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A Context-Sensitive Approach to the Implementation of Performance Measurement Systems

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Abstract

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Dissertation Submitted in Partial Fulfillment

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Public Policy Administration—Policy Analysis

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Abstract

Performance measurement systems (PMS) exist to help public managers assess and improve decision-making related to programs, policies, processes, and personnel. However, challenges in implementing PMS have resulted in underutilization in the public sector. While critical success factors for successful implementation are known, little research exists on how public organizations can successfully implement PMS in individual organizations. This qualitative case study aimed to explore participants' experiences dealing with PMS, using contingency and goal-setting theories to analyze the influence of organizational contexts on PMS design, adoption, and implementation. Data were collected from five staff and top-level management at a large state agency in the Mid-Atlantic region. The study used inductive thematic analysis to reveal that organizational contexts significantly influenced PMS utilization for performance improvement, leading to greater accountability and transparency. The study's findings may assist public managers in making PMS more effective and improving organizational performance in governmental organizations, thereby making a positive social change in the communities served.

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Dedication

I dedicate this piece of scholarly work to my parents Matthew Eyo Umo and Theresa Matthew Eyo. My journey thus far would not have been possible without the love of my parents. Both instilled in me the value of education and the necessity to fight against all odds while being humble. I am grateful-PAPA/EKA.

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Finally, I extend my gratitude to the entire faculty and students at Walden University for their support during this research process. The library and student technical support, and graduate advisory teams were extraordinary. Thank you all and I will always be indebted to Walden University for this great adventure.

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Chapter 1: Introduction to the Study

Increased competition for scarce public resources, demands for efficient delivery of services, transparency, accountability, and management's desire to find innovative business practices are some of the precursors for the adoption of performance measurement systems (PMS) in public organizations. In response to the above precursors, public managers are pressured to design and implement metrics not only in order to justify programs or policies, but also to make decisions about processes, emerging trends, and employees. And this one of the reasons that PMS has been regarded as an important tool or a process in public organizations.

Goh (2012), quoting Lantham (2004) and Thomas (2007), suggested that the argument for the utilization of PMS information is that if the information is not utilized as a tool for positive change and organizational improvement, then it defeats the purpose of developing measures of performance. Behn (2003) agreed that the use of performance measurement is a tool, not an end in itself. But managers must utilize the information gathered from performance measurement to evaluate, control, motivate, promote, celebrate, and improve all facets of an organization.

Despite the growing use of PMS in public organizations, a question appears to linger regarding whether these systems have achieved their intended goals, leading to better decision making and improved outcomes among public agencies. To answer the above question, numerous studies have enumerated possible problems, challenges, and barriers to effective implementation of PMS. These studies have also elaborated on some critical success factors that could possibly aid public managers in designing and implementing performance measurement systems to achieve their intended goals (Julnes & Holzer, 2001; Vanlandingham, 2010; Goh, 2012; Jääskeläinen & Sillanpää, 2013; Gog, Elliott & Richards, 2015). Additional studies are reviewed in the literature review, which follows in Chapter 2.

Despite the enumeration and elaboration on some universal critical success factors to effective implementation of PMS in a public sector organization, Sanger (2013) and Pandey (2015) suggested that the problem of underutilization of PMS still exists. A consistent conclusion that every public sector agency is similar, as well as a reliance on universal critical success factors as guidelines supporting the use of PMS to achieve its goals, appears to be false narratives that lead to problematic assessments of factors that lead to successful implementation of PMS. Despite the important underlying characteristics shared by public sector organizations, such as the revenue sources, presence of multiple stakeholders, and commitment to trust, transparency and accountability, each public sector organization is different and unique.

The above point is the reason that Gog, Elliott and Richards (2015) suggested that future studies should move away from universal critical factors and instead focus on the impact of context in either constraining or enabling the success of PMS implementation, leading to full utilization and improving decision making regarding programs, policies, processes, and people who work in them. While there are numerous studies on universal critical factors of effective PMS implementation, little is known about how context can play a role in effective implementation of PMS. In addition to the literature review in Chapter 2, this proposal will show how the chosen theoretical frameworks will help explain how systems related to performance measurement can achieve their intended goals when different contextual variables are considered in a specific public organization.

Background of the Problem

One of the unique characteristics of public sector organizations is the responsiveness to their citizens (taxpayers). On the one hand, this is borne out of the belief that taxpayers should receive an acceptable return on investments they make to fund public programs and policies. On the other hand, public managers are under pressure to demonstrate that the allocated resources, which are scarce, are effectively and efficiently utilized to meet the demands of all stakeholders, including public organizational objectives. Therefore, to achieve these demands, use of PMS is one of the tools that allow public managers to gain objective assessment of reach, impact, cost, and effectiveness.

As a valuable tool for public sector governance, which emerged in conjunction with the approaches of planned budgeting (PPB), zero-based budgeting (ZBB), and management by objectives (MBO) in the 1960s and 1970s, PMS exist for the purposes of accountability, transparency, and the improvement of performance in public organizations (Julnes & Holzer, 2001; McDavid & Huse, 2012). Thus, with PMS, public managers can continually assess and improve decision-making regarding programs, policies, processes, and people who work in them. However, studies show both limited and inconclusive evidence of the actual use of information gathered from PMS to continually assess and improve pertinent decision-making.

For example, different scholars have questioned the efficacy of PMS in improving productivity and efficiency. Researchers have questioned whether the presumed benefits of PMS are sufficiently realistic due to numerous barriers, problems, and challenges (Gog, Elliott & Richards, 2015: de Lancer Julnes & Holzer, 2001; Goh, 2012). For example, a study by Sanger (2013) of the 198 jurisdictions that use PMS in the United States found that many jurisdictions are scaling back investment in PMS because of the lack of return on investment in terms of improving organizational performance. Current scholars are divided on the effectiveness of PMS in their respective jurisdictions.

Furthermore, Schatterman (2010) examined specifically the Ontario local governments and their federal government mandated annual PMS reporting. The focus was on the quality of the report as perceived by top administrators. The study found that top-ranking officials had a low perception of performance reports. That is, the reports were seen as not informative and useful to supporting accountability other than benefiting the funding agency (the Ontario Municipal government). McDavid and Huse (2012) affirmed Schatteman’s (2010) study at another municipal level where surveys showed the initial expectations of elected officials were high, but the actual use of PMS reports to improve decision-making concerning accountability, transparency and improved governance was low.

In contrast to Schatteman (2010), Sanger (2013), and McDavid and Huse (2012), a descriptive analysis of the Canadian city of Lethbridge conducted by Hildebrand and McDavid (2011) discovered that there was a greater use of performance measurement results. The study found that there was a greater use of the reports among the public managers, who designed the system, and city council members when there is a shared commitment to the goals and objectives of PMS.

Hildebrand and McDavid's (2011) results at the municipal level mentioned one possible factor that could lead to a greater use of performance measurement results to enhance accountability, transparency and improve public organizations. Hildebrand and McDavid's (2011) stated that both the public managers who developed the performance measures and city managers who utilized the reports showed commitment, which lead to a greater use. Hildebrand and McDavid's (2011) findings have been reinforced by Vanlandingham (2010), Goh (2012) and Gog, Elliott and Richards (2015), enumerating critical success factors for implementation and utilization of performance measurement results.

Studies have thoroughly documented the perceived problems, barriers, and challenges of a successful implementation of PMS, and some possible universal success factors have been identified. To move beyond a reliance on the universal success factors which may influence successful implementation of PMS, in this study I sought better understanding of how some contextual factors either constrain or promote successful implementation of PMS in public sector organizations.

Statement of the Problem

PMS are intended to help public managers and organizations manage for results. However, despite their appeal for improving government, many governments at different levels have not designed PMS, and even fewer public organizational directors utilize PMS to improve decision making regarding programs, policies, processes, and people who work in them (de Lancer Julnes & Holzer, 2001; Pandey, 2015). The lack of use of PMS does not only prevent governments from monitoring and improving all facets of their public organizations continuously, but it also costs jurisdictions a loss in investment, especially the funds and other resources spent in designing and implementing PMS as resource constraints increase (Gog, Elliott & Richards 2015; Sanger, 2013).

Research reviewed for this study revealed numerous universal critical success factors for the successful implementation of PMS (Julnes & Holzer, 2001; Vanlandingham, 2010; Goh, 2012; Jääskeläinen & Sillanpää, 2013; Gog, Elliott & Richards, 2015). Some of the universal success factors are the stakeholders' involvement in the PMS process, strong learning and evaluative culture, and requisite managerial discretion to achieve results (Goh, 2012). Other success factors as noted by Gog, Elliott and Richards (2015) are clear vision and focus, a strong focus on individual and organizational capacity building, and availability of resources.

Although much is known about the universal critical success factors, little research exists regarding the application of the above factors in successful implementation of PMS in individual public organizations. Thus, the problem of underutilization of PMS information still exists (Pandey, 2015). Therefore, Gog, Elliott, and Richards (2015) suggested that rather than looking only at universal critical success factors, future research should focus on examining the impact or roles of context in either enabling or constraining the implementation and utilization of PMS. Additionally, McDavid and Huse (2011) recommended the need to study the possible contributions of PMS in different jurisdictions, including various levels of government.

The problem here is not the adoption of PMS by different jurisdictions or public organizations, because these systems have been accepted as effective management or organizational approaches in public sector organizations. Bianchi and Rivenbark (2012), quoting de Lancer Julnes and Holzer (2001), agreed that the goals of PMS are realized when managers utilize acquired information to inform their decision-making processes. However, adoption without a full utilization of PMS information to effect change and encourage overall improvement of public organizations will defeat the entire purpose of PMS.

Research Questions

RQ1: How do public managers and agency staff describe the continued challenges, barriers, and problems that public sector organizations experience in the implementation and utilization of PMS?

RQ2: How do public managers describe possible successful factors in the implementation of PMS in their Organizations?

RQ3: How do different contexts play a role in the successful implementation and greater use of PMS in public offices?

RQ4: How do the characteristics of a public agency help explain the efficacy of some of the problems, barriers, and challenges of PMS?

RQ 5: How do these contexts influence a successful implementation of PMS?

RQ 6: How do public managers describe the level of employees' attitudes towards performance measurement systems?

RQ 7: How do managers describe the efficacy and impact of employees' participation in setting PMS goals and objectives on the implementation of PMS?

Purpose of the Study

The purpose of this study was to explore lived experiences of people working with PMS in a single public sector organization with embedded business units. The current study examined in depth how contextual factors within, and outside a given public organization impact the successful implementation (or lack thereof) of PMS. The findings of this study may aid in repositioning PMS in public organizations in ways that allow public managers to better integrate PMS results to increase employees' buy-in with the process, and ideally lead to overall organizational improvement. I employed a qualitative case-study methodology/design. The method for investigation and specific interview questions will be provided in Chapter 3.

Theoretical Framework

In this study, I use two theories as frameworks. The first theory was the contingency theory of organizations (Morgan, 2006), which is closely relates to Ludwig von Bertanlanffy's principle of "equifinality" and Katz and Khan's (1966) theory of organizations as open systems. The second theoretical framework was Edwin Locke's (1968) goal-setting theory. The combination of these two theories allowed me to analyze participants' insights (see Cairney & Heikkila, 2014).

The contingency theory of organizations is based on the premise that no universally acceptable organizational system applies equally to all organizations and in all circumstances. According to Pfeffer and Salancik (2016), public organizations survive to the extent that they are effective. To ensure their effectiveness, though, organizations must continually adapt to their changing environments (Donaldson, 2006). Therefore, organizations change from one fit to another over time depending on changing contexts, circumstances, or their environments. The theory of organizations as open systems examines various components of an organization's internal and external environment on its behavior. That is, organizations are not closed systems; rather, they are shaped by both internal and external forces (Pfeffer & Salancik, 2015).

Because scant research supports the notion that universally critical success factors of PMS promote the implementation and use of PMS results, the chosen theoretical framework provided details on how different organizations can design and implement PMS to foster efficiency and organizational improvement in their various contexts. That is, subsequent research and application of contingency theory to performance measurement systems will help advance a context-sensitive contingency approach to PMS implementation in a novel way. This follows Karl Popper's idea of "theory-then-research" (1963) in qualitative case studies. According to Reynolds (2007), theory-then-research aids in advancing scientific knowledge rapidly through either the development of new ideas or falsification of existing theories with empirical studies.

The goal-setting theory propounded by Edwin Locke (1960) has as its premise that "particular attributes of personal goals have an effect on performance; and the use of specific and challenging goals produces greater performance results than the use of 'do your best' goals" (Franco-Santos, Lucianetti & Bourne, 2012, p. 98). Goal-setting theory has implications for both employees and managers regarding PMS. The implication is that, if PMS are properly designed and implemented, they will meet both managerial and employees' needs and objectives in advancing the overall goal and objectives of an organization. For example, Groen, Wouters and Wilderom (2012) suggested that employees' participation in developing performance measures does actually improve their attitude, social pressure, and capability to take initiative.

