	3.91
Outcome data	256	2.54	1.63	36.33	23.83	12.50	12.50	7.81	5.86	1.17
Data Use for Different Purposes										
I use performance information...										
...to make better informed decisions.	255	4.52	1.76	never ever	12.16	10.59	11.37	25.49	22.35	very often
...to track goal achievement.	257	4.16	1.88	10.12	15.18	11.28	15.18	19.07	18.29	11.76
...as a basis for discussing improvements.	257	4.14	1.69	7.78	14.40	12.45	15.56	25.29	20.23	10.89
...to find out what works and what doesn't.	256	4.00	1.69	7.81	14.84	16.80	17.97	20.70	16.02	4.28
...to communicate the work of my division externally.	254	4.45	1.81	8.27	9.06	13.78	14.17	20.47	21.26	5.86
...to communicate the work of my division within the city administration.	257	4.37	1.79	8.56	10.51	10.89	17.12	22.57	18.68	12.99
Data Ownership										
There have been staff trainings regarding performance management in my division.										
In staff meetings I regularly address the issues of goal achievement and performance measures.	243	2.93	1.86	strongly disagree	23.46	13.58	13.58	7.41	7.00	strongly agree
I personally readjust performance measures if they have turned out to be useless.	242	3.36	1.70	14.05	26.03	15.70	14.88	14.88	12.40	6.17
I am very much involved in the development of performance measures.	241	4.49	1.93	9.96	11.62	9.13	12.86	15.77	26.56	2.07
I have much experience with performance data.	240	4.48	1.76	4.17	14.58	10.83	19.17	15.83	21.67	14.11
	243	4.62	1.71	3.29	10.29	15.64	16.05	15.64	25.10	13.75

Cynicism														
Performance-based steering is one of these “trendy topics” which will disappear as quickly as they have emerged.	242	2.57	1.67	35.54	strongly disagree	24.79	11.57	14.05	5.79	5.79	2.48	strongly agree		
Performance information is barely conclusive. After all, the set targets will be achieved anyways.	241	2.26	1.47	40.66		28.22	10.79	10.79	4.56	4.15	0.83			
The formulation of performance measures will lead to the creation of data graveyards but not to an improved steering.	241	2.86	1.54	19.09		35.27	10.79	18.67	9.13	5.81	1.24			
Intention to Use Performance Information														
I intend to use the PI that is available in my division.	243	5.19	1.59	2.47	strongly disagree	5.35	7.41	14.81	20.16	25.51	24.28	strongly agree		
When important decisions are made, all relevant, available PI should be considered.	237	5.72	1.37	0.00		3.38	5.06	10.55	15.61	27.85	37.55			
Attitudes towards Performance Data														
A stronger focus on outputs and results would improve the steering of public administration.	241	4.97	1.42	0.83	strongly disagree	4.56	10.79	19.09	25.73	23.65	2.08	strongly agree		
Performance measures create more costs than benefits and therefore create more problems than they solve. (r)	240	5.27	1.50	22.92		32.08	13.33	19.17	7.92	2.50				
Social Norm														
For the most public managers I work with, performance-based steering is an important issue.	241	3.34	1.42	8.30	strongly disagree	23.24	23.24	26.97	8.71	8.30	1.24	strongly agree		
My supervisor shows great interest in our performance information.	239	3.56	1.93	15.06		23.01	15.48	15.48	10.04	10.04	10.88			

Appendix B: Questionnaire (in German)

Führungskräftebefragung in der Kommunalverwaltung: Erfahrungen mit Kennzahlen

Teil I: Berichtswesen, Kennzahlen und sonstige Steuerungsinformationen

1. Inwieweit liegen folgende Arten von Kennzahlen für Ihren Bereich vor?

(1 = überhaupt nicht; 7 = in sehr großem Umfang)

- **Kennzahlen über Ressourceneinsatz**
(z.B. Vollzeitäquivalente, geplante und getätigte Auszahlungen/Aufwendungen)
- **Prozesskennzahlen**
(z.B. Bearbeitungszeit, Fälle pro Mitarbeiter, Krankheitsquote)
- **Leistungs- und Mengenkennzahlen**
(z.B. Anzahl erbrachter Leistungen, Anzahl ausgestellter Genehmigungen, Anzahl Kundenkontakte)
- **Effizienzkennzahlen**
(z.B. Produktkosten, Kostendeckungsgrad, Kosten je ...)
- **Qualitätskennzahlen**
(z.B. Kundenzufriedenheit, Anzahl Beschwerden, Wartezeit in min)
- **Wirkungskennzahlen**
(die etwas über die beabsichtigten Verhaltensänderungen der Zielgruppe aussagen, z.B. Entwicklung Neuansiedlungen, Stauhäufigkeit, Jugendkriminalität)

2. Welche der folgenden Aussagen treffen auf die Arbeit mit Kennzahlen in Ihrem Bereich zu? (Mehrfachkreuze sind möglich)

(0 = nein, 1 = ja)

- Kennzahlen werden erhoben.
- Kennzahlen werden formalisiert berichtet.
- Kennzahlen werden in einem regelmäßigen Turnus berichtet.
- Kennzahlen befinden sich im Haushaltsplan oder Teilhaushalt.
- Kennzahlen werden unterjährig innerhalb der Verwaltung berichtet.
- Kennzahlen werden im Zeitvergleich („Zeitreihe“) aufbereitet.
- Kennzahlen sind an Veränderungsziele gekoppelt und messen deren Erreichung.
- Kennzahlen werden in Datenbanken zusammengeführt.
- Es gibt einen Leitfaden, der die Bildung von Kennzahlen erleichtert.
- Es gibt eine regelmäßige Qualitätskontrolle für Kennzahlen.
- Es existieren Kennzahlen-bezogene Vergleichsringe mit anderen Kommunen.
- Es existiert ein hierarchisches Kennzahlensystem mit übergeordneten Schlüsselindikatoren und daraus abgeleiteten Detailkennzahlen.
- Kennzahlen sind in einen strategischen Gesamtplan integriert.

3. Wie schätzen Sie die Kennzahlen, die in Ihrem Bereich vorliegen, bezüglich der folgenden Dimensionen ein?

(1 = sehr gering, 7 = sehr hoch)

- Verfügbarkeit
- Steuerungsrelevanz
- Verständlichkeit
- Verlässlichkeit
- Qualität insgesamt

4. Wie häufig nutzen Sie folgende Kennzahlen, um Entscheidungen zu treffen.

(1 = überhaupt nicht, 7 = sehr häufig)

- **Kennzahlen über den Ressourceneinsatz**
(z.B. Vollzeitäquivalente, geplante und getätigte Auszahlungen/Aufwendungen)
- **Prozesskennzahlen**
(z.B. Bearbeitungszeit, Fälle pro Mitarbeiter, Krankheitsquote)
- **Leistungs- und Mengenkennzahlen**
(z.B. Anzahl erbrachter Leistungen, Anzahl ausgestellter Genehmigungen, Anzahl Kundenkontakte)
- **Effizienzkennzahlen**
(z.B. Produktkosten, Kostendeckungsgrad, Kosten je ...)
- **Qualitätskennzahlen**
(z.B. Kundenzufriedenheit, Anzahl Beschwerden, Wartezeit in min)
- **Wirkungskennzahlen**
(die etwas über die intendierten Verhaltensänderungen der Zielgruppe aussagen, z.B. Entwicklung Neuansiedlungen, Stauhäufigkeit, Jugendkriminalität)