Furthermore, Franco-Santos et al. (2012), citing Burney and Wilderner (2007), argued that goal setting theory's constructs and promises are feasible in [PMS] studies. The reason is that goal-setting theory is often used to justify the importance of utilizing valid, specific, and clear performance measures to reduce ambiguity or confusion about strategic direction that can positively affect goal attainment. However, Bonner and Sprinkle (2002) argued that goal-setting theory mainly refers to goals chosen by individuals, which may or may not be aligned with the organizational and managerial goals. Therefore, I explored in Chapter 2 whether nonalignment of specific and precise PMS goals between employees and managers contributes immensely to ineffective implementation and utilization of PMS in public organizations to measure the effectiveness of their programs, policies, and people who work in them.

Nature of the Study

I employed a qualitative case study methodology to gain an in-depth understanding of how different contextual factors can affect a successful implementation and utilization of PMS in one of Maryland's public departments of Transportation. A qualitative approach is consistent with the study due to its constructivist philosophical foundation that focuses on extracting and constructing meanings from the lived experiences of those who have experienced the phenomena under study (Rudestam &

Newton, 2015). Patton (2002) agreed that a qualitative method allows in-depth inquiry into selected issues or cases with careful attention to details, context, and nuance without the utilization of predetermined quantitative categories.

The choice of a single case study, on the other hand, allowed me to explore a phenomenon in a context using multiple sources of data. In line with Yin (2013), the choice of a case study design aligned with the research because my focus was to answer the questions of how and to decipher boundaries between phenomenon and context. Furthermore, a case study design allowed me to extract or elicit stories and narratives from purposefully selected employees of the selected public department on the implementation and utilization of PMS in a single case. Thus, a qualitative case study has elements of a good story by revealing what happened to whom, when, how, and with what consequences (McDavid, Hawthorn & Huse, 2013). The study employed a single case study design with embedded units of several business units within the umbrella organization. According to Baxter and Jack (2008), “the ability to look at sub-units that are situated within a larger case is powerful when one considers that data can be analyzed within the subunits separately (within case analysis), between the subunits (between case analysis), or across all of the subunits (cross case analysis)” (p.550). Therefore, the choice of a single case study design with embedded subunits helped me gain a wide range of views or variations on the phenomenon under study. Keeping the focus on individuals’ experiences within a context which is the hallmark of a qualitative case study approach aligned well with the phenomenon under study and theoretical frameworks. The thematic analysis helped pinpoint new models for designing and implementing PMS for greater utilization to achieve efficiency and organization improvement.

Operational Definitions

Performance measurement: a process in which a governmental or non-governmental public service organization undertakes regular collection of outcomes and/or output data (preferably both) throughout the year (not only at the end of the year) for at least many of its programs and services (Hatry, 2014).

Performance management: the use of performance data by public service managers to help them make decisions in order to continually improve services to their customers (Hatry, 2014).

Performance reporting: providing an account, often including analysis, of the level of inputs, activity, or output of an event or process usually against some form of target (Radnor and Barnes, 2007).

Performance measurement utilization: the actual use of performance information to plan strategies for potential performance improvement and decision-making.

Performance measures/metrics/indicators: objectives, realistic and measurable indices, or values that are used to demonstrate how effective organizations achieve key objectives or goals. That is, a means of quantifying effectiveness and efficiency of actions, which is an integral element in the planning and control cycle (Radnor & Barnes, 2007).

Effectiveness: a concept "based around the notion of the appropriateness of the outputs of the process, which focuses on a broader set of measures" (Radnor & Barnes, 2007).

New Public Management: a broad normative movement that started two decades ago with a focus on "managing for results" or "managing by objectives" in both public and nonprofit sector organizations.

Contextual factors: factors unique to a specific organization that could either constrain or enable the successful implementation of performance measurement systems in public sector organizations (Rhodes et al., 2012).

Contingency variables and PMS: "The various organizational factors that influence the adoption of PMS systems in organization including size, organizational structure, technology, culture, and leadership. External environment is a significant contextual factor, which includes its degree of predictability or uncertainty, the degree of competition or hostility exhibited, and environmental dynamism or turbulence faced by the organization" (Wadongo, & Abdel-Kader, 2014).

Successful implementation of PMS: the perception of PMS having a positive impact on the entire organization and being supported by employees (Gog, Elliott & Richards, 2015).

Centralized organizations: organizations in which key decision processes pertaining to the management and administration of several divisions and subdivisions are centralized (Gosselin 2011).

Decentralized organizations: organizations in which important decisions pertaining to management and administration are made by divisional managers or administrators (Gosselin, 2011).

Terminus ad quo: Latin for the point of departure, which may include several contingencies, variables, or contextual factors concerning the practices of performance measurement systems.

Terminus ad quem: Latin for the destination point, which includes the overall organizational improvement concerning performance measurement systems.

Assumptions, Limitations, Scope, and Delimitations

- The assumption of the study was that the participants will honestly answer the open-ended and semi structured questions.
- The findings of the qualitative case study may not be generalized or transferred to a new location because the research findings are based on only one public office in Maryland with several sub business units.
- Due to the constraints of time and limited resources, I did not engage either in a prolonged engagement with the participants or persistent observation.

- The findings of this qualitative case study, as opposed to a quantitative analysis, are limited to interpretations of lived experiences of the purposely selected employees of one public office.

Significance of the Study

This current research fills a gap in knowledge, particularly by advancing a context-sensitive contingency approach to PMS implementation in public sector organizations. This project is unique because it addressed some of the significant contextual factors that could help scholars better explain the differences in PMS implementation and use in a public office. In addition, I promoted the idea that PMS can be designed and implemented in ways that accommodate change (see Bititci, Turner & Begemann, 2000), as well as promoting greater flexibility and dynamism in organizations (see Franco-Santos, Lucianetti & Bourne, 2012).

The results of this study may provide public managers with much-needed insights into the process of designing and implementing PMS in their respective offices and jurisdictions. Specifically, the results of the study may aid public sector organizations to develop key performance measures to ensure accountability for results in different areas. Proper design of PMS within a specific context can lead to greater utilization of PMS results to improve efficiency and performance in public sector organizations, which include cost effective service delivery and responsiveness to the public.

This study is also unique because a qualitative single case study of PMS in a Maryland public department has not previously been conducted. A single case study allows for an in-depth look at the PMS in a single public agency, with attention paid to its design, implementation, utilization of results, and the lived experiences of the organization's members. By examining lived experiences of the participants, I may be able to capture new insights regarding PMS and point to new direction for future studies.

As stated in the methodology section of this study, a qualitative study is not intended to generalize from the sample beyond the location of the study. Its smaller number of participants will provide more details than that which can typically emerge from a larger group (see Creswell & Plano Clark, 2010). However, new insights regarding context as an important variable in explaining the effective implementation of PMS from the study can help advance the principle of policy diffusion, in which public managers and policymakers in other jurisdictions across the world can adapt, imitate, or derive best practices and information from previously adopting governmental organizations. Above all, the findings of the study from the content analysis may point to future areas for research and development of a context-sensitive contingency theory approach to PMS.

Summary

PMS and management have become the central focus among different public agencies in managing for objectives and addressing the issues of transparency and accountability. That is, a proper designing and implementation of the systems should increase the utilization of the information gathered to improve organizations, people, and processes within an organization. However, studies have questioned PMS as a management tool that can actually achieve its role of performance improvement across the board in public organizations. Previous studies have offered inconclusive evidence of actual use performance measurement information to improve organizations. Research has also revealed numerous challenges and problems that are partially responsible for inconclusive evidence regarding the actual use of PMS information to achieve its intended goals. In addition, numerous universal success factors exist that could potentially help organizations design and implement PMS for its optimal use, but PMS information remains underutilized among different geographical regions and levels of government. Therefore, instead of considering only universal critical success factors, with this study I explored the possible roles that different contexts can play in the successful implementation of PMS in public organizations. I sought to understand whether different contextual factors can either constrain or enable a successful implementation of PMS. Chapter 2 offers a review of pertinent literature.

Chapter 2: Literature Review

Introduction

Numerous studies examine the effectiveness of performance measurement systems (PMS) in different geographical regions, including the European Union (Verbeeten, 2008), the United Kingdom (Kelman and Friedman, 2009), the United States (Ho, 2006; Sanger, 2008), Australia (Hoque & Adams, 2011), and New Zealand (Richardson, 2000). Other scholars examined the effectiveness of PMS using different research methodologies: case studies (Hoque, 2008), experienced-based observations (Sanger, 2008), surveys (Folz, Abdelrazek, & Chung, 2009), and archival secondary data sources (Boyne & Chen 2006) This breadth of research shows a very genuine interest over the past 20 years in effective, successful implementation of PMS among different organizations for optimal utilization of PMS information.

Different organizations devote a massive number of resources (time, effort, money, and personnel) to design and implement PMS. But despite the widespread approval of PMS around the globe, there are mixed results coupled with criticisms concerning their efficacy in achieving intended goals. That is, despite the well-known critical factors of successful PMS implementation, "some organizations are better able to 'manage through measures' than others, and some organizations struggle to ensure that action follows measurement, while others systematically use their metrics to inform their decision-making processes, and their subsequent actions" (Franco & Bourne, 2003, pp. 698-699).

Although much is known about numerous universal critical success factors that can increase utilization of PMS, little is known about potential roles that critical contextual factors can have on performance measurement successes. This literature review will offer a review of research strategies I used to assist in locating articles for future reference. The remaining contents of the review will show the inconclusive nature of the use of PMS by different jurisdictions, highlight the problems of relying on universal critical success factors, and finally make an argument for a context-sensitive approach to PMS through the examination of two theoretical formulations.

This review will provide a clearer picture of challenges, problems, and critical universal success factors of PMS. With it, I attempt to understand how specific contexts can either enable or constrain the effective implementation for optimal utilization of PMS information in public organizations. This review will also shed light on how to reposition PMS as a management tool that takes into consideration both specific internal and external processes to achieve positive outcomes. Finally, a review of contingency and goal-setting theories will attempt to explore how individual organizations can design the most efficient PMS by taking into consideration differently contingency or contextual variables that meet the needs of both management and employees. In summary, the literature review will identify challenges, problems, and critical universal success factors of PMS; and will also make a significant case for a context-sensitive research study of PMS in public organizations.

Search Strategies

I conducted a literature search using several sources of information. ProQuest central and EBSCO were accessed using the general search terms *performance measurement systems* and *utilization/implementation* as the root of all inquiries. With these terms, other terms such as *success factors*, *contextual factors*, *public sector organizations, challenges and barriers,* and *prospects* were used to narrow the search. In addition to the Walden online library and the University of Baltimore library, which provided many of the articles for review, reference lists from relevant literature were utilized to locate additional resources that EBSCO and ProQuest central searches did not reveal. Furthermore, PMS, which is one of the critical components of New Public Management (NPM), emerged as an attempt to apply both the principles and practices of private sector organizational management to the public sector. Therefore, the literature search for Chapter 2 was not limited to the public sector; it was expanded to include private and nonprofit research on PMS. I retrieved some resources from international and national journals in the fields of Management Sciences, Accounting, International Business and Economy, and International Journals of Productivity and Performance.

Literature Review

Performance measurement systems have achieved widespread praise in public sector organizations in the past 2 decades. According to Moynihan, Pandey, and Wright (2012), performance measurement and management have been promoted by the NPM notion that drawing lessons from successful private sector management in public sector organizations will increase performance and efficiency. However, despite the widespread adoption of PMS, there appears to be inconclusive empirical evidence of the efficient use of PMS information to effect change, improve organizations and people who work in them, adjust objectives, and to make other managerial decisions.

In a review of over 3 decades of literature on PMS, Jackson (2011) suggested that there are numerous unanswered questions about whether PMS led to better and improved decisions and outcomes, respectively. The above study followed the earlier conclusion by Sanger (2008) of municipal and states governments in the United States that identified the presence of obstacles to optimal implementation of PMS. Obstacles, problems, and challenges in implementing PMS maybe causes of the inconclusive use of PMS among public sector organizations.

As previously discussed in Chapter 1, a study by Schatteman (2010) of the Ontario local government and their federal government mandated annual PMS reporting showed that the quality of PMS reports as perceived by managers was low. That is, top-ranking managers did not see the performance reports as informative and useful to support accountability and improvement other than benefiting the funding agency (the Ontario's Municipal government). At a different municipal level, McDavid and Huse (2012) found out that the legislators' initial expectations were high, but the actual use of the PMS reports to improve decision-making concerning accountability, transparency and improved governance was low.

In contrast to Schatteman (2010), Sanger (2013), and McDavid and Huse (2012), a descriptive analysis of the Canadian city of Lethbridge conducted by Hildebrand and McDavid (2011) discovered a greater use of performance measurement results. The study found that there was a greater use of the reports among the public managers who designed the system and city council members who used the reports when they shared a commitment to the goals and objectives of performance measurement systems. Hildebrand and McDavid's (2011) results at the municipal level mentioned one possible factor that could lead to a greater use of performance measurement result to enhance accountability, transparency, and improve public organizations. Hildebrand and McDavid's (2011) findings have been reinforced by Vanlandingham (2010), Goh (2012), and Gog, Elliott & Richards (2015), enumerating critical success factors for implementation and utilization of performance measurement results.

The above empirical studies of performance measurement systems in Canadian public sector organizations show inconclusive evidence concerning the effectiveness of PMS. Sanger (2008) and Sanger (2013) acknowledged that performance measurement and its related management movement was part and parcel of the New Management Movement, with a wide range of influence among states and local governments in the United States but warned that "outcomes of performance measurements systems are generally unmeasured, and little is known about the cost-effectiveness of the systems or endurance over time." Thus, Sanger (2008) and Sanger (2013) attributed the ineffective use of PMS reporting information in the United States to a lack of financial resources.

However, the following literature review provides insight and in-depth explanations into what constitutes other problems, challenges, and barriers that adversely affect a successful implementation and utilization of PMS and information respectively to improve decision making on programs, policies, processes, and people who work in them. The second part of the literature review will explore possible universal critical factors of effective PMS implementation in public sector organizations. The last part will attempt to make a case for a context-sensitive approach to effective PMS implementation that will lead to optimal utilization of the information to improve decision-making on programs, policies, processes, and people who work in them. The above framework for Chapter 2 clarifies the relationship between the proposed research work and previous work carried out on the topic (Rudestam & Newton, 2015).

Challenges and Barriers to Implementing PMS in Public Sector Organizations

Performance measurement systems have emerged as a valuable tool for managers in helping meet the requirements of the New Public Management (NPM), which called for public sector reforms at the dawn of the twenty-first century. According to Moynihan (2008), performance measurement and management may be seen as generic terms for different managerial models, such as managing by objectives and results managing by objectives (Christensen, Laegreid, and Stigen 2006), managing for results (Moynihan, 2006), results-based management (Swiss 2005) and transactional leadership (Bass, 1996). Regardless of the model or strategies outlined above, they all share important aspects of understanding of the continuous process of performance measurement and management in which objectives are formulated, performance is generated, and the information acquired from the measurement is returned to managers for use in either adjusting the objectives or using the information to make other critical managerial decisions on programs, policies, processes, and people who work in them (Hvidman & Anderson, 2014).

However, Ahyaruddin and Akbar (2016) agreed with Spekle and Verbeeteen (2014) that the New Public Management (NPM) practices in line with our continuous discussion concerning performance measurement systems [and other components] in a target setting are still problematic. One of the reasons given is the narrow role and definition of PMS and the ignorance of other possible functions that PMS could play beyond accountability and incentive provision. If PMS can play different roles in public organizations; then the proposed study will seek to identify those challenges and barriers to effective implementation and also attempt to explore those specific contexts that could enable rather than constrain the successful implementation of PMS.

Organizational Structure and Alignment

Public organizations have unique or distinctive structural characteristics that set them apart from private and nonprofit sector organizations. Rigid and complex rules, bureaucratic red tape, and well-established hierarchies are a few characteristics that influence the workability of public agencies (Downs, 1967). Public organizational structure is akin to a military unit as an institution, as depicted in the movie *Lawrence of Arabia* (1962), characterized by a uniformity of dress, structure, and expectations to follow orders. When Laurence went against the rules of his supervising officer Colonel Brighton, Colonel Brighton ordered Laurence to do his job and keep quiet. Thus, public agencies, as in the military, are institutions known for stability, centralized command, vertical structure (top-down), uniformity, and consistency.

Rainey (2009) identified the above as either a crude or stereotypical way of describing public sector organizations, because other organizational theorists regard factors such as technology, size, environmental uncertainty, and complexity as essential influences on public sector organizations. Therefore, there is an appearance that organizational theorists have not agreed on a precise definition and measure of organizational structure.

However, Rainey (2009) pointed out that early research has produced different concepts, such as centralization; formalization, red tape, and complexity, which could help clarify the idea of public sector organization structure. These researchers have also analyzed and explained numerous factors such as operating environment, strategic choice, information technology, and work processes (tasks). Thus, taken together, a clear picture emerges of a public organizational structure that is complex and cumbersome with strict rules, several divisions, numerous tasks, and chains of command that could present a challenge to successful implementation of performance measurement systems. For instance, a public organization with multiple strings of control, unclear stakeholders, overlapping and numerous divisions with differing goals would face the possibility of non-alignment of targets, which could potentially affect the intended outcomes of work processes and the overall achievement of PMS success.

In a multi-case study analysis of PMS in 5 Canadian public sector organizations, Gog, Elliott and Richards (2015) identified organizational structure and alignment as one of the common challenges of successful implementation of PMS. The researchers compared all 5 public sector organizations according to size, structure, specific sector, and jurisdiction. First, the researchers found that alignment was a challenge among all five organizations from different angles. The authors reported that all 5 sectors experienced difficulties in achieving and maintaining both vertical and horizontal alignment by keeping all individual divisions focused on the overall organizational goals.

To ameliorate this problem, the researchers reported that one of the organizations developed a system to track overall organizational commitments against individual divisions' activities to encourage discussions concerning alignment and strategic decision-making purposes.

The researchers also reported that implementation of PMS activities was “housed” or “owned” by a third-party cooperative service group in which employees in two of the organizations exhibited an attitude of “us” and “them” with a tendency of viewing PMS activities as “theirs” and not something shared by the entire organization for its overall performance (Gog, Elliott & Richards, 2015). All 5 of the organizations experienced a challenge of vertical alignment, in which they had difficulties translating the overall PMS goals into measurable, achievable, and relevant objectives at the organizational units. The researchers also reported that at the individual employee level, only a few of the 5 organizations were able to link individuals' performance measures with organizational performance goals. To ameliorate the above problem, Gog et al. (2015) noted that one of the organizations had senior management members to add a team-based matrix structure while two of the organizations added executive-level pay to achieving overall organizational performance measurement goals.

In a quantitative study to examine the relationship between organizational structure, strategy, environmental uncertainty, and design with the use of performance measurement in third sector organizations, Gosselin (2011) reported that organizational structure could have an impact on PMS practices, depending on whether organizations are either centralized or decentralized structurally. Gosselin (2011) stated that decentralized organizations tend to place higher consideration on non-financial measures (a positive coefficient of 0.286 with a p-value of below 0.01) and rely more on process measures (a high coefficient of 0.291 with a p-value of below 0.01), than a centralized organization. Although the above study made a strong case for the impact of organizational structure on the adoption and practices of performance measurement system, the author reported that there was no significant relationship between decentralized organizations and the adoption of innovative performance approaches with the coefficient result of negative 0.1196, the t-test score of negative 1.17, and a p-value of 0.1217.

However, in a research study to “investigate the mediating role of innovative behavior on the relationships between organizational structure, such as centralization, formalization, integration, and organizational innovation performance in 140 functional managers in organization in the Republic of Korea,” Dedahanov, Rhee, and Yoon (2017) reported that none of the named aspects of organizational structures had significant association with improved employees’ innovative behavior. For instance, centralization and formalization lead to less innovative employee behavior and reduced innovative employee behavior, respectively. The authors also reported that integration, as an aspect of the organizational structure, had no significant association with employees’ innovative behavior, whereas creative behavior of employees was directly positively correlated with organizational performance.

The implication of the above is that not only is a public sector organizational operating environment complex, but also it is diverse, and there is a possibility of different jurisdictions or governments with different organizational structures encountering difficulties when performance measurement systems are applied across the board (Arnaboldi & Azzone, 2010). Thus, with appropriate organizational structure, performance managers could determine the proper performance measurement system and metrics that fit their specific organizational structures. That is, organizational structure that allows the clarification of goals and objectives (Ahyaruddin & Akbar, 2016), selection of unambiguous performance metrics, and objectives in an unequivocal organization (Speklé & Verbeeten, 2014), performance measurement that can be measured in a way that is consistent with the achievement of overall organizational ultimate goal and objectives (Speklé & Verbeeten, 2014), and a performance measurement culture that allows the use of PMS as a strategic management goal rather than an administrative requirement from funding agencies (Gog, Elliott & Richards, 2015). In the next section, studies will be highlighted to provide additional information on how organizational culture can affect the successful implementation of performance measurement systems.

Organizational Culture and PMS

Early studies have identified organizational culture as one of the important elements of successful implementation of performance measurement (Lye, 2004; Henri, 2006; Thomas, 2007). Wadongo and Abdel-Kader (2014) used different terminologies such as beliefs, norms, and values to describe organizational culture as "beliefs, norms, and values that influence the behavior of people who work" in organizations. Beliefs, norms, and values are communicated in different forms such as symbols, language, narratives, practices and events (Rainey, 2009).

Khademian (2002) placed much emphasis on organizational leadership in creating, monitoring, and maintaining culture across the board. For instance, organizational leadership does not only formulate clear visions and objectives for the organization, but it can also "coordinate organizational designs and structures with cultural messages" specific to the organization" (Rainey, 2009, p. 340). Thus, in the vein of performance measurement, it is the leadership role to create and maintain both learning and evaluative organizational culture: a culture that allows managers to seek and use performance information to learn how to manage better and deliver programs and services, thereby improving the overall performance of the organization (Mayne, 2009). Leadership can create an organizational culture that addresses specific structure, practices, and actions that when put in place would help build and support the adoption and the implementation of performance measurement system as part and parcel of the overall organizational culture.

However, in a study of state and local government jurisdictions in the United States, Sanger (2008; 2013) argued that a culture that permeates the public bureaucratic system, which promotes suppression of negative data by managers to stay out of trouble or manipulate data and information to gain favorable funding from the central mandating agency. The author recommended that a culture change is needed in public sector organizations for an efficient introduction of performance measurement and performance cum result-based management. Woolum (2011) agreed on the importance of cultural change that allows managers to move from mere compliance (including satisfaction of budgetary demands and democratic principles of accountability and transparency) with performance measurement information to a culture of widespread use to affect daily decision-making. To achieve the above, Sanger (2008) advocated for a committed and result-oriented leadership that can shape organizational culture, proposed by Khademian (2008) This kind of organizational leadership would change the current state of affairs and focus on results, encourage learning, and promote experimentation to achieve higher performance results (Goh, 2012).

Furthermore Goh (2012), while agreeing with Micheli and Palov (2009) on creating an evaluative and learning culture in public organizations, stated that the performance measurement systems and information generated would continue to be underutilized to improve performance because of the lack of a strong evaluative and learning culture of PMS among public sector organizations. Thus, in the study of both local and state governments in the United States, Sanger (2008), opined that in the practice of PMS in public sector organizations, the ultimate value dwells in the system to "provide feedback and learning about operations and the strategies that produce improvement" (p.11).

Even works of literature in non-public organizations agreed on the important influence of organizational culture on organization improvement and effectiveness, leadership, and performance measurement. That is, failure to change an organizational culture that undermines the proper designing, implementation, and utilization of PMS will not only defeat the exact purpose of PMS, allowing managers to leave performance reports on dusty shelves, but it can also pose a fundamental obstacle to organizational improvement. If individual creativity is a starting point for innovation within organizations (Kim and Lee, 2013), then organizational culture must change to improve the ways performance measurement is designed, adopted, implemented, and the ways PMS information is utilized to adjust the processes, people, and procedures within the organization that will lead to overall organizational improvement. In the next section, studies will highlight how different stakeholders, including the management/leadership and people in organization, form an important conglomerate to affect the implementation of performance measurement system in public sector.

Stakeholder Involvement, Adoption and Utilization of PMS

There are numerous stakeholders in public sector organizations, some of which include the funding or central mandating agency, the management and staff of the organization, labor unions, and the recipients of the public goods provided. A public sector organization is largely entrenched politically and administratively to satisfy the growing needs and demands of the multiple stakeholders with divergent or sometimes conflicting viewpoints.

In the case of the adoption and use of performance measurement systems (PMS) in public sector organizations, Ahyaruddin and Akbar (2016) agreed with Speklé and Verbeeten's (2014) categorization of the use of PMS such as operational use for planning and monitoring process; incentive use for target setting, incentives provision and employees' reward; and exploratory use for prioritization, strategy management, leaning, and policy development (p.4). Therefore, with multiple stakeholders in the public sector, the adoption and use of PMS can present a fundamental challenge, especially where and when there is no unity of purpose among the stakeholders concerning how to design, adopt and use the performance measurement system, specifically how to develop performance indicators, set goals or targets, collect and analyze data, and report results.

Numerous seminal studies have shown a direct and positive effect on stakeholders' involvement in the adoption, design, implementation, and utilization, including studies by Yang, 2008; Radnor and McGuire, 2004; Ho, 2006; Boyne and

Chen, 2006; Woulter and Wilderom; Bernard, 2008; Folz, Abdelrazek, and Chung, 2009. The above seminal studies agreed on the importance of including all relevant stakeholders with varying needs and demands, but all with vested interests in PMS project. The inclusion, participation, and involvement in the business of PMS of all stakeholders will lead to complete acceptance and utilization of PMS to meet organizational objectives including improvement. In parallel, a study by Carnochan, Samples, Myers and Austin (2014) of the performance measurement challenges in non-profit human service organizations affirmed the importance of incorporating users' perspectives, ensuring that all staff are adequately trained and have access to data and technology, because all stakeholders can help organizations meet or exceed if they are consulted, valued, and engaged in the practices of performance measurement in organizations.