5. Wie häufig verwenden Sie Kennzahlen für folgende Funktionen?

(1 = überhaupt nicht, 7 = sehr häufig)

- Um Planungen besser informiert vornehmen zu können
- Um herauszufinden, was funktioniert und was nicht
- Um die Ergebnisse des Fachbereichs nach außen zu kommunizieren
- Um Zielerreichung überprüfen zu können
- Um die Ergebnisse des Fachbereichs innerhalb der Stadtverwaltung darzustellen
- Um eine Basis zu schaffen, auf der Vorschläge für Verbesserungen diskutiert werden können

6. Inwieweit stimmen Sie den folgenden Aussagen über die Eigenschaften der Organisationsbereiche/Einheiten zu, die Sie bei der Arbeit mit Kennzahlen unterstützen sollen (z.B. zentrale oder dezentrale Controller).

(1 = überhaupt nicht, 7 = voll und ganz)

Die Einheiten...

- ...sind jederzeit ansprechbar und stehen uns mit Rat und Tat zur Seite.
- ...besitzen die nötige Kompetenz, um unsere Probleme bei der Arbeit mit Kennzahlen zu lösen.
- ...arbeiten eher losgelöst vom Rest der Verwaltung und sind keine Hilfe für uns.
- ...sind ausreichend mit Ressourcen ausgestattet, um ihre Arbeit zu tun.

7. Wie schätzen Sie die Akzeptanz von Kennzahlen bei Ihren Mitarbeitern ein?

(1 = sehr gering, 7 = sehr groß)

8. Nachfolgend haben wir 24 kurze Einschätzungen zum Thema „Kennzahlen“ aufgelistet. Bitte geben Sie an, inwieweit Sie diesen auf der Basis Ihrer eigenen Erfahrungen zustimmen.

(1 = überhaupt nicht; 7 = voll und ganz)

1. Eine stärkere Fokussierung auf die Ergebnisse und Leistungen würde die Arbeit der Verwaltung verbessern.
2. Eine Steuerung mittels Kennzahlen halte ich für wichtig.
3. Ich habe bereits viel Erfahrung bei der Arbeit mit Kennzahlen.
4. Für die meisten Führungskräfte, mit denen ich häufig zusammenarbeite, ist die Steuerung mit Kennzahlen ein sehr wichtiges Thema.
5. In meinem Bereich fanden Mitarbeiterschulungen zum Thema Kennzahlen statt.
6. Die Steuerung mit Kennzahlen ist eines dieser Modethemen, die genauso schnell, wie sie aufgekommen sind, auch wieder verschwinden werden.
7. Ich beabsichtige, die Kennzahlen, die in meinem Bereich vorliegen, zur Steuerung zu verwenden.
8. Wenn es mir wichtig ist, eine bestimmte Kennzahl zu wissen, erfahre ich diese auch.
9. Kennzahlen liefern mir relevante Informationen, wenn sie im Zeitverlauf dargestellt sind.
10. Kennzahlen erzeugen einen größeren Aufwand als Nutzen und schaffen damit mehr Probleme, als sie lösen.
11. In Besprechungen mit meinen Mitarbeitern werden Kennzahlen regelmäßig thematisiert.
12. Mein Vorgesetzter zeigt ein großes Interesse an unseren Kennzahlen.
13. Kennzahlen sind irrelevant. Schließlich werden die gesetzten Ziele ohnehin meistens auch erreicht.
14. Wenn ich steuerungsrelevante Informationen benötige, führe ich lieber schnell ein Telefonat, als einen langen Kennzahlenbericht zu lesen.
15. Wenn mir Kennzahlen oder Indikatoren nicht sinnvoll erscheinen, Sorge ich dafür, dass diese entsprechend verändert werden.
16. Ich finde es sehr schwierig, aus umfangreichen Berichten die wesentlichen Informationen herauszulesen.
17. Wenn wichtige Entscheidungen zu treffen sind, sollten alle relevanten, zur Verfügung stehenden Kennzahlen einbezogen werden.
18. Die Arbeit mit Kennzahlen führt zu besseren Entscheidungen.
19. Wenn Entscheidungen getroffen werden, ist es letztlich wichtig, was politisch gewollt ist und nicht, ob Kennzahlen erfüllt wurden.
20. Den Kommunalpolitikern ist das Thema „Steuern mit Kennzahlen“ ein wichtiges Anliegen.
21. Ob Kennzahlen für Entscheidungen berücksichtigt werden, hängt letztlich vom Entscheidungsträger selbst ab.
22. Ich bringe mich intensiv in die Kennzahlenbildung ein.
23. Die Bildung von Kennzahlen wird zur Errichtung von „Datenfriedhöfen“ führen, nicht aber zu einer verbesserten Steuerung.
24. Das Potenzial von Kennzahlen für die Verwaltungssteuerung wurde bislang längst noch nicht ausgeschöpft.

9. Wie wichtig sind folgende Quellen, um Ihnen steuerungsrelevante Informationen und Rückmeldungen über die Arbeit Ihres Bereichs zu liefern?

(1 = nicht wichtig, 7 = sehr wichtig)

1. Verwaltungsinterne Schriftstücke und Vermerke
2. Verwaltungsexterne Schriftstücke, z.B. Gutachten und Evaluationsstudien
3. Schriftliche Anfragen von Kommunalpolitikern
4. Schriftliche Eingaben von Verbänden, Kunden oder Adressaten
5. Lokale Medien
6. Formelle Besprechungen mit anderen Verwaltungsmitarbeitern/-leitung
7. Informelle Gespräche mit anderen Verwaltungsmitarbeitern/-leitung
8. Formelle Besprechungen mit Lokalpolitikern
9. Informelle Gespräche mit Lokalpolitikern
10. Gespräche mit Interessenverbänden, Vereinen, Bürgern, Medien
11. Gespräche mit Kunden, Adressaten, ihrer Zielgruppe

Teil II: Fachbereich, Stadtverwaltung, Verwaltungsumfeld

10. Inwieweit stimmen Sie den folgenden Aussagen zu Ihrer Stadtverwaltung und Ihrem Bereich zu?

(1 = überhaupt nicht, 7 = voll und ganz)

- In meiner Stadtverwaltung wird klar kommuniziert, welche Ziele wir in den nächsten Jahren gemeinsam erreichen möchten.
- Mein Fachbereich ist angemessen mit Ressourcen ausgestattet, um seine Aufgaben erfüllen zu können.
- Zwischen meinen Vorgesetzten und mir herrscht ein besonders ausgeprägtes Vertrauensverhältnis.
- Wenn ich Aufgaben an meine Mitarbeiter delegiere, ist es notwendig, dass ich deren Erledigung regelmäßig überprüfe.
- Ich stehe in regem Austausch mit den Kollegen anderer Kommunalverwaltungen, die im selben Bereich tätig sind

11. Inwieweit treffen folgende Aussagen auf die Stadtverwaltung zu, in der Sie tätig sind?

(1 = überhaupt nicht, 7 = voll und ganz)

- Meine Stadt hat eine dynamische und unternehmerische Verwaltung. Die Mitarbeiter sind offen für Neues und scheuen keine Risiken.
- Innovation und Weiterentwicklung sind zentrale Werte der Mitarbeiterschaft.
- Die Mitarbeiter zeigen große Bereitschaft, neue Herausforderungen zu meistern.
- Meine Stadtverwaltung zeichnet sich durch ein hohes Maß an Partizipation und Zusammenarbeit der verschiedenen Bereiche aus.
- Formale Regeln und bürokratische Abläufe spielen in unserer Stadtverwaltung eine große Rolle.