As already stated, public sector organizations are characterized by multiple stakeholders. Performance measurement requires the selection of suitable performance measures in evaluating public sector performance. Therefore, with various stakeholders with different interests and perspectives, the identification and selection of appropriate performance measures largely depend on how well multiple stakeholders' perspectives on performance measurement are harnessed or aggregated to align with the overall goal of organizations because different stakeholders are likely to accentuate different measures.

The involvement of stakeholders will not only create a mindset of ownership of the system, but it will also allow them to better understand the entire processes of performance measurement. According to Goh (2012), the involvement of all stakeholders (including the service beneficiaries) in developing performance measures is “essential to motivating them to not only achieve those targets but to accept them as well” (p.35). In a comparative multi-case study of citizens’ involvement in performance measurement and reporting in five local municipalities in the United Stated States, Woolum (2011) said that the selected municipalities had similar approaches to incorporating citizens in the process of performance measurement. The author also submitted that by integrating the views of citizens, “they can also provide information about issues and specific programs/policies important to citizens and external stakeholders” (p. 79). However, the study also showed differences in perspectives on how performance should be tracked and reported to citizens and public administrators.

Studies are increasingly suggesting that the involvement of stakeholders is important to a successful implementation of performance measurement systems in organizations. Specifically, in public sector organizations, just as public policies or socials programs do not exist in a vacuum, their evaluations and performance measurement do not exist in a vacuum but call for a polycentric approach (Rossi, Lipsey & Freeman, 2004), participatory governance and citizen involvement (Castelnovo, Misuraca & Savoldelli, 2016; Albino, Berardi, & Dangelico, 2015; Chourabi, Nam, Walker, Gil-Garcia, Mellouli, Nahon. . . Scholl, 2012; Meijer & Rodrıguez Bolıvar, 2015), and a participatory goal-setting approach (Latham, 2004; Latham, Borgogni & Petitta, 2008). Therefore, the new integrated approach to performance measurement demands the involvement of stakeholders' perspectives, opinions, and concerns. The level of stakeholders' involvement (including how and when) in the practice of PMS could determine the degree of successful and acceptance of the practice in organizations. Even Ho (2005) agreed that the degree of stakeholders' involvement in developing performance measures was crucial in either limiting or enhancing the success and usage of performance measurement systems in organizations.

The above studies support the general idea of stakeholders' involvement, but they also paved the way for a more context-sensitive study, because no one size fits all. In other words, not all public organizations are the same, and not all public organizations have the same number or homogenous set of stakeholders. Public sector organizations have different goals, purposes, and approaches to enhance citizens' engagement in the processes of defining, adoption, utilization, and reporting of performance measurement and information, respectively. In the next section, studies will highlight how a legislative or central agency's mandate could stifle the successful implementation of Performance measurement systems in organizations.

The Practice of PMS and Legislative/ Operating Mandate

The practice of using performance measurement systems (PMS) in public sector organizations has gained widespread acceptance across the globe as a way of measuring the performance of programs, policies, work processes, organizations, government and the people who work in them. There appears to be a nearly universal expectation or a general consensus that public sector organizations should adopt the PM system to measure performance across the board due to several factors such as globalization, limited gains in public services efficiencies, response to criticisms of bureaucratic waste, abuse and fraud, advances in information technology (IT), citizens' disaffection with public services delivery, democratic demands for accountability and transparency, and limited public resources (Pollitt & Bouckart, 2004: Pollitt & Bouckaert, 2011). Thus, managers and executives in their respective organizations are often required to demonstrate attainment of intended or stated goals and objectives.

The United States has seen an increased emphasis on process: following rules and complying with directives set by either legislators or central executive agencies to demonstrate efficiency, accountability, transparency, and effective service delivery. For instance, the enactment of several legislations such as the Government Performance and Result Act (GPRA, 1993), the Government Performance and Results Act Modernization Act (2010), and several Congressional Amendments represent efforts by the Congress or executive departments mandating federal performance officers in different agencies to assess performance under the guidelines of the central body (principally the Office of Management and Budgeting, the OMB) to identify ways to improve efficiency and effectiveness (McDavid, Huse and Hawthorn, 2013). Similarly, the central or mandating agency for the practice of performance measurement does not only exist at the federal level of government, but also in local governments and jurisdictions across the United States to dictate how local governments measure outputs, processes, people, policies, programs, cost and outcomes (Sanger, 2008; Sanger, 2013).

Sometimes the mandate to adopt the practices of performance measurement comes with standardized reporting requirements and rules such as financial and non-financial reporting. Additionally, the mandate of PMS often reflects the current organizational structure and expectations of the funding source without considering the unique and sometimes complex nature of each public agency or department. For instance, while the GPRA of 1993 required federal government-wide strategic plans to drive agency and departmental objectives, the Government Performance and Results Act Modernization Act of 2010 on the other hand put more emphasis on tailoring performance measures to meet the needs of individual agencies (a kind of decentralization of the performance management to the agency level) (McDavid, Huse and Hawthorn, 2013).

In a mixed-method study of Ontario's municipal government and their mandated annual reports, Schatteman (2010) reported that the perception of the top-ranking officials of the annual performance reports was low. The study consisted of top-ranking officials for each of Ontario's 445 municipalities. The results showed that the surveyed top-ranking officials perceived the mandated annual reporting as not beneficial to aid accountability to anyone other than the central agency, which was the funding source (the government of Ontario) (p.542). Schatteman (2010) stated that the responses of some of the local managers regarding the low perception of mandated annual reporting are that there cannot be standardized accounting practices for the entire province because:

> Every municipality is different, from geography to economic ability, and comparisons between municipalities are impossible because of the vast differences in the level of services provided and the costs associated with delivery. Not all measures are relevant to our municipal responsibilities, which are shared with local municipalities. Some combined measures (i.e., regional, and local municipal) would make for better comparators with other juris- dictions in North America and better explain the full costs of services to the typical household. Continuous adjustment of some [municipal performance measurement program] inputs make year-to-year trending impractical without re-stating prior years. (p. 543)

The above is one example of how a legislative or central agency mandate to adopt the practices of performance measurement systems across the board could hinder a successful implementation and utilization of the information for both internal and external purposes. As already stated, all public agencies are unique and different, and some will need annual reporting while others will require timely (quarterly) reporting based on their individual departmental needs, goals, and objectives.

Furthermore, in a 5-year quantitative study to examine how legislators use performance measurement reports in British Columbia, Canada, McDavid and Huse (2011) found that the use of PMS information was low among the legislators, who saw the reporting mandate as merely a symbolic gesture that fulfills a central agency's requirement of demonstrating accountability and transparency. The result of the study also showed that despite the initial high expectations of complying with the mandated performance report and practices of PMS among the legislators, their responses to the survey showed a narrow use of the report to improve decision making concerning budgeting, efficiency and effectiveness, and policymaking (pp. 16-19). The above study appears to confirm the idea that the design, adoption, implementation, and utilization of performance measurement systems in public sector organizations could be different from what was originally conceived and mandated by the central or mandating agency. Therefore, the study by McDavid and Huse (2011) confirmed the need to explore further conditions possible for design, adoption, implementation, and utilization of performance measurement systems in public sector organizations that lead to both public accountability and performance measurement systems (p.22).

In a related but a contrasting case study of the council members of the municipality of Lethbridge, Alberta, Canada, Hildebrand and McDavid (2011) found a substantial use of performance measurement reports for “improving programs and providing information that can be a part of public accountability” among both managers and city council members (p. 41). The study consisted of personal interviews with twenty-eight business unit managers and city council members who have experienced the practice of performance measurement systems. The authors reported that both “council members and business-unit managers were strongly of the view that the performance information was useful for budgeting” because there was a unity of purpose, clarity of goals and objectives, and strong commitment to PMS right from the mandating agency and the managers who developed the performance measures to the city council members who used the reports for budgetary decision-making purposes (p.55). According to Hildebrand and McDavid (2011), the experience in Lethbridge is consistent with an emerging view of performance measurement and performance management – that when agencies and departments drive the process, the performance information is more likely to be used” (p. 69). In other words, it suggests the benefit of decentralizing the practices of performance measurement by tailoring it to the needs of each public sector agency or department.

In different quantitative studies, researchers concluded that a legislative mandate had a positive correlation with both the internal and external accountability because the selected public sector organizations in Indonesia, for example, had a uniformity of purpose concerning the performance measurement systems. Each selected governmental organization complied accordingly with the rules and regulations made by a government in the practices of the performance measurements (Akbar, 2011; Akbar, Pilcher, Perrin, 2012). Although the above studies further shed light on and explained the importance of legislative mandate to the practices of PMS, the concept of isomorphism, where some central governments at every level overtly coerce or use less-coercive mechanisms to persuade departments and agencies to adopt PMS, is out of bound of the proposed study.

Based on the literature thus far, Arnaboldi and Azzone (2010) agreed with Beryl (2000), Boland and Fowler (2002), Holzer (1991), and Smith (1993) that due to the diverse nature of public sector organizations, the application and practices of performance measurement systems could encounter challenges when any government applies the systems universally to different types of public institutions. To ameliorate this issue, Arnaboldi and Azzone (2010) cited Kaplan and Norton (1992) and Lauzel and Cibert (1959) by offering a possible way to tackle the problem, through the adoption of multidimensional performance measurement systems such as Balanced Scorecard and Tableau de Bord. But the problem of adopting a multidimensional performance measurement system is that it often leads to the propagation of performance indicators, which could be redundant and are often not acted upon by public sector managers (Arnaboldi & Azzone, 2010; Modell, 2001).

The literature reviewed thus far also indicates that challenges persist in public sector organizations in the practices of performance measurement systems not mainly because of the indicators mentioned above, but how they are considered universally by ignoring their within-context issues that may arise. There is an appearance of a call for a context-sensitive examination to better understand how public sector organizations adopt and successfully implement performance measurement systems that fit and align with their different structures, strategies, operational mandate, goals and objectives, and culture. Bititci, Garengo, Dörfler, and Nudurupati (2012) agreed that the primary challenge for effective implementation of a performance measurement system is understanding the influence of the ever-changing context in organizations vis-à-vis the performance measurement system.

While Jääskeläinen and Sillanpää (2013) advocated comparison of different practices among public sector organizations, Jääskeläinen, Laihonen, Lönnqvist, Palvalin, Sillanpaa, Pekkola, and Ukko (2012) on the other hand asserted the need for a contingency approach to performance measurements systems, outlining several factors such as political environment, structure, and organizational size as relevant factors that could have greater influence on the practices of performance measurement systems. For instance, the multi-case study of five Canadian public sector organizations by Goh, Elliott, and Richards (2015) found an inconsistent use of performance measurement systems for organizational improvement in part because the jurisdiction in question mandated and applied the practices of PMS procedures universally across different groups. The demand from the central agency of routine annual PMS reports from different departments were the central challenge because it ignored the fact that different public sector departments play different roles in delivering services and in monitoring compliance. Thus, the authors suggested that government at every level should take a context-sensitive approach when imposing performance measurement frameworks on public sector organizations (Goh et al., 2015). The above submission re-affirmed Franco-Santos, Lucianetti, and Bourne's (2012) ideas of fit and context concerning the design, development, and utilization of performance measurement systems in an organization, which they operate. In the next section, the proposed study will highlight how the chosen theoretical frameworks (contingency and goal-setting theories) would help in advancing a context-sensitive contingency and a goal setting (stakeholder) approach to performance measurement systems in a novel way.

A Contingency Approach to Performance Measurement System

The understanding of how different, ever-changing contexts could influence the practices of performance measurements systems in public sector organizations may be addressed by the employment of a contingency theory of organizations (Morgan, 2006), which is closely related to Ludwig von Bertalanffy's principle of "equifinality" and Katz and Khan's (1966) theory of organizations as open systems. The principle of equifinality states that any point destination (terminus and quem) could be reached through different paths. The principle debunked and refuted the mechanistic theory of Fredrick Taylor (1919), which assumed that there is only “one best way” of accomplishing the task efficiently through the application of scientific principles of management such as time-motion analyses and procedures.

The contingency theory proceeded with the premise that there is no universally acceptable organizational performance system that applies equally to all organizations in all circumstances. And the prediction of the contingency theory of organizations predicts that the relationship between an organization’s characteristics and the choice of performance measurement system. In the words of Pfeffer and Salancik (2016), [public] organizations survive to the extent that they are effective. That is, their effectiveness is derived “from the management of demands, particularly the demands of interest groups upon which the organization depends for support and resources” (p. 32). Katz and Khan (1966) suggested entropy to be a danger to open systems metaphors, and that organizations fail when they fail to receive inputs of energy from both internal and external resources. For organizations to be effective and survive, they must continually adapt to their changing internal and external environments (Donaldson, 2006). Therefore, organizations change from one fit to another over time. The theory of organizations as open systems examines various components of an organization’s internal and external environment on its behavior. That is, organizations are not closed, but are shaped by both internal and external forces (Pfeffer & Salancik, 2015).