12. Bitte geben Sie an, inwieweit Sie spontan mit den folgenden Aussagen übereinstimmen.

(1 = überhaupt nicht; 7 = voll und ganz)

In unserer Stadtverwaltung...

- ...reflektieren wir konsequent und bewusst, wie wir unsere Handlungs- und Leistungsfähigkeit verbessern können.
- ...sind wir in der Lage, uns schnell an sich ändernde Bedingungen in unserem Umfeld anzupassen.
- ...werden Erfahrungen mit Veränderungsprozessen regelmäßig reflektiert, um aus diesen für die Zukunft zu lernen.
- ...werden Erfahrungen mit der Aufgabenerledigung regelmäßig reflektiert, um diese kontinuierlich zu verbessern.
- ...besitzen wir grundsätzlich die Fähigkeit, Probleme umgehend und effektiv zu lösen.

In meinem Verantwortungsbereich...

- ...sind wir in der Lage, unsere Aufgaben jederzeit auf hohem Qualitätsniveau bedarfsgerecht zu erfüllen.
- ...werden wir von den Servicebereichen, die interne Dienstleistungen erbringen, optimal bei unserer Arbeit unterstützt.
- ...sind wir in der Lage, unsere eingesetzten Ressourcen so zu steuern, dass wir unsere Aufgaben optimal erfüllen können.

13. Welche der folgenden Aussagen treffen für Ihren Fachbereich bzw. Ihre Stadt zu?

(Mehrfachkreuze sind möglich)

- Meinem Bereich ist ein Budget zugewiesen, in dessen Rahmen ich eigenverantwortlich über die Ressourcen verfügen kann.
- Der Bereich, den ich leite, ist aus der Stadtverwaltung ausgegliedert (z.B. in Form eines Eigen- bzw. Regiebetriebs oder als GmbH).
- Die Stadt, für die ich arbeite, unterliegt Maßnahmen der rechtsaufsichtlichen Haushaltssicherung.
- Bei der letzten Bürgermeisterwahl hat die Partei gewechselt, die den Bürgermeister stellt.
- Der derzeitige Bürgermeister ist Mitglied der Partei, die auch im Rat die stärkste Fraktion stellt.

14. Wie viel Einwohner hat die Stadt, für die Sie arbeiten?

(1 Kreuz möglich)

- über 400.000
- 200.000 – 400.000
- 100.000 – 200.000
- 50.000 – 100.000
- 25.000 – 50.000

Teil III: Management, Führung und individuelle Ansichten

15. Bitte wählen Sie die vier Aufgaben aus, mit denen Sie täglich die meiste Zeit verbringen.

- Interaktion mit Mitarbeitern und deren Führung
- Pflegen persönlicher Kontakte zu anderen Führungskräften innerhalb sowie Akteuren außerhalb der Verwaltung
- Aufnehmen von Informationen aus Schriftstücken, Emails und persönlichen Gesprächen
- Informieren von Politikern, Bürgern und Interessengruppen über der Arbeitsstand des eigenen Fachbereichs
- Einbringen neuer Ideen und Initiierung entsprechender Vorhaben
- Fehlentwicklungen entgegensteuern und auf unvorhergesehene Herausforderungen reagieren
- Verteilung von finanziellen Ressourcen und die Zuteilung von Aufgaben und Mitarbeitern
- Verhandlungen führen mit Akteuren innerhalb und außerhalb der Stadtverwaltung
- Bearbeitung von Fachaufgaben und Mitarbeit in Fachprojekten

16. Bitte geben Sie an, inwieweit Sie den folgenden Aussagen über das Führungsverhalten Ihres direkten Vorgesetzten zustimmen.

(1 = überhaupt nicht, 7 = voll und ganz)

Mein Vorgesetzter...

- ...kommuniziert klar seine Vision für die Zukunft.
- ...ist stets ein gutes Vorbild.
- ...fordert mir ab, über alte Probleme auf neue Weise nachzudenken.
- ...versteht es zu vermitteln, dass wir stolz auf unsere Stadtverwaltung sein können.
- ...ist daran interessiert, dass sich seine Mitarbeiter weiterentwickeln.

17. Bitte geben Sie an, inwieweit Sie spontan mit den folgenden Aussagen übereinstimmen.

(1 = überhaupt nicht; 7 = voll und ganz)

- Für mich spielen hierarchische Ordnungen in der Verwaltung keine bedeutende Rolle.
- Bevor ich Vorschläge einbringe, stelle ich sicher, dass diese auch breite Unterstützung finden werden.
- In meiner derzeitigen Position sollten mir mehr Handlungs- und Gestaltungsspielräume geboten werden.
- Kontinuität ist wichtiger als Veränderung.
- Ich könnte mir gut vorstellen, in den nächsten Jahren in einem Unternehmen der Privatwirtschaft zu arbeiten.
- Rechtmäßigkeit ist für die Verwaltung ein wichtigerer Wert als Effizienz.

18. Bitte geben Sie an, inwieweit Sie mit den folgenden Aussagen zu Ihren individuellen Ansichten übereinstimmen.

(1 = überhaupt nicht; 7 = voll und ganz)

- Das Wort „Politik“ hat einen bitteren Beigeschmack.
- Nach Dienstschluss engagiere mich in hohem Maße gemeinnützig.
- Öffentliche Bedienstete sollten primär gegenüber der Öffentlichkeit und nicht gegenüber ihren Vorgesetzten verantwortlich sein.
- Für mich gehört es zu den Pflichten eines Staatsbürgers, sich um das Wohlergehen der anderen zu kümmern.
- Ich habe wenig Mitleid mit jenen Bedürftigen, die nicht bereit sind, den ersten Schritt zu tun, um sich selbst zu helfen.
- In der Gesellschaft etwas zu bewegen, bedeutet mir mehr als persönlicher Erfolg.

19. Bitte geben Sie an, inwieweit Sie mit den folgenden Aussagen zur emotionalen Grundhaltung übereinstimmen.

(1 = überhaupt nicht; 7 = voll und ganz)

- Wenn ich in guter Stimmung bin, fällt es mir leicht, neue Ideen zu entwickeln.
- Ich gebe oft Komplimente, wenn andere etwas gut gemacht haben.
- Ich motiviere mich selbst, indem ich mir die guten Ergebnisse meiner Arbeit vorstelle.
- Ich finde es schwierig, „zwischen den Zeilen zu lesen“ und nonverbale Botschaften zu verstehen.
- Wenn ich Probleme lösen möchte, versuche ich, diese so emotionslos wie möglich zu bearbeiten.
- In Stresssituationen ist es für mich schwierig, meine Emotionen zu kontrollieren.