Furthermore, since there is inconclusive empirical evidence that the universally applied measures to the practices of performance measurements systems in public sector organizations at all levels of government would yield substantial benefits in regards to optimal utilization of the results to improve organizations, the chosen theoretical framework will provide details on how different organizations can design, adopt implement, and use PMS to foster efficiency and organizational improvement within-context. In parallel, research studies in the private sector have agreed that for any form of performance system to function effectively, the chosen system must fit the environment [internal and external] in which it operates (Melnyk, Bititci, Platts, Tobias, and Andersen 2014; Franco-Santos, Lucianetti, and Bourne, 2012; Gacenga, Cater-Steel, Tan, & Toleman, 2011). That is, the fit of choice of a PMS must correspond to its organizational culture, structure, strategy, size, management philosophy, customers and operating or legislative mandate.

In the third sector of organizations (non-profit), Wadongo and Abdel-Kader (2014) concluded that performance measurement systems "need to be examined from a system approach that emphasizes the effect of fit between contingency variables and the performance measurement systems on multiple effectiveness domains" (p.691). In other words, every desire and intention to adopt, design, and implementation of performance measurement systems in the third sector organizations must consider and respond to contextual challenges to improve organizational effectiveness (Wadongo and Abdel-

Kader, 2014). Thus, the contingency theory perspective of the proposed study of organizations does not in any way aim at asserting or promoting a new theoretical framework for PMS in public organizations. Advancing the theory and PMS practices in a novel way could open new opportunities for future studies to validate the use of theory studying PMS in different levels of government across different jurisdictions. The theoretical framework follows Karl Popper's idea of "theory-then-research" (1963) in qualitative case studies. According to Reynolds (2007), theory-then-research aids in advancing scientific knowledge rapidly through either the development of new ideas or falsification of the existing theories with empirical studies.

Furthermore, whether it is a contingency theory of organizations (Morgan, 2006), Ludwig von Bertanlanffy's principle of "equifinality," or Katz and Khan's (1966) theory of organizations as open systems, the aim is to have a good understanding of possible cause-effect linkages between different organizational contingencies variables and the effective implementation and use of performance measurement to reach the intended goals (overall organizational improvement). However, Wadongo and Abdel-Kader (2014) cautioned that, although contingency theory is used to explain the relationship between contingency variables and the in-depth practices of PMS to rule out other factors, the theory remains a more plausible theoretical perspective to better understand the relationship between contextual variables and PMS in highly complex and dynamic organizations (public, private or non-public) (pp.685-686).

What is known thus far is the worldwide appeal of performance measurement systems in public organizations. However, research is still needed to understand how different contextual factors or contingencies in specific public organizations could enable the successful implementation of PMS where managers could design and adopt particular performance systems favorable to the uniqueness of their organizations to achieve efficiency and effectiveness. The contingency theory perspective may provide in-depth insight into the understanding of the influences of contingency variable or contextual factors. Will the contextual factors or contingency variables either constrain or enable the successful implementation and utilization of PMS? The study intends to describe how contingency variables or contextual factors influence the practices of PMS in a public sector organization.

The next section will provide information on how a new theory (goal setting) may help explain how one or more contingency variables specific to employees and managers could facilitate or undermine the effective implementation and utilization of performance measurement systems in public sector organizations. According to Cairney and Heikkila (2014), the combination of the two theories as lenses for the proposed qualitative study would enable the researcher to combine their insights or accept and reject others.

A Goal-Setting Approach to Performance Measurement Systems

A goal-setting theory is another theoretical lens that may provide a full understanding of how contingency factors such as stakeholders' involvement and setting clear goals may influence the practices of performance measurement systems (PMS) in public sector organizations. As previously stated in Chapter 1, the goal-setting theory propounded by Edwin Locke (1960) has as its premise that “particular attributes of personal goals have an effect on performance; and the use of specific and challenging goals produces greater performance results than the use of ‘do your best’ goals” (Franco-Santos, Lucianetti & Bourne, 2012, p. 98). The goal-setting theory has implications for employees as well as management with respect to performance measurements systems. The implication is that, if the performance measurement systems are properly designed and implemented in ways that involve all stakeholders with clear and achievable goals, they will meet both managerial and employees’ needs and objectives in advancing the overall goal and objectives of their organization.

Wood and Locke (1990) opined that if goals and intentions are created in ways that become a primary determinant of behavior, the creation, adoption, and maintaining of performance measurement systems in public sector organizations become inevitable. The above assertion affirms Ryan’s (1970) premise that conscious goals affect action and that goals are the aims of actions. That is, people work on concrete tasks that are connected to achieving their goals and endure those tasks until the goals are attained. Thus, there appears to be a correlation between the setting and acceptance of goals and the overall performance of organizations. Early studies showed that people are more likely to accept difficult goals that they participate in setting than ones that they set for themselves (Erez, Earley, and Hulin (1985). The acceptance of goals increases in a participatory goal setting environment in organizations even if those goals are difficult to attain. The engagement of everyone in the development of PMS, a strong sense of investment by employees, and a commitment to the practices of performance measurement are critical to a successful implementation and utilization of PMS organizations (Folz, Abdelrazek, and Chung 2009; Jääskeläinen & Sillanpää, 2013; Goh, Elliott, & Richards, 2015).

Furthermore, Franco-Santos et al. (2012), citing Burney and Wilderner (2007), argued that goal-setting theory's constructs and promises are feasible in [PMS] studies. The reason is that goal setting theory is often used to justify the importance of utilizing valid, specific and clear performance measures to reduce ambiguity or confusion about strategic direction that can positively affect the goal attainment. However, Bonner and Sprinkle (2002) argued that the goal setting theory mainly refers to the goals chosen by individuals, which may or may not align with organizational and managerial goals. Therefore, what is not known is whether either participative (jointly established goals), conscious goals (established by employees) or assigned goals (coercion from central agency or managers) could further the original intentions of performance measurement systems in a specific public sector organization using a qualitative case study methodology.

Summary

In summary, it is known that PMS is a well-established practice in public sector, but researchers continued to question whether the presumed benefits of PMS are sufficiently realistic due to numerous barriers, problems, and challenges (Gog, Elliott & Richards, 2015: de Lancer Julnes & Holzer, 2001; Goh, 2012). It is also known that there are some critical success factors that could possibly aid public managers in designing and implementing performance measurement systems to achieve their intended goals (Julnes & Holzer, 2001; Vanlandingham, 2010; Goh, 2012; Jääskeläinen & Sillanpää, 2013; Gog, Elliott & Richards, 2015). However, these critical success factors are treated as universally applicable to every public organization without consideration to the within context issues.

The result of the literature showed inconclusive empirical evidence that the universally applied measures to the practices of performance measurements systems in public sector organizations at all levels of government would yield substantial benefits in regard to optimal utilization of the results to improve organizations. Thus, this study will take an in-depth examination on the impacts of contextual factors (or lack-thereof) on either enabling or containing a successful implementation of PMS in public sector organizations. The next chapter will provide information on how this study will be performed, including how the participants will be identified, the questions that will be asked, and how the information will be organized and analyzed.

Chapter 3: Research Methods

Introduction

The two previous chapters detailed the widespread appeal of performance measurement systems (PMS) in organizations together with ongoing criticisms about their efficacy in public sector organizations in promoting performance improvement. The previous chapters also noted possible difficulties or challenges when governments universally applied PMS to different types of subunits, branches, and agencies. What is known is the universal appeal of PMS, but what remains unknown is the effect of contextual factors or contingencies on specific public organizations, particularly how they may enable the successful implementation of PMS where managers could design and adopt particular performance systems favorable to the uniqueness of their organizations to achieve efficiency and effectiveness. The contingency theory of organizations as well as the goal-setting theory may shed light on how different contextual factors and degree of employees' involvement could impact a formulation of PMS that achieves its intended goals. This chapter outlines how a qualitative case study method was used to assist an in-depth understanding both the managerial and employees' experiences with PMS in a public sector organization.

Research Methodology

I utilized qualitative methodology to explore and gain an in-depth understanding of how different contextual factors can affect a successful implementation and utilization of PMS in one of the Maryland's public departments. The reason for choosing the above-named public department is that it is tasked or mandated by the State government with developing and reporting measurable parameters and benchmarks to manage and deliver safe, efficient and reliable transit services to customers in the U.S. state of Maryland. Consequently, the development and reporting of both the measurable parameters and benchmarks by different business units or offices within the umbrella organization to the central government provides the leadership of the state of Maryland "to develop a coordinated and balanced approach to transportation" (Mdot.maryland.gov).

As previously discussed by citing Creswell (2009), a qualitative research approach is philosophically different from quantitative (positivist and postpositivist), and mixed method (pragmatic) approaches. Positivist and postpositivist researchers believe in empirical observation, tests and measurement, and theory verification. Researchers with a positivist or postpositivist worldview would adopt quantitative approaches that require data collection and statistical analysis. Constructivists believe that the knowledge of realities is not gained through perception but by our subjective construction. Thus, a researcher with a constructive worldview would undoubtedly adopt qualitative research approaches. Finally, a pragmatist researcher who believes in collecting data and information that best provide answers to their research question would adopt a mixed methods approach. A mixed methods approach as defined by Creswell is the combination of qualitative and quantitative research designs (2009).

I chose a qualitative approach for this study because it was aligned well with the research questions and had numerous advantages concerning the practices and processes of PMS. According to Denzin and Lincoln (2000), a qualitative approach often places much emphasis on “beings, processes, and meaning that are not experimentally evaluated and measured regarding numbers, frequency and intensity” (p. 8). First, a qualitative approach is consistent with the study due to its constructivist philosophical foundation that focuses on extracting and constructing meanings from lived experiences from those who have experienced the phenomena under study (Rudestam & Newton, 2015). Patton (2002) agreed that a qualitative method allows in-depth inquiry into selected issues or cases with careful attention to details, context, and nuance without utilizing predetermined quantitative categories. Second, a qualitative case study has an element of a good story by revealing what happened to whom, when, how, and with what consequences (McDavid, Hawthorn & Huse, 2013). The stories or narratives from the sampled participants concerning the use of PMS revealed, in detail, their personal experiences regarding the use of PMS in their public sector organization, and how context and characteristics of each agency impact the use of PMS (Eyoh, 2016). Keeping the focus on individuals’ experiences within a context concerning the performance measurement is consistent with open systems, the contingency theory of organizations, and the goal-setting theory of motivation.

Research Design

The research design for the current study was a single case study with embedded units (Baxter & Jack, 2008) of PMS in a public sector organization. According to Baxter and Jack (2008), a single case study with embedded units allows researchers to gain a wide range of views or variations on the phenomenon understudy. Furthermore, “the ability to look at sub-units that are situated within the larger case is powerful when you consider that data can be analyzed within the sub-units separately (within case analysis), between the different sub-units (between case analysis), or across all of the subunits (cross-case analysis, p. 550).”

Increasing empirical work has been undertaken to employ the case study design to better understand the impacts, challenges, and process of PMS (Amaratunga & Baldry, 2001; Goh, Elliott, & Richards, 2015; Hoque, 2008; North Carolina, Bianchi & Rivenbark, 2012). The choice of research design was consistent with the overall purpose of the research because its focus was to answer the question of how to decipher boundaries between phenomenon and context (Yin, 2013). Second, a case study design aids researcher in exploring the complex phenomenon of PMS within a specific context (Baxter & Jack, 2008). Third, a case study calls for the use of multiple sources. Therefore, the chosen design is appropriate for researching a phenomenon using a variety of data sources that will ensure that the phenomenon under study is not only explored through one lens but rather through a variety of lenses, thereby leading to a revelation and understanding of the various facets of the phenomenon under study. Finally, a single case study is feasible for the current study due to limited resources and the effort required to conduct a multiple-case study. However, O'Sullivan, Rassel, and Berner (2008) posited that a single case as well as multiple cases of a phenomenon provides both research depth and breadth.

Some studies into PMS have relied solely on a quantitative approach to presenting results via graphical displays (graphs, charts, and numbers), but case studies concentrate on storytelling as an essential way of communicating the feelings and experiences of those connected to the phenomenon under study (McDavid, Hawthorn & Huse, 2013). With a case study design, this research sought meaning and emotions, and thereby presents the experiences of those using PMS by eliciting pertinent stories from those who have experienced the instrument (McDavid et al., 2013). Other methods of qualitative inquiry were not considered because a case study design represented the best option for in-depth exploration of how context could influence the implementation and utilization of PMS. Thus, a case study design was the most applicable design for the research.

Role of the Researcher

In qualitative research studies, a researcher is an important instrument throughout the entire course of a research: from data collection to analysis, interpretation, and representation of findings. As a key instrument in a qualitative study, a researcher not only collects data through a variety of ways but also uses independently designed data collection instruments (Creswell, 2013). Thus, the clarification of a researcher's role and potential bias are critical to any qualitative research study, as researchers bring their personal or professional experiences to a research study. Apart from personal or professional experiences, researchers might have some conflict of interests that may blur their interpretations of the findings or facts. And according to the *Publication Manual of the American Psychological Association* (2010), such interests may color the objectivity and neutrality of the researcher and the entire study.

Therefore, "the safest and most open course of action is to disclose in an author's note activities and relationships that if known to others might be viewed as a conflict of interest, even if one does not believe that any conflict or bias exists" (APA (American Psychological Association), 2010, p. 17). While quoting Wolcott (2010), Creswell (2013) opined that qualitative researchers owe their readers a full disclosure of what prompted their interests in the topics investigated, to whom they will send the final report, and what the researchers personally stand to gain from their research study. As such, I do not have any conflict of interest or bias concerning the research, and I did not take any position on the topic under investigation.

Nevertheless, I acknowledge that bias in any form is unavoidable in social sciences because researchers do not operate in a vacuum devoid of all aspects of their personal and professional experiences. Therefore, I assumed both reflexive and interpretative roles, which are akin to qualitative research studies. First, reflexivity is critical to qualitative research because it enables a researcher to avoid pure subjectivity while aiming at reaching objectivity and neutrality both in voice and in perspective. Patton (2002) explained that since pure objectivity is impossible and complete subjectivity will undermine the credibility of the study, then it is a researcher's role to strike a balance by "understanding and depicting the [phenomenon] authentically in all its complexity while being self-analytical, politically aware, and reflexive in consciousness" in all phases of a research study (p.41). Thus, by adopting a reflexive role in the current study, the approach added value and credibility to the entire research process by increasing both my self-awareness and understanding for the purposefully chosen participants.

Second and finally, I assumed and adopted an interpretative role in the current case study concerning data analysis and reporting processes, respectively. The interpretative role involves a qualitative researcher "going beyond the descriptive data. It involves attaching significance to what was found, making sense of findings, offering explanations, drawing conclusions, extrapolating lessons, making inferences, considering meanings, and otherwise imposing order on an unruly but surely patterned world" (Patton, 2002, p. 480). In the interpretive role, I avoided the temptation of making the obvious dubious in the interpretation phase by rigorously accounting for rival explanations, disconfirming cases, and data irregularities. Accordingly, from the stories of performance management, practices, and processes elicited from the selected participants, I elucidated meanings of participants' work experiences to achieve an in-depth understanding of the phenomenon under study and reported them in a way that passed the viability test of an interpretation. In the words of Patton (2002), the interpretation captures the confirmability of what is known and supported by the data, the illumination of important things that we do not know about the phenomenon under study, and the mystification of misconceptions about the findings.

Participants of the Study

The participants of the current study consisted of at least five purposefully selected (managers and street bureaucrats) at the chosen public department who have had knowledge and experience of PMS between two and more years. According to Creswell and Plano Clark (2010), a purposeful sampling or selection entails intentional selection (recruitment) of participants who have experienced the central phenomena under study. I utilized a purposeful sampling to maximize variations among participants who may hold different views on the central phenomenon under study. Creswell and Plano Clark (2010) explained that, if participants were chosen for their differences in the first place, their perspectives would reflect the difference and thereby both contribute to an excellent qualitative study and provide a complex picture of the phenomena (p. 174). Furthermore, Goh, Elliott, and Richards (2015) submitted that purposeful sampling in the study of the impact of organizational contextual factors in the implementation of PMS will allow researchers to answer the research questions mentioned in Chapter 1.

The goal of any qualitative study is different from a quantitative research study. While quantitative analysis often seeks to generalize from the sample using a large enough data set, qualitative research instead aims to develop an in-depth understanding of a phenomenon from a smaller sample. Creswell (2009) concurred that the value of a qualitative study lies more in particularity than generalizability, whereby researchers develop and render descriptions of themes in context at a specific site. Various authors agreed as the number of research participants increases, the number of details that typically can emanate from 1-5 individuals decreases; the sample size relates to the research questions and qualitative approach chosen for the study (Creswell, 2013; Creswell & Plano Clark, 2011; Creswell, 2009; Patton, 2002). Therefore, participants in this study consisted of at least 5 employees (PMS Managers and Streets Bureaucrats) at the public agency under study. The participants in the study had at least 2-5 years of work experience with performance measurement systems across different business units of the chosen public agency.

Locating participants for this study did not pose a barrier because the site of the study is at the convenience of myself. I recruited participants through a meeting request with the site representative of the selected public department to gain access to the sites. When meeting with each director, information about the nature of the proposed study was provided, and a request for assistance in identifying study participants was made. The recruitment process included arranging a meeting with the researcher and potential volunteers to discuss the nature of the study. I requested that potential participants contact me if they were interested in participating in the study. I then purposefully selected the participants based on their years of service and experience with the PMS in their organization from the pool of participants that responded. Letters describing the proposed study and informed consent were sent to each eligible, willing, and chosen participant.

Measures

The purpose of this study was to identify how different contextual factors (or lack thereof) such as organizational size, structure, culture, stakeholder's involvement, and legislative mandate influence the implementation of performance measurement systems in a specific public sector organization. In this case, contextual factors were identified as those factors that could either constrain or enable the implementation and utilization of PMS to meet its intended goals. The broad, overarching research question was to understand better the influences of the factors mentioned earlier to the implementation of PMS through the stories and experiences of those who have experienced the system under study, and they are as follows.

Research Questions

1. How do public managers and agency staff describe their current organization in respect to size, culture, legislative mandate and organizational structure?

2. How do public managers and agency staff describe the continued challenges, barriers, and problems that public sector organizations experience in the implementation and utilization of PMS?
3. How do public managers describe possible successful factors in the implementation of PMS in their organizations?
4. How do different contexts play a role in the successful implementation and greater use of PMS in public offices?
5. How do the characteristics of a public agency help explain the efficacy of some of the problems, barriers, and challenges of PMS?
6. How do these contexts influence a successful implementation of PMS?
7. How do public managers and employees describe the level of employees' attitudes towards performance measurement systems?
8. How do managers and employees describe the efficacy and impact of employees' participation in setting PMS goals and objectives on the implementation of PMS?

Ethical Protection of Participants

The participants in this study were managers and staff of the chosen public sector organization who have practiced and experienced the phenomenon under study. The participants were given a choice to participate or not participate in the study. There was no known harm associated with participating in the study. Lists of potential local referral services were provided to the participants in case they experienced harm or difficulty participating in the study.

Participants completed a consent form, and their confidentiality is protected. Files, audiotapes, and transcripts are stored in a locked cabinet in the researcher's home office. Only me and those selected to assist in validating results had access to the transcripts. Identifying information was removed from transcripts after data validation.

Above all, this study adhered to the basic principles of ethical treatment of human subjects such as respect for person, beneficence, and justice. According to O'Sullivan, Rassel, and Berner (2008), respect for human persons requires that participants enter the study voluntarily with all information about the nature, purpose, risks, and procedures of the study. Beneficence calls for the minimization of harm or injury and the maximization of possible benefits to the participants. The ethical principle of justice requires the selection of participants for a reason directly related to the research problem under study rather than merely due to convenience or availability. This study implemented the above ethical principles by issuing informed consent forms that outlined the nature, purpose, risks, significance, and procedures of the study.

Procedures

The recruitment process for participants in this study was to utilize the MDOT as an avenue to identify participants for this study. To recruit participants for the study, I contacted via telephone and emails the site representative of the MDOT to provide information about the study. I met with the site representative to discuss the nature of the study, requested his help both in providing the list of potential participants and distributing invitation letters to potential participants to an informal session. The site representative who provided the list of potential participants did not know who among the potential participants was finally chosen or not chosen to participate in the study.

During the informal informative session with the potential participants, they were given information about the study so that you could make an informed, voluntary decision whether to participate or not. Information given to them included the general purpose of the study, study procedures, cost, risk, and benefits of participating. Issues related to confidentiality, privacy, and overall research ethics were also discussed. During the session, both inclusion and exclusion criteria were discussed.

After the informative session, a letter to participants was distributed to all present requesting that they contact the researcher directly and individually if they were interested in participating in the study. After a week without substantial response, I conducted a follow-up phone call after the informational meeting. With a substantial response rate, I applied both the inclusion and exclusion criteria, which were clearly outlined in the letter to participants to purposely select five participants across four business units within the selected public agency.

I mailed the informed consent document to the selected participants who met both the inclusion criteria and the researcher's target number. I also informed all other interested participants who were not chosen by telephone about the decisions/reasons for not including them in the study. The chosen participants participated in two individual interviews in their office or a location of their choice for approximately forty-five (45) minutes in length each time. The third meeting, which was a member-checking step for the same amount of time, was also conducted. This last meeting aided the researcher to validate that the results accurately depict the participants overall lived experiences concerning the contextual factors influencing the implementation of performance measurement systems in their respective business units within the umbrella organization.

Data Collection

I collected data from several sources, including a series of interviews, documents, and archival records reviews. The first meeting focused on the background of the participants with the intent to put the participants' experiences concerning the performance measurement system into context. The initial interview also involved signing the consent form, the presentation of the nature of the study, building a rapport, and gathering necessary information about participants' experiences with performance measurement systems to date. The interviews included people working at different levels of the organization such as PMS managers and operational staff. The eligibility criteria for the sample were that both the agency staff and top-level management have been with their respective agencies two to five years or more and have experienced the implementation of performance measurement systems (Eyoh, 2016).

This study used semi-structured, open-ended interview protocols for all interviews to capture the participants' perspectives and stories concerning PMS. The open-ended interviews lasted for approximately forty-five (45) minutes in length each time, and they were to be audiotaped and transcribed verbatim. The number of interviews in the public sector agency in Maryland varied from 2-5 over a period of 5 months (Eyoh, 2016). Following Patton (2002), interviews allowed me to elicit stories about how performance measurement systems look and feel to the people associated with it. The interviews also afforded me the opportunity to learn about the participants' experiences in the program, possible concerns, and expectations about the program under study.

Gathering information during the initial meeting paved a way for me to gain much-needed insights into the structure and culture of the organization to better understand the context in which the participants experience performance measurement systems. On the other hand, the second interview delved deeper into participants' present experiences with PMS by focusing on research questions in this proposed study. For instance, the participants provided concrete details about the continued challenges, barriers, and problems that public sector organizations experience in the implementation and utilization of PMS. The selected participants also described in detail possible successful factors in the implementation of PMS in their organization. In sum, participants in the current study were asked all the questions related to the research questions unless deemed unnecessary or unwarranted. The final interview focused on participants describing in detail their experiences as custodians of the PMS in the organizations and the roles they play in crafting and setting PMS goals and objectives. The interviews were conducted in a place each participant selected free from distraction and ensured privacy. Each interview was tape-recorded and transcribed. In addition, notes were taken to document nonverbal communication and to provide details of the environment.

The second source of data collection for the study involved a review of important documents and archival records on planning, implementation, and utilization of PMS in the organization. I used these documents to familiarize myself with the organizational context, history, and prospects of PMS. In line with Creswell (2013) recommendations to researchers to create and organize files for data, I used a journal to document important information derived from both documents and archival review to be used during data analysis.

Files, notes, audio recordings and journals for the current research are maintained in a locked cabinet in the researcher’s home office. The process of qualitative analysis began immediately after data were transcribed and organized. Above all, this study adhered to the principles of data storage and handling according to Creswell (2013). Some of the principles for data storage and handling “are developing backup copies of computer files, the use of high-quality tapes for audio recordings, developing a master list of types information gathered, the protection of anonymity of the participants by masking their names in the data, and developing data collection matrix as visual means of location and identifying information for a study" (p. 175).

Data Analysis

This study agrees with Baxter and Jack (2008) that data collection and analysis happen concurrently in qualitative research. Thus, I kept notes and highlighted relevant information during interviews and document reviews as part of the data analysis process. However, during the actual analysis stage, I obtained an overall understanding of what type of information the data were providing once the data were transcribed and organized. As part of data analysis, I searched for patterns, themes, and dimensions in the data through analysis of the interviews, coding of the data, and further analysis as themes and patterns emerged (Creswell, 2009). My goal was to identify themes in the data for the research questions. The first level of identification occurred during the initial review of each interview transcript. Upon receiving the transcripts, I read each transcript, analyzed the data for each interview, and then conducted open coding utilizing NVivo software, which is an analytic tool to facilitate the coding process.

I used *open coding*, which utilizes a brainstorming technique described by Corbin and Strauss (2008) to "open up the data to all potentials and possibilities contained within them" (p. 160). In open coding, I thoroughly review the data contained within the data set before beginning to group and label concepts. The process of coding is taking the raw data and pulling out concepts and then further developing them in terms of their properties and dimensions and grouping them into themes. The data analysis process included the following steps:

1. Review all interview transcripts notes
2. Import the data into NVIVO
3. Code the data in NVIVO using open coding
4. Define the properties of the themes
5. Refine themes and recode data if needed

Verification of Findings

In a qualitative study, the concepts of validity and reliability are understood differently than they are in a quantitative research study. According to Creswell (2009), validity in qualitative research stands for the ability of a qualitative researcher to check and verify accuracy in their findings using certain technical or scientific tools or methods. Reliability, on the other hand, “indicates that the researcher’s approach is consistent across different researchers and different projects” (p. 190). Therefore, the qualitative study verified and not validated findings, which is a common practice in qualitative research studies.