20. In Ihrem Beruf befinden Sie sich wahrscheinlich oft in Situationen, in denen Sie vor neue Herausforderungen gestellt werden, die Sie bewältigen müssen. Wir bezeichnen diesen Vorgang als „Lernen“.

Stellen Sie sich bitte einige dieser Situationen vor, die Sie vor kurzem erlebt haben.

Schätzen Sie die folgenden vier Arten zu lernen daraufhin ein, inwieweit sie dem Lernstil entsprechen, den Sie persönlich bevorzugen.

Verteilen Sie dazu bitte die Ränge 1 bis 4 so, dass jeder Rang nur einmal verwendet wird.

ACHTUNG!!!

„Rang 1“ bedeutet, dass dieser Lernstil **am besten** auf Sie zutrifft.

„Rang 4“ bedeutet „trifft **am wenigsten** zu“.

Ich lerne am besten, wenn ich...

- offen bin und persönlichen Kontakt habe.
- ausprobiere, aktiv und praxisorientiert bin.
- beobachte, sorgfältig bin und ein Thema von allen Seiten betrachte.
- analysiere, denke und Dinge bewerte.

Teil IV: Soziodemographische Angaben**21. In welchem der folgenden Ämter oder Fachbereiche sind Sie tätig?**

(1 Kreuz möglich)

- Hauptamt/Zentrale Dienste/Organisation/Personal
- Kämmereiamt/Haushalt/KLR
- Bürgeramt/Bürgerservice
- Gebäudewirtschaft/Liegenschaften
- Kulturamt
- Bauamt/Bauaufsicht
- Sozialamt/ARGE
- Jugendamt/Jugendhilfe

22. Seit wie vielen Jahren arbeiten Sie bereits für die Stadtverwaltung, für die Sie derzeit tätig sind?

(metrisch)

Geben Sie bitte Ihre Antwort in Form von zwei Ziffern an, z.B. 02 oder 12 etc.

23. Seit wie vielen Jahren arbeiten Sie bereits in ihrer derzeitigen Position?

(metrisch)

Geben Sie bitte Ihre Antwort in Form von zwei Ziffern an, z.B. 02 oder 12 etc.

24. Kreuzen Sie bitte den höchsten Ausbildungsabschluss an, den Sie besitzen?

(1 Kreuz möglich)

1. Berufsausbildung
2. Fachhochschulabschluss
3. Hochschul- oder Universitätsabschluss
4. Promotion

25. In welchem der folgenden Felder haben Sie Ihren Abschluss absolviert?

(1 Kreuz möglich)

- Verwaltung
- Recht
- Wirtschaft
- Gesellschaft/Politik
- Soziales
- Ingenieurwesen/Bau
- Naturwissenschaften
- Bildung
- Kultur/Sprache
- Sonstiges

26. In welchem Jahr wurden Sie geboren?

(offen)

Geben Sie bitte Ihre Antwort in Form von vier Ziffern an, z.B. 1954.

27. Geschlecht

(1 Kreuz)

(0 = weiblich, 1 = männlich)

28. In welchem Bundesland befindet sich die Stadt, für die Sie arbeiten?

(1 Kreuz)

Baden-Württemberg

Bayern

Berlin

Brandenburg

Bremen

Hamburg

Hessen

Mecklenburg-Vorpommern

Niedersachsen

Nordrhein-Westfalen

Rheinland-Pfalz

Saarland

Sachsen

Sachsen-Anhalt

Schleswig-Holstein

Thüringen

Bibliography

- Ajzen, Icek. 1985. From intentions to actions: A theory of planned behavior. In *Action-control: From cognition to behavior*, edited by Julius Kuhl and Jürgen Beckmann, 11–39. Berlin: Springer.
- _____. 1991. The theory of planned behavior. *Organizational Behavior and Human Decision Processes* 50: 179–211.
- _____. 2005. *Attitudes, personality, and behavior*. Maidenhead: Open University Press.
- Albrecht, Simon. 2003. Cynicism toward change in the public sector. In *Current Topics in Management (Vol. 8)*, edited by M. Afzalur Rahim, Robert Golembiewski, and Kenneth Mackenzie, 241–60. Stamford, CT: JAI Press.
- Ammons, David, and William Rivenbark. 2008. Factors influencing the use of performance data to improve municipal services: Evidence from the North Carolina benchmarking project. *Public Administration Review* 68(2): 304–31.
- Armenakis, Achilles, Stanley Harris, and Hubert Feild. 1999. Paradigms in organizational change: Change agent and change target perspectives, In *Handbook of organizational behavior*, edited by Robert Golembiewski, 631–58. New York: Marcel Dekker.
- Askim, Jostein, Åge Johnsen, and Knut-Andreas Christophersen. 2008. Factors behind organizational learning from benchmarking: Experiences from Norwegian municipal benchmarking networks. *Journal of Public Administration Research and Theory* 18(2): 297–320.
- Austin, Elizabeth, Donald Saklofske, Sandra Huang, and Deanne McKenney. 2004. Measurement of trait emotional intelligence: Testing and cross-validating a modified version of Schutte et al.'s (1998) measure. *Personality and Individual Differences* 36: 555–62.
- Bagozzi, Richard, and Paul Warshaw. 1990. Trying to consume. *Journal of Consumer Research* 17(2): 127–40.
- Bandura, Albert. 1986. *Social foundations of thought and action. A social cognitive theory*. Englewood Cliffs, NJ: Prentice-Hall, Inc.
- Bargh, John, Peter Gollwitzer, Annette Lee-Chai, Kimberly Barndollar, and Roman Trötschel. 2001. The automated will: Nonconscious activation and pursuit of behavioral goals. *Journal of Personality and Social Psychology* 81(6): 1014–27.
- Becker, Markus. 2005. A framework for apply organizational routines in empirical research: Linking antecedents, characteristics, and performance outcomes of recurrent interaction patterns. *Industrial and Corporate Change* 14(5): 817–46.
- Behn, Robert. 1994. *Leadership counts: Lessons for public managers from the Massachusetts welfare, training and employment program*. Cambridge, Mass.: Harvard Univ. Press.

- _____. 1995. The big questions of public management. *Public Administration Review* 55(4): 313–24.
- _____. 2003. Why measure performance? *Public Administration Review* 63(5): 586–607.
- Benbasat, Izak, and Ronald Taylor. 1978. The impact of cognitive styles on information system design. *MIS Quarterly* 2(2): 43–54.
- Berman, Evan, and XioHu Wang. 2000. Performance measurement in U.S. counties: Capacity for reform. *Public Administration Review* 60(5): 409–420.
- Bevan, Gwyn, and Christopher Hood. 2006. What's measured is what matters: Targets and gaming in the English public health care system. *Public Administration* 84(3): 517–38.
- Bijlsma-Frankema, Katinka, and Ana Costa. 2005. Understanding the trust–control nexus. *International Sociology* 20(3): 259–82.
- Bogumil, Jörg, Stephan Grohs, Sabine Kuhlmann, and Anna Ohm. 2007. *Zehn Jahre Neues Steuerungsmodell. Bilanz der Umsetzung*. Berlin: Edition Sigma.
- Borins, Sandford. 2011. *Governing fables: Learning from public sector narratives*. Charlotte, NC: Information Age Publ.
- Bouckaert, Geert, and John Halligan. 2008. *Managing performance: International comparisons*. London: Routledge.
- Bourdeaux, Carolyn, and Grace Chikoto. 2008. Legislative influences on performance management reform. *Public Administration Review* 68(2): 253–65.
- Boyne, George, Julian Gould-Williams, Jennifer Law, and Richard Walker. 2004. Toward the self-evaluating organization? An empirical test of the Wildavsky model. *Public Administration Review* 64(4): 463–73.
- Boyne, George, and Richard Walker. 2010. Strategic management and public service performance: The way ahead. *Public Administration Review* 70(s1): s185–92.
- Brewer, Gene. 2008. Employee and organizational performance. In *Motivation in public management: The call of public service*, edited by James Perry, and Annie Hondeghem, 136–56. Oxford: Oxford University Press.
- Bright, Leonard. 2007. Does person-organization fit mediate the relationship between public service motivation and the job performance of public employees? *Review of Public Personnel Administration* 27(4): 361–79.
- Browne, Michael, and Robert Cudeck. 1993. Alternative ways of assessing model fit. In *Testing structural equation models*, edited by Kenneth Bollen and Scott Long, 136–61. Newbury Park: Sage.

- Brun, Mathias, and John Siegel. (2006). What does appropriate performance reporting for political decision makers require? Empirical evidence from Switzerland. *International Journal of Productivity and Performance Management* 55(6): 480–97.
- Brunsson, Nils. 2003. *The organization of hypocrisy: Talk, decisions and actions in organizations*. Copenhagen: Business School Press.
- Byrne, Barbara. 2010. *Structural equation modeling with AMOS: Basic concepts, applications, and programming*. New York, NY: Routledge, Taylor & Francis.
- Campbell, Donald. 1963. Social attitudes and other acquired behavioral dispositions. In: *Psychology: A study of a science Vol. 6*, edited by Sigmund Koch, 94–172. New York: McGraw-Hill.
- Catania, Joseph, Susan Kegeles, and Thomas Coates. 1990. Towards an understanding of risk behavior: An AIDS reduction model (ARRM). *Health Education Quarterly* 17(1): 53–72.
- Chang, Sea-Jin, Arjen van Witteloostuijn, and Lorraine Eden. 2010. From the editors: Common method variance in international business research. *Journal of International Business Studies* 41(3): 178–84.
- Child, John. 1984. *Organization: A guide to problems and practice*. London: Paul-Chapman-Publ.
- Cooper, Harris. 2010. *Research synthesis and meta-analysis: A step-by-step approach*. Los Angeles: Sage.
- Cordano, Mark, and Irene Frieze. 2000. Pollution reduction preferences of U.S. environmental managers: Applying Ajzen's theory of planned behavior. *The Academy of Management Journal* 43(4): 627–41.
- Crampton, Suzanne, and John Wagner. 1994. Percept-percept inflation in microorganizational research: An investigation of prevalence and effect. *Journal of Applied Psychology* 79(1): 67–76.
- Daft, Richard, and Robert Lengel. 1984. Information richness: A new approach to managerial behaviour and organization design. *Research in Organizational Behaviour* 6: 191–233.
- Das, T.K., and Bing-Sheng Teng. 2001. Trust, control, and risk in strategic alliances: An integrated framework. *Organization Studies* 22(2): 251–83.
- Day, Arla, and Sarah Carroll. 2004. Using an ability-based measure of emotional intelligence to predict individual performance, group performance, and group citizenship behaviours. *Personality and Individual Differences* 36(6): 1443–58.
- de Alwis, Gina, Shaheen Majid, and Abdus Chaudhry. 2006. Transformation in managers' information seeking behaviour: A review of the literature. *Journal of Information Science* 32(4): 362–77.

- de Bunt, Gerhard, Rafael Wittek, and Maurits de Klepper. 2005. The evolution of intra-organizational trust networks: The case of a German paper factory: An empirical test of six trust mechanisms. *International Sociology* 20(3): 339–69.
- de Lancer Julnes, Patria, Frances Berry, Maria Aristigueta, and Kaifeng Yang (eds). 2007. *International handbook of practice-based performance management*. Los Angeles, Calif.: Sage.
- _____. 2007. Prologue. In *International handbook of practice-based performance management*, edited by Patria de Lancer Julnes, Frances Berry, Maria Aristigueta, and Kaifeng Yang, ix–xx. Los Angeles, Calif.: Sage.
- de Lancer Julnes, Patria, and Marc Holzer. 2001. Promoting the utilization of performance measures in public organizations: An empirical study of factors affecting adoption and implementation. *Public Administration Review* 61(6): 693–708.
- Deming, William. 1994. *The new economics for industry, government, education*. Cambridge, MA: Massachusetts Institute of Technology.
- Dulany, Donelson. 1968. Awareness, rules, and propositional control: A confrontation with S-R behavior theory. In *Verbal behavior and general behavior theory*, edited by Theodore Dixon and Deryck Horton, 340–87. Englewood Cliffs, NJ: Prentice-Hall.
- Dull, Matthew. 2009. Results-model reform leadership: Questions of credible commitment. *Journal of Public Administration Research & Theory* 19(2): 255–84.
- Elfenbein, Hillary, Maw Foo, Judith White, Hwee Tan, and Voon Aik. 2007. Reading your counterpart: The benefit of emotion recognition accuracy for effectiveness in negotiation. *Journal of Nonverbal Behavior* 31(4): 205–23.
- Epstein, Seymour. 1979. The stability of behavior: I. On predicting most of the people much of the time. *Journal of Personality and Social Psychology* 37(7): 1097–126.
- Feldman, Martha, and Brian Pentland. 2003. Reconceptualizing organizational routines as a source of flexibility and change. *Administrative Science Quarterly* 48(1): 94–118.
- Fishbein, Mark, and Icek Ajzen. 1975. *Belief, attitude, intention, and behavior. An introduction to theory and research*. Reading, MA: Addison-Wesley.
- _____. 2010. *Predicting and changing behavior: The reasoned action approach*. New York, NY: Psychology Press.
- Fisher, Jeffrey, and William Fisher. 1992. Changing AIDS-risk behavior. *Psychological Bulletin* 111(3): 455–74.
- Folz, David, Reem Abdelrazek, and Yeonsoo Chung. 2009. The adoption, use, and impacts of performance measures in medium-size cities. *Public Performance & Management Review* 33(1): 63–87.