Creswell (2009) identified and recommended eight steps process of the verification of qualitative research studies. Creswell (2009) suggested that qualitative researchers use scientific procedures that comprise either “persistent observation, triangulation, peer review, negative case analysis, clarifying researcher bias, member checks, rich and thick description, or external audits" (pp. 191-192). This study used peer review, clarifying researcher bias, member checks, rich, thick description, and external audits.

Two fellow doctoral candidates at Walden University who have completed coursework on research theory and qualitative reasoning and analysis performed the peer review procedure of the verification. According to Creswell (2009), peer briefing enhances accuracy and adds to the validity of the findings by allowing people other than the researcher to ask questions to ensure that the detailed account resonates with other people. To accomplish the task outlined above, I provided both the original transcript and the copies of findings that contain research participants' description of the phenomena under study to the two peer reviewers.

Furthermore, the clarification of a researcher's bias is critical to any qualitative research study as researchers bring their personal or professional experiences to the research study. Apart from personal or professional experiences, a researcher may have a conflict of interests that could blur one's interpretation of the findings or facts. And according to the *Publication Manual of the American Psychological Association* (2010), such interests may color objectivity and neutrality of the researcher and the entire study. Therefore, "the safest and most open course of action is to disclose in an author's note activities and relationships that if known to others might be viewed as a conflict of interest, even if one does not believe that any conflict or bias exists" (APA, 2010, p. 17).

Thus, I had no conflict of interest or bias concerning the research, and I did not take any position on the topic under investigation *a prior*.

The next step in the process of verification was the use of member checking. Creswell (2009) explained this process as one that involves conducting a follow-up interview, sharing the results, and soliciting information from the participants to collect their comments on the credibility of the findings and interpretation. I conducted a follow-up interview with the participants using the preliminary results to elicit information from the participants concerning the credibility of the composite description of the phenomena under study.

The next form of verification was the use of a rich, thick description to convey findings. The use of detailed description allows any researcher to transport readers to the setting, which may help readers transfer information to a different setting based on shared characteristics. According to Creswell (2009), a rich, thick, and detailed description not only adds to a study's validity but also aids in rendering the results or findings more realistically and richly (p.192). Therefore, I had precise transcripts that provided both contextual and descriptive information on the phenomena under study. I collected and kept process notes from peer review, direct quotes from participants, and notes in the margins of transcripts that heighten themes and categories. Each of the methods of analysis mentioned above were critical in providing a rich, thick description.

The final step of the verification procedure involved the use of an external auditor who was not familiar with the researcher to review the entire research study. Creswell (2009) explained that the external auditor, an independent investigator, "looks over many aspects of the research over a project in ways that enhance the overall validity of a study." In line with Creswell (2009), I employed an external auditor with established knowledge of qualitative research methodology to look over many aspects of the proposed research such as "accuracy of transcription, the relationship between the research questions and the data, the level of data analysis from the raw data through interpretation" (p.192).

Summary

The research approach for the research study was the qualitative approach (Constructivist paradigm), and the design was a single case study with embedded units. With a constructivist philosophical paradigm, I intended to extract and construct meanings from lived experiences from those who have experienced the phenomena (performance measurement practices) under study. I also employed a single case study design with embedded units to gain a wide range of views or variations on the phenomenon under study (the practices of performance measurement systems). In line with good practices of a qualitative research study accepted world-wide, a single case study method of inquiry for this research study presented elements of good story by revealing what happened to whom, when why and how in relation to the phenomenon under investigation.

The participants of the current study consisted of at least five purposefully selected (managers and street bureaucrats) at the chosen public department who have had knowledge and experience of PMS between two and more years. Important documents and archival records were reviewed to provide additional information on organization structure, culture, size, planning and practices of performance measurement systems in the chosen organization. Interview data were also collected through two individuals' interviews that allowed participants to give detailed accounts of their lived- experiences as they relate to PMS or phenomenon being studied. The third interview, which was member checking, allowed participants to reflect on their experience and provided an avenue to verify findings.

Raw note takings, photocopies from document reviews and raw audio recordings from the interviews were not tampered with. All were preserved in my home office in a locked cabinet. Additionally, all computers used in the field are password-protected, and only me and authorized personnel have access to them. Lastly, I will keep the raw data for over five years as stipulated by the University's procedures. Chapter 4 will provide further information on participants' recruitment process, participants' profiles, and explanation of how data were collected, managed, analyzed, and verified. Chapter 4 will also provide findings relevant to the research questions vis-à-vis the theoretical foundation of the research.

Chapter 4: Results

Introduction

The Performance Measurement System (PMS) has become a well-established practice in public sector organizations. However, the literature reviewed suggests that numerous scholars have been questioning its efficacy in improving organizational performance. Research has shown that the presumed benefits remain questionable, and many barriers, challenges, and problems persist in implementing PMS. Research reviewed thus far has highlighted numerous universal success factors about successful PMS implementation in public sector organizations. But previous studies appear to treat these success factors as universally applicable, without considering possible within-context issues in different public sector organizations. Therefore, I conducted a context-sensitive study to explore the implementation of PMS by the selected public department in Maryland. This research aims to develop an in-depth understanding of how organizational size, structure, culture, operating mandate, and complexity of operating environment can either constrain or enable the successful implementation of PMS across the selected business units in the selected public agency.

In this current study, five employees across four business units within the umbrella organization were interviewed. They offered detailed information regarding their experience with PMS within their respective business units. The current chapter provides details on the process of participant recruitment; the profile of each participant; data collection procedures, including data analysis and secure storage. This chapter also discusses different steps of data verification used to ascertain the accuracy and quality of data collected, including the process of theme identification.

Recruitment

The recruitment process for participants in this study was to utilize a local public department in Maryland as an avenue to identify participants for this study. To recruit participants for the study, I contacted the site representative of the selected department via telephone and email to provide information about the study. I met with the site representative to discuss the nature of the study and to request his help in providing a list of potential participants and distributing a letter inviting them to an informal information session. The site representative who provided the list of potential participants was not aware of which potential participants were finally chosen or not chosen for participation in the study.

During the informal information session, potential participants were given information about the study so that they could make an informed voluntary decision about participation in the study. Information provided included the general purpose of the study, study procedures, cost, and risk and benefits of participating. Issues related to confidentiality, privacy, and overall research ethics were also discussed. During the session, criteria for inclusion and exclusion were explained to the participants.

After this session, a letter to participants was distributed to all attendees, requesting that they individually contact me if they were interested in participating in the study. After 1 week passed since the informational meeting without substantial response, I conducted follow-up phone calls. With a substantial response rate from calls, I applied both the inclusion and exclusion criteria, which were clearly outlined in the letter to participants to purposely select the five participants.

I mailed the informed consent document to the selected participants who met both the inclusion criteria and my target number. All other interested participants who were not chosen were contacted by telephone; I informed them of the reasons for their exclusion from the study. The chosen participants each participated in two individual interviews in their office or at the location of their choice; each interview lasted approximately 45 minutes. The third meeting, which was a member-checking step, was then conducted; this meeting also lasted approximately 45 minutes. This last meeting helped me validate that the results accurately depicted the participants' overall lived experiences concerning the contextual factors influencing the implementation of PMS in their respective business units.

Participant Profiles

Participant Number 1 is one of the leading experts for external reporting and policy at the chosen public organization. The participant was recruited for the study based on his experiences working with PMS, as well as the number of years spent at the department. The participant has over 2 years of employment history with the department, developing compliance reports and external reports for mandated governmental offices and private stakeholders, respectively. Despite the participant's busy schedule, this participant chose to participate in all one-on-one (face-to-face) interviews.

Participant Number 2 has experience with data analytics. This second participant was also recruited based on meeting all the inclusion criteria; the participant had spent over 2 years working with PMS and had an in-depth understanding of how the systems works. Similarly, Participant 2 agreed to participate in the study entirely through one-on-one (face-to-face) interviews despite their busy office schedule.

Participant Number 3 is also one among many having experience with planning and capital programming within the chosen public organization for the study. The participant was recruited based on years of experience working with and utilizing PMS's tools for asset management, which involves developing strategic plans to maintain the department's assets in a state of good repair (SGR). Despite the participant's busy work schedule within the agency, participant 3 voluntarily agreed to participate in the study.

Participant Number 4 was also recruited having met all the inclusion criteria and after voluntarily signed the informed-consent form. As one of the leading experts specializing in digital marketing and content, Participant 2's focus involves ensuring that both efficiency and usefulness of digital platforms vis-à-vis performance measurement are met, encouraged and promoted, and that different stakeholders are receiving same and unadulterated information.

Participant Number 5 agreed to participate in the research having met all the inclusion criteria. The participant had enormous experience working with data and using performance measurement tools to faithfully collect, analyze, and interpret data and report findings to relevant authorities, ultimately ensuring smooth, efficient bus operations within the chosen public organization.

Data Collection and Storage

Each participant in the current study was interviewed twice in person, as described in Chapter 3. The third interview meeting, which was a member-checking step for the same amount of time, was also conducted via email. This last meeting helped the researcher validate that the results accurately depict the participants' overall lived experiences concerning the contextual factors influencing the implementation of performance measurement systems in their respective business units within the selected public agency. The researcher repeated this procedure after the analysis of the collected interview data. Interviews were recorded using a digital voice recorder and were then filed and saved in a secure database on the researcher's private computer. Each interview was transcribed by the researcher and stored in a locked filing cabinet in the researcher's home office. All identifying information was removed from the transcripts prior to verification procedures.

Data Analysis

My objective was to identify factors relevant to seven research questions as reflected in five interviews. Each interview was considered individually in the analysis. Across the data, common themes were identified that addressed the research questions.

As part of data analysis, I searched for patterns, themes, and dimensions in the data through analysis of the interviews, coding of the data, and further analysis as themes and patterns emerged (Creswell, 2009). My goal was to identify themes in the data that were relevant to the research questions. The first level of identification occurred during the initial review of each interview transcript. Upon receiving the transcripts, I read each transcript, analyzed the data for each interview, and then conducted open coding utilizing NVivo software, which is an analytic tool to facilitate the coding process.

I used *open coding*, which utilizes a brainstorming technique described by Corbin and Strauss (2008) to "open up the data to all potentials and possibilities contained within them" (p. 160). In open coding, I thoroughly reviewed the data contained within the data set before grouping and labeling concepts. The process of coding takes the raw data and pulls out concepts, which are then further developed in terms of their properties and dimensions and are finally grouped into themes. The data analysis process included the following steps:

1. Review all interview transcripts notes
2. Import the data into NVIVO
3. Code the data in NVIVO using open coding
4. Define the properties of the themes
5. Refine themes and recode data if needed.

The resulting themes are described in the summary of the research findings. The coding process identified a total of 28 primary themes. The themes were delineated into seven areas, with each area focusing on one of the research questions. The findings for each research question are summarized, and a few examples from the interviews are used to illustrate the themes.

Data Verification

The process of verification occurred immediately after all the interviews were conducted, transcribed, and analyzed. As previously noted in Chapter 3, in a qualitative study, the concepts of validity and reliability are understood differently than they are in a quantitative research study. According to Creswell (2009), validity in qualitative research refers to a qualitative researcher's ability to check and verify accuracy in their findings using certain technical or scientific tools or methods. Reliability, on the other hand, "indicates that the researcher's approach is consistent across different researchers and different projects" (p. 190). Therefore, the qualitative study verified findings rather than validated them; this is a common practice in qualitative research studies.

Creswell (2009) identified and recommended an eight-step process of verifying qualitative research studies. Creswell (2009) suggested that qualitative researchers use scientific procedures that comprise "persistent observation, triangulation, peer review, negative case analysis, clarifying researcher bias, member checks, rich and thick description, or external audits" (pp. 191-192). I used peer review, clarifying researcher bias, member checks, rich and thick description, and external audits in the verification process.

Two fellow doctoral candidates at Walden University who have completed coursework on research theory and qualitative reasoning and analysis performed the peer review procedure of the verification. According to Creswell (2009), peer briefing enhances accuracy and adds to the validity of the findings by allowing people other than the researcher to ask questions in order to ensure that the detailed account resonates with other people. To complete this task, I provided the two peer reviewers with the original transcript as well as the copies of findings that contain research participants' descriptions of the phenomena under study.

The importance of clarifying a researcher's bias as stipulated for every research study, was recognized in this study; most researchers bring their personal and professional experiences into their respective work. In addition, a researcher's conflict of interest could blur one's interpretation of findings or facts. Consequently, such conflicts of interest may color the researcher's and an entire study's objectivity and neutrality. Therefore, "the safest and most open course of action is to disclose in an author's note activities and relationships that if known to others might be viewed as a conflict of interest, even if one does not believe that any conflict or bias exists" (APA, 2010, p. 17). As a researcher, I do not have conflict of interest or bias concerning this research, and I have not taken any position on the topic under investigation.