- Fox, Terry, and Wayne Spence. 2005. The effect of decision style on the use of a project management tool: An empirical laboratory study. *The Data Base* 36(2): 28–42.
- Frederickson, David, and H. George Frederickson. 2006. *Measuring the performance of the hollow state*. Washington, D.C: Georgetown Univ. Press.
- Freeman, R. Edward. 1984. *Strategic management: A stakeholder approach*. Boston: Pitman.
- GAO (U.S. General Accounting Office). 2004. *Results-oriented government. GPRA has established a solid foundation for achieving greater results*. GAO-04-38.
- _____. 2008. *Government performance: Lessons learned for the next administration on using performance information to improve results*, GAO-08-1026T.
- George, Jennifer. 2000. Emotions and leadership: The role of emotional intelligence. *Human Relations* 53(8): 1027–55.
- Gill, Derek (ed.). 2011. *The iron cage recreated: The performance management of state organizations in New Zealand*. Wellington: Institute of Policy Studies.
- Goleman Daniel. 1995. *Emotional Intelligence*. New York: Bantam Books.
- _____. 2002. *Primal leadership: Realizing the power of emotional intelligence*. Boston, Mass.: Harvard Business School Press.
- Greenberg, Jeff, and David Willey. 1994. Information for parliament: Departmental reporting. In *Perspectives on Performance Measurement and Public Sector Accounting*, edited by Ernst Buschor and Kuno Schedler, 91–100. Haupt: Bern.
- Greener, Ian, and Jane Powell. 2003. Health authorities, priority-setting and resource allocation: A study in decision-making in New Labour's NHS. *Social Policy & Administration* 37(1): 35–48.
- Hair, Joseph, William Black, Barry Babin, Rolph Anderson, and Ronald Tatham. 2006. *Multivariate data analysis*. Upper Saddle River, N.J.: Prentice-Hall.
- Hassin, Ran, Henk Aarts, Baruch Eitam, Ruud Custers, and Tali Kleiman. 2009. Non-conscious goal pursuit and the effortful control of behavior. In *Oxford handbook of human action: Social Cognition and Social Neuroscience*, edited by Ezequiel Morsella, John Bargh, and Peter Gollwitzer, 549–68. New York: Oxford University Press.
- Hatry, Harry. 2006. *Performance measurement: Getting results*. Washington, D.C: Urban Institute Press.
- Hill, Matt, Leon Mann, and Alexander Wearing. 1996. The effects of attitude, subjective norm and self-efficacy on intention to benchmark: A comparison between managers with experience and no experience in benchmarking. *Journal of Organizational Behavior* 17(4): 313–27.

- Ho, Alfred. 2006. Accounting for the value of performance measurement from the perspective of Midwestern mayors. *Journal of Public Administration Research and Theory* 16(2): 217–37.
- Hood, Christopher. 2006. Gaming in targetworld: The targets approach to managing British public services. *Public Administration Review* 66(4): 515–21.
- Horton, Sylvia. 2006. New public management: its impact on public servant's identity: An introduction to this symposium. *International Journal of Public Sector Management* 19(6): 533–42.
- Hu, Li-Tze, and Peter Bentler. 1998. Fit indices in covariance structure modeling: Sensitivity to underparameterized model misspecification. *Psychological Methods* 3(4): 424–53.
- Johansson, Tobias, and Sven Siverbo. 2009. Explaining the utilization of relative performance evaluation in local government: A multi-theoretical study using data from Sweden. *Financial Accountability & Management* 25(2): 197–224.
- Jöreskog, Karl. 1993. Testing structural equation models. In *Testing structural equation models*, edited by Kenneth Bollen and Scott Long, 294–316. Newbury Park: Sage.
- Kassem, Nada, and Jerry Lee. 2004. Understanding soft drink consumption among male adolescents using the theory of planned behavior. *Journal of Behavioral Medicine* 27(3): 273–96.
- Kelman, Steven, and John Friedman. 2009. Performance improvement and performance dysfunction: An empirical examination of distortionary impacts of the emergency room wait-time target in the English National Health Service. *Journal of Public Administration Research and Theory* 19(4): 917–46.
- Kickert, Walter. 2005. Distinctiveness in the study of public management in Europe. *Public Management Review* 7(4): 537–63.
- Kidwell, Blair, and Robert Jewell. 2008. The influence of past behavior on behavioral intent: An information-processing explanation. *Psychology & Marketing* 25(12):1151–66.
- Kline, Rex. 2005. *Principles and practice of structural equation modeling*. New York, NY: Guilford Press.
- Kolb, David. 1984. *Experiential Learning: Experience as the source of learning and development*. Englewood Cliffs, NJ.: Prentice Hall.
- _____. 2007. *Kolb Learning Style Inventory*. Boston: Hay Group.
- Kolb, Alice, and David Kolb. 2009. Experiential learning theory: A dynamic, holistic approach to management learning, education and development. In *The SAGE handbook of management learning, education and development*, edited by Steven Armstrong and Cynthia Fukami, 42–68. Los Angeles: SAGE.

- Kroll, Alexander, and Isabella Proeller. forthcoming. *Steuerung mit Kennzahlen in den kreisfreien Städten – Ergebnisse einer empirischen Studie*. Gütersloh: Bertelsmann Stiftung.
- Kroll, Alexander, Isabella Proeller, and John Siegel. 2011. Die Verwendung von Performance-Informationen: Eine Frage der Aufbau- oder Ablauforganisation? In *Innovative Verwaltungen – Innovationsmanagement als Instrument von Verwaltungsreformen*, edited by Reinbert Schauer, Norbert Thom, and Dennis Hilgers, 309–20. Linz: Trauner.
- Kuhlmann, Sabine. 2010. Performance Measurement in European local governments: a comparative analysis of reform experiences in Great Britain, France, Sweden and Germany. *International Review of Administrative Sciences* 76(2): 331–45.
- Kuhlmann, Sabine, Jörg Bogumil, and Stephan Grohs. 2008. Evaluating administrative modernization in German local governments: Success or failure of the “New Steering Model”? *Public Administration Review* 68(5): 851–63.
- Laegreid, Per, Paul Roness, and Kristin Rubecksen. 2006. Performance management in practice: The Norwegian way. *Financial Accountability and Management* 22(3): 251–70.
- Levitt, Barbara, and James March. 1988. Organizational Learning. *Annual Review of Sociology* 14: 319–40.
- Lipsey, Mark, and David Wilson. 2001. *Practical meta-analysis*. Thousand Oaks, CA: Sage.
- Lopes, Paulo, Marc Brackett, John Nezlek, Astrid Schütz, Ina Sellin, Peter Salovey. 2004. Emotional intelligence and social interaction. *Personality and Social Psychology Bulletin* 30(8): 1018–34.
- MacRae, Duncan, and James Wilde. 1985. *Policy analysis for public decisions*. Lanham, MD: University Press of America.
- March, James, and Herbert Simon. 1993. *Organizations*. Cambridge: Blackwell.
- Marsh, Herbert, John Balla, and Kit-Tai Hau. 1996. An evaluation of incremental fit indices: A clarification of mathematical and empirical properties. In *Advanced structural equation modeling*, edited by George Marcoulides and Randall Schuhmacker, 315–53. Mahwah, NJ: Lawrence Erlbaum Associates.
- Mayer, John, Richard Roberts, and Sigal Barsade. 2008. Human abilities: Emotional intelligence. *Annual Review of Psychology* 59: 507–36.
- Mayer, John and Peter Salovey. 1997. What is emotional intelligence? In *Emotional Development and Emotional Intelligence: Educational Implications*, edited by Peter Salovey, and David Sluyter, 3–31. New York: Basic Books.

- Mayne, John. 2007. Challenges and lessons in implementing results-based management. *Evaluation* 13(1): 87–109.
- Mayntz, Renate. 1997. *Soziologie der öffentlichen Verwaltung*. Heidelberg: Müller.
- McMillan, Brian, and Mark Conner. 2003. Using the theory of planned behavior to understand alcohol and tobacco use in students. *Psychology, Health and Medicine* 8(3): 317–28
- Meier, Kenneth, and Laurence O'Tool. 2009. The proverbs of new public management: Lessons from an evidence-based research agenda. *The American Review of Public Administration* 39(1): 4–22.
- _____. 2010. *Organizational performance: measurement Theory and application or, common source bias, the Achilles heel of public management research*. A Paper presented at the Annual Meeting of the American Political Science Association, Washington D.C., September 2–5.
- Melkers, Julia, and Katherine Willoughby. 2005. Models of performance-measurement use in local governments. *Public Administration Review* 65(2): 180–90.
- Meyer, Renate, and Gerhard Hammerschmid. 2006. Changing institutional logics and executive identities: A managerial challenge to public administration in Austria. *American Behavioral Scientist* 49(7): 1000–14.
- Meyer, John, and Richard Scott 1992. Centralization and the legitimacy problems of local government. In *Organizational environments: Ritual and rationality*, edited by John Meyer and Richard Scott, 199–215. Newbury Park: Sage.
- Mintzberg, Henry. 1973. *The nature of managerial work*. New York: Harper & Row.
- _____. 1975. The manager's job: Folklore and fact. *Harvard Business Review* 53(4): 49–61.
- Moynihan, Donald. 2005. Goal-based learning and the future of performance management. *Public Administration Review* 65(2): 203–16.
- _____. 2008. *The dynamics of performance management: Constructing information and reform*. Washington, D.C: Georgetown Univ. Press.
- _____. 2009. Through a glass, darkly: Understanding the effects of performance regimes. *Public Performance & Management Review* 32(4): 592–603.
- Moynihan, Donald, and Patricia Ingraham. 2004. Integrative leadership in the public sector: A model of performance-information use. *Administration & Society* 36(4): 427–53.
- Moynihan, Donald, and Noel Landuyt. 2009. How do public organizations learn? Bridging cultural and structural perspectives. *Public Administration Review* 69(6): 1097–105.

- Moynihan, Donald, and Stéphane Lavertu. (forthcoming). Does involvement in performance management routines encourage performance information use? Evaluating GPRA and PART. *Public Administration Review*.
- Moynihan, Donald, and Sanjay Pandey. 2005. Testing how management matters in an era of government by performance management. *Journal of Public Administration Research & Theory* 15(3): 421–39.
- _____. (2010). The big question for performance management: Why do managers use performance information? *Journal of Public Administration Research and Theory* 20(4): 849–66.
- Moynihan, Donald, Sanjay Pandey, and Bradley Wright. 2011. Setting the table: How transformational leadership fosters performance information use. *Journal of Public Administration Research and Theory* (Advance Access published September 7, 2011).
- _____. (forthcoming). Prosocial values and performance management theory: The link between perceived social impact and performance information use. *Governance*.
- Mueller, Jennifer, and Jared Curhan. 2006. Emotional intelligence and counterpart mood induction in a negotiation. *International Journal of Conflict Management* 17(2): 110–28
- OECD. 2009. *Measuring government activity*. Paris: OECD.
- O’Leary-Kelly, Scott, and Robert Vokurka. 1998. The empirical assessment of construct validity. *Journal of Operations Management* 16(4): 387–405.
- Orbell, Sheina, Catherine Blair, Kellie Sherlock, and Mark Conner. 2001. The theory of planned behavior and ecstasy use: Roles for habit and perceived control over taking versus obtaining substances. *Journal of Applied Social Psychology* 31(1): 31–47.
- Osborne, David, and Ted Gaebler. 1993. *Reinventing government: How the entrepreneurial spirit is transforming the public sector*. Reading: Addison-Wesley Publ.
- O’Toole, Laurence, and Kenneth Meier. 2008. The human side of public organizations: Contributions to organizational performance. *The American Review of Public Administration* 39(5): 499– 518.
- Ouchi, William. 1979. A conceptual framework for the design of organizational control mechanisms. *Management Science* 25(9): 833–48.
- Perrin, Burt. 2002. *Implementing the vision: Addressing challenges to results-focused management and budgeting*. Paris: OECD.
- Perry, James. 1996. Measuring public service motivation: An assessment of construct reliability and validity. *Journal of Public Administration Research and Theory* 6(1): 5–22.

- Perry, James, and Annie Hondeghem (eds). 2008. *Motivation in public management: The call of public service*. Oxford: Oxford Univ. Press.
- Peters, Thomas, and Robert Waterman. 1982. *In search of excellence*. New York: Harper & Row.
- Podsakoff, Philip, Scott MacKenzie, Jeong-Yeon Lee, and Nathan Podsakoff. 2003. Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology* 88(5): 879–903.
- Pollitt, Christopher. 2006. Performance information for democracy: The missing link? *Evaluation* 12(1): 38–55.
- _____. 2011. Moderation in all things: International comparisons of governance quality. *Financial Accountability & Management* 27(4): 437–57.
- Pollitt, Christopher, and Geert Bouckaert. 2004. *Public management reform: A comparative analysis*. Oxford: Oxford Univ. Press.
- Proeller, Isabella. 2007. *Strategic management for the state. International approaches in comparison*. Gütersloh: Bertelsmann Stiftung.
- Proeller, Isabella, and John Siegel. 2009. Performance Management in der deutschen Verwaltung: Eine explorative Einschätzung. *Der moderne Staat* 2(2): 463–82.
- Quinn, Robert, and John Rohrbaugh. 1983. A spatial model of effectiveness criteria: Toward a competing values approach to organizational analysis. *Management Science* 29(3): 363–77.
- Quinn, Robert, and Gretchen Spreitzer. 1991. The psychometrics of the competing values culture: Instrument and an analysis of the impact of organizational culture on quality of life. In *Research in organizational change and development, Vol. 5*, edited by Richard Woodman, and William Pasmore, 115–42. Greenwich: JAI Press.
- Radin, Beryl. 2006. *Challenging the performance movement: Accountability, complexity, and democratic values*. Washington, DC: Georgetown Univ.
- Ragin, Charles. 2004. Turning the tables: How case-oriented methods challenge variable-oriented methods. In *Rethinking social inquiry: Diverse tools, shared standards*, edited by Henry Brady and David Collier., 125–41. Lanham, Md.: Rowman and Littlefield.
- Rainey, Hal, and Paula Steinbauer. 1999. Galloping elephants: Developing elements of a theory of effective government organizations. *Journal of Public Administration Research and Theory* 9(1): 1–32.
- Rayner, Julie, Helen Williams, Alan Lawton, and Christopher Allinson. 2010. Public service ethos: Developing a generic measure. *Journal of Public Administration Research and Theory* 21(1): 27–51.

- Reichard, Christoph. 2003. Local public management reforms in Germany. *Public Administration* 81(2): 345–63.
- _____. 2010. Die Umsetzung von Managementreformen in der deutschen Kommunalverwaltung. In *Systemanalyse als politische Reformstrategie: Festschrift für Dieter Grunow*, edited by Heinz-Jürgen Dahme, and Norbert Wohlfahrt, 163–77. Wiesbaden: VS.
- Reichers, Arnon, John Wanous, and James Austin. 1997. Understanding and managing cynicism about organizational change. *The Academy of Management Executive* 11(1): 48–59.
- Rich, Robert and Cheol Oh. 2000. Rationality and use of information in policy decisions: A search for alternatives. *Science Communication* 22(2): 173–211.
- Ridder, Hans-Gerd, Hans-Jürgen Bruns, and Fabian Spier. 2006. Managing implementation processes: The role of public managers in the implementation of accrual accounting. Evidence from six case studies in Germany. *Public Management Review* 8(1): 87–118.
- Riding, Richard, and Indra Cheema. 1991. Cognitive Styles: An overview and integration. *Educational Psychology*, 11(3): 193–215.
- Ritz, Adrian. 2009. Public service motivation and organizational performance in Swiss federal government. *International Review of Administrative Sciences* 75(1): 53–78.
- Rosenthal, Robert. 1979. The "File Drawer Problem" and Tolerance for Null Results. *Psychological Bulletin* 86(3): 638–41.
- Sadler-Smith, Eugene. 2001. The relationship between learning style and cognitive style. *Personality and Individual Differences* 30(4): 609–16.
- Salovey, Peter, and John Mayer. 1990. Emotional intelligence. *Imagination, Cognition and Personality* 9(3): 185–211.
- Schedler, Kuno, and Isabella Proeller. 2010. *Outcome-oriented public management: A responsibility-based approach to the new public management*. Charlotte, NC: Information Age Publ.
- Schutte, Nicola, John Malouff, Lena Hall, Donald Haggerty, Joan Cooper, Charles Golden, and Liane Dornheim. 1998. Development and validation of a measure of emotional intelligence. *Personality and Individual Differences* 25(2): 167–77.
- Scott-Ladd, Brenda, and Christopher Chan. 2004. Emotional intelligence and participation in decision-making: Strategies for promoting organizational learning and change. *Strategic Change* 13(2): 95–105.
- Sheeran, Paschal. 2002. Intention-behavior relations: A conceptual and empirical review. *European Review of Social Psychology* 12(1): 1–36.

- Sherman, Steven. 1980. On the self-erasing nature of errors of prediction. *Journal of Personality and Social Psychology* 39(2): 211–21.
- Sherman, Steven, and Russel Fazio. 1983. Parallels between attitudes and traits as predictors of behavior. *Journal of Personality* 51(3): 308–45.
- Simon, Herbert. 1997. *Administrative behavior. A study of decision-making processes in administrative organizations*. New York: Free Press.
- Spector, Paul. 2006. Method variance in organizational research: Truth or urban legend? *Organizational Research Methods* 9(2): 221–32.
- Stanley, David, John Meyer, and Laryssa Topolnytsky. 2005. Employee cynicism and resistance to organizational change. *Journal of Business and Psychology* 19(4): 429–59.
- Stone, Deborah. 1997. *Policy paradox. The art of political decisionmaking*. New York: W. W. Norton and Company.
- Stretcher, Victor, Victoria Champion, and Irwin Rosenstock. 1997. The health belief model and health behavior. In: *Handbook of health behavior research 1: Personal and social determinants*, edited by David Gochman, 71–91. New York, NY: Plenum Press.
- Suchman, Mark. 1995. Managing legitimacy: Strategic and institutional approaches. *Academy of Management Review* 20(3): 571–610.
- Sutton, Alex. 2009. Publication Bias. In *The handbook of research synthesis and meta-analysis*, edited by Harris Cooper, Larry Hedges, and Jeffrey Valentine, 435–52. New York, NY: Russell Sage Foundation.
- Taggart, William, and Daniel Robey. 1981. Minds and managers: On the dual nature of human information processing and management. *The Academy of Management Review* 6(2): 187–95.
- Tajfel, Henri. 1981. Social psychology of intergroup relations. *Annual Review of Psychology* 33: 1–39.
- Talbot, Colin. 2010. *Theories of performance: Organizational and service improvement in the public domain*. Oxford: Oxford Univ. Press.
- Taylor, Jeanette. 2009. Strengthening the link between performance measurement and decision making. *Public Administration* 87(4): 853–71.
- _____. 2011. Factors influencing the use of performance information for decision making in Australian state agencies. *Public Administration* (Advance Access published October 6, 2011).
- ter Bogt, Henk. 2004. Politicians in search of performance information? Survey research on Dutch aldermen's use of performance information. *Financial Accountability and Management* 20(3): 221–52.

- Van de Walle, Steven and Wouter van Dooren. 2008. Introduction. In *Performance information in the public sector: How it is used*, edited by Wouter Van Dooren and Steven van de Walle, 1–8. Hampshire: Palgrave Macmillan.
- Van Dooren, Wouter. 2008. Nothing new under the sun? Change and continuity in twentieth century performance movements. In *Performance information in the public sector: How it is used*, edited by Wouter Van Dooren, and Steven Van de Walle, 11–23. Houndmills, UK: Palgrave.
- Van Dooren, Wouter, Geert Bouckaert, and John Halligan. 2010. *Performance management in the public sector*. London: Routledge.
- Van Dooren, Wouter, and Steven Van de Walle (eds). 2008. *Performance information in the public sector. How it is used*. Hampshire: Palgrave Macmillan.
- Walker, Richard, George Boyne, and Gene Brewer (eds). 2010. *Public management and performance: Research directions*. New York: Cambridge University Press.
- Weigel, Russel, and Lee Newman. 1976. Increasing attitude-behavior correspondence by broadening the scope of the behavioral measure. *Journal of Personality and Social Psychology* 33(6): 793–802.
- Weiss, Carol. 1980a. Knowledge creep and decision accretion. *Knowledge: Creation, Diffusion, Utilization* 1(3): 381–404.
- _____. 1980b. *Social science research and decision-making*. New York: Columbia Univ. Pr.
- _____. 1981. Use of social science research in organizations: The constrained repertoire theory. In *Organization and the human services*, edited by Herman Stein, 180–204. Philadelphia, PA: Temple Univ. Press.
- Wenger, Jeffrey, Laurence O’Toole, and Kenneth Meier. 2008. Trading speed for accuracy? Managing goal conflict and accommodation in the U.S. unemployment insurance program. *Policy Studies Journal* 36(2): 175–98.
- White, Halbert. 1980. A heteroskedasticity-consistent covariance matrix estimator and a direct test for heteroskedasticity. *Econometrica* 48(4): 817–38.
- Wright, Bradley. 2007. Public service and motivation: Does mission matter? *Public Administration Review* 67(1): 54–64.
- Yang, Kaifeng, and Jun Hsieh. 2007. Managerial effectiveness of government performance measurement: Testing a middle-range model. *Public Administration Review* 67(5): 861–79.
- Yin, Robert. 2010. *Case study research: Design and methods*. Thousand Oaks, Calif.: Sage.

Zammuto, Raymond, and Jack Krakower. 1991. Quantitative and qualitative studies of organizational culture. *Research in Organizational Change and Development* 5: 83–114.