The next step in the verification process involved the use of member-checking. Creswell (2009) explained this process involves conducting a follow-up interview, sharing the results, and soliciting information from the participants to collect their comments on the credibility of the findings and interpretations. This study conducted a follow-up interview with the participants, and I formulated questions around the preliminary results to elicit information from participants concerning the credibility of the composite description of the phenomena under study. The member-checking procedure allowed me to validate that the results accurately depict the participants overall lived-experiences concerning the contextual factors influencing the implementation of performance measurement systems in their respective business units within the umbrella organization.

The next form of verification, as stated earlier, was a rich, thick description to convey findings. The use of detailed description allows any researcher to transport readers to the setting, which may help readers transfer information to a different setting based on shared characteristics. According to Creswell (2009), a rich, thick, and detailed description not only adds to a study's validity but also aids in rendering the results or findings more realistically and richly (p. 192). Therefore, I had precise transcripts that provided both contextual and descriptive information.

I collected and kept process notes from peer review, direct quotes from participants, and notes in the margins of transcripts that heightened themes and categories. Each of the methods of analysis mentioned above was critical in providing a rich, thick description of the phenomena under study. Of the utilized methods, a rich, thick description has been demonstrated by using direct quotes from the transcribed interviews to provide support for the expressions listed in the group description, which follows in the next section. Additionally, responses from the interviews have been transcribed verbatim.

The final step of the verification procedure involved the review of the entire research study by an external auditor who is not familiar with the researcher. Creswell (2009) explained that the external auditor, an independent investigator, "looks over many aspects of the research over a project in ways that enhance the overall validity of a study" (p. 192). In line with Creswell (2009), I employed an external auditor with established knowledge of qualitative research methodology to look over many aspects of the current research such as "accuracy of transcription, the relationship between the research questions and the data, the level of data analysis from the raw data through interpretation" (p.192).

Themes Identified

The intent of this study was to discover how different contexts can either constrain or enable a successful implementation of performance measurement systems (PMS) in public sector organizations. The following are the resulting themes delineated into seven areas, with each area focusing on the research questions. The findings for each research question are summarized and a few examples from the interviews are used to illustrate the themes as shown below.

Research Question 1

Research Question 1 asked: How do public managers and agency staff describe the continued challenges, barriers, and problems that public sector organizations experience in the implementation and utilization of PMS? The six primary themes related to this research question are summarized in this section. This section includes tables summarizing the definition of the identified themes, the frequency of occurrence of the themes, as well as the number of interviewees that mentioned a specific theme. As reflected in Table 1, the primary themes were (a) having the appropriate data measurement tools is a challenge, (b) ensuring that the right data are used is a challenge, (c) integrating various data systems is a challenge, (d) knowing who is accountable for certain PMS tasks is a challenge, (e) lack of leadership in external organizations is a challenge, and (f) internal staff buy-in is a challenge. Table 1 also shows the frequency of the themes' appearance across interviews and across the data.

Table 1

Themes, Definitions, and Frequency of Themes for Research Question 1

Theme	Definition	# of interviewees mentioning the theme	# of times the theme appeared across the interviews
Having the appropriate data measurement tools is a challenge	Having the appropriate data measurement tools and systems is a challenge for the implementation and use of PMS.	3	10
Ensuring that the right data are used is a challenge	Ensuring that the right data is being used is a challenge for the implementation and use of PMS.	4	4
Integrating various data systems is a challenge	Integrating various data systems into a single PMS database is a challenge.	3	4
Knowing who is accountable for certain PMS tasks is a challenge	Knowing who is accountable for certain tasks related to the PMS is a challenge for the implementation and use of PMS.	1	4
Lack of leadership in external organizations is a challenge	Lack of leadership in external organizations is a challenge for the implementation and use of PMS in the organization.	1	2
Internal staff buy in is a challenge	Internal staff buy in is a challenge for the implementation and use of PMS.	1	1

Having the Appropriate Data Measurement Tools is a Challenge. The most frequently occurring theme for Research Question 1 was *having the appropriate data measurement tools is a challenge*. This theme refers to the perception that having the appropriate data measurement tools and systems challenges the implementation and use of PMS. Having the appropriate data measurement tools is a challenge that was mentioned 10 times in 3 interviews. For example, Participant 2 said:

> I think the biggest one is probably one figuring out that measuring things better, so I think we need to use more new ones and fine tune with how we measure things so, that's probably the biggest challenge just because a lot—in order to do that, a lot of the times, we have to replace systems, hardware, lots of things. It is not easy to kind of change how a report is generated.

Participant 5 mentioned:

> One of the barriers to effective performance measure reporting is the availability of the right technology tailored to satisfy certain PMS parameters. The main goal is to have happy customers at the end. How we go about that is to ensure we constantly monitor, manage and get feedbacks to all fronts of Bus Transportation. With the right tools, the constraint of time, depth and quality of investigation would be addressed.

Participant 1 explained:

> It's all information that we are producing through some aspect of our daily operations here. External information would be information from different other transit agencies, which is sometimes good to see how you stack up compared to other organizations within the industry. The difficulty of that is that not all transit agencies measure things the same way, so it becomes very difficult.

Ensuring that the right data is used is a challenge. The next most frequently occurring theme for Research Question 1 was *ensuring that the right data are used is a challenge*. This theme refers to the perception that ensuring that the right data is being used challenges the implementation and use of PMS. This theme was mentioned four times in three interviews. For example, Participant 2 shared:

> I think the biggest thing is making sure you are not constrained by what data you have and that you don't distort your actual goals based on the available data. So, I think it's okay to say, hey this is our actual goal, we don't have a good way to measure this right now. Let's work towards figuring out a way to measure it and then you know use that as performance measure rather than say, oh we have this data. Let's just try it, let's change our goals to adapt to the data. So, I think it is important to understand that the data is telling a story and if you want to tell the right story about what is going on, you have to have the right data. So, it's kind of like bad data, in bad data out. It's kind of the same threat as that like you know if you're like not looking at the right thing like you actually feel that on the

> personal level when you start to go to departments and customers and whoever and saying like hey you know what's going on with this data metric, you hear it people say that is stupid, that does not mean anything like that, that's like a terrible metric that you are – you know trying to judge us on, and so the challenge is really to say okay, then like what is it that your goal is as a department like how are you, how do you want to measure yourself like and they kind of adapt your metrics to really fit with you know what people, what there like on the ground goals are from them on a day-to-day basis.

Participant 5 said, "Another barrier is clearly understanding the concerns of our customer, being able to address it, give feedback on-time and create a platform for constant communication to aid continuous innovation."

Integrating various data systems is a challenge. The next most frequently occurring theme for Research Question 1 was *integrating various data systems is a challenge*. This theme refers to the perception that integrating various data systems into a single PMS database remains challenging. The theme was mentioned four times in three interviews. Participant 1 mentioned the following:

> We get a lot of information from a lot of different places, which is a good thing and a bad thing. It's a good thing because we're getting a lot of information, which is great, that's what we want. It's bad because it just hasn't been collected in a uniform manner and consistently over long periods of time. So, it's great that

> we're getting it but it's a challenge to make all the information of use to us on a practical level, but it's a lot of information that we receive from throughout this organization. You have six separate modes of different transportation here. Some use similar software and similar systems, other ones use different ones, so trying to capture that is somewhat a challenge and that's just through the operations portion of the organization. It doesn't include the administrative functions, so anything like HR or finance, telecommunications, IT, communications. All that also requires systems. We do our best to try to understand the scope of all those systems and software and utilize the information to the best of our ability to improve performance in the end.

Participant 4 indicated:

> The best way to utilize all the technological advancements we're pursuing for performance measurement is to ensure all systems are interoperable or, at least, open to connectivity through API's or other interfaces. MDOT-MTA possesses a number of systems that were built without this more modern, flexible, and open approach in mind. That is one of the biggest challenges we face as an agency, in my opinion: access to and syncing those systems.

Knowing who is accountable for certain PMS tasks is a challenge. The next most frequently occurring theme for Research Question 1 was *knowing who is accountable for certain PMS tasks is a challenge*. This theme refers to the perception that awareness of accountability for certain tasks related to the PMS challenges the implementation and use of PMS. It was mentioned four times in one interview. Participant 2 shared:

> I think the biggest thing is that a lot of our systems are impacted by multiple actors, multiple agents, that good performance measure is kind of down to the individual level performance but a lot of our systems kind of require a lot of teamwork and so, the challenge is to kind of dissect who's responsible for what aspect of performance and really dissecting it and getting down into kind of individual levels.

Participant 2 later expanded on this point and further explained:

> Yeah, not definitely in the cases where there are multiple stakeholders for a single kind of outcome, it definitely makes it harder to actually change the performance because there is a lot of ambiguity between who's responsible for what part of the measure and then this also goes to like ability to measure certain things

Lack of leadership in external organizations is a challenge. The next most frequently occurring theme for Research Question 1 was *lack of leadership in external organizations is a challenge*. This theme refers to the perception that lack of leadership in external organizations is a challenge for the implementation and use of PMS in the organization. This theme was mentioned twice in one interview. For example, Participant 1 stated the following:

> There's a lack of leadership at the national level from the FTA and from APTA in developing uniform KPIs for very specific things like absenteeism and on-time performance. Those are two of the biggest things that we face in this industry that we focus on, that we deal with, that we try to mitigate. It's on-time performance and absenteeism. Absenteeism of our operations staff, which impacts on the service.
>
> My issue is, my beef is with the federal government, this organization that oversees all of these different transit agencies all over the country not putting out some standard measurements for some key things and saying, okay everyone, just send those in and we'll see what we can work on here so that we can start comparing apples to apples.

Internal staff buy-in is a challenge. The final theme for Research Question 1 was *internal staff buy-in is a challenge*. This theme refers to the perception that internal staff buy-in challenges the implementation and use of PMS. This theme was mentioned once in one interview. Participant 3 said, "Internal stakeholder buy-in, which we are gaining through regular workshops across all offices and divisions."

Research Question 2

Research Question 2 asked how public managers describe possible successful factors in the implementation of PMS in their organization. The seven primary themes related to this research question are summarized in this section. As reflected in Table 2, the primary themes were (a) the use of data to drive accountability or recommendations is a success factor, (b) use of appropriate tools, technology, or measures is a success factor, (c) coordination across departments, teams, or individuals is a success factor, (d) use of data is a success factor, (e) having staff who are flexible and adaptive is a success factor, (f) supportive leadership for a data driven approach is a success factor, and (g) real time response to data requests is a success factor. Table 2 also shows the frequency with which the themes appeared across interviews and across the data.

Table 2

Themes, Definitions, and Frequency of Themes for Research Question 2

Theme	Definition	# of interviewees mentioning the theme	# of times the theme appeared across the interviews
The use of data to drive accountability or recommendations is a success factor	The use of data to drive accountability or recommendations is a success factor in the implementation of PMS.	5	12
Use of appropriate tools, technology, or measures is a success factor	The use of appropriate tools, technology, or measures is a success factor in the implementation of PMS.	2	10
Coordination across departments, teams, or individuals is important	Coordination across departments, teams, or individuals in the organization is important.	4	7
Use of data is a success factor	The use of data is a success factor in the implementation of PMS.	3	6
Having staff who are flexible and adaptive is a success factor	Having staff who are flexible and adaptive is a success factor in the implementation of PMS.	2	4
Supportive leadership for a data driven approach is a success factor	Supportive leadership for a data driven approach or culture is a success factor in the implementation of PMS.	3	3

Real time response to data requests is a success factor	Real time response to data requests is a success factor in the implementation of PMS.	2	2

The Use of Data to Drive Accountability or Recommendations Is A Success Factor. The most frequently occurring theme for Research Question 2 was *the use of data to drive accountability or recommendations is a success factor*. This theme refers to the perception that the use of data to drive accountability or recommendations supports the implementation of PMS. The use of data to drive accountability or recommendations is a success factor was mentioned 12 times in five interviews. For example, Participant 3 shared the following:

> Knowing what we own. Over the past 6 years MDOT-MTA has worked on improving its inventory, which resulted from Finances mandated database FMIS, our workorder management system Maximo, and annual interviews with asset owners across the agency. We now have a high confidence in knowing what we own and know what kind of condition it's in whether through age-based analysis or routine physical inspection, and the performance of our assets.

Participant 5 also stated:

> First, I would say it's a lot of data crunching and analysis. When I deal with measures, I do my best to ensure it is interpreted accurately, correctly and the results are easily readable by anyone. Over time, I have come to realize that it is best to allow your data to speak for itself without making it too complex. I keep it simple. My major role is to dive deep into Bus Operations measures, collaborate with other departments when necessary to collate and translate data to show our

actual progress versus the goal with the variation. I highlight possible recommendations.

Use of appropriate tools, technology, or measures is a success factor. The next most frequently occurring theme for Research Question 2 was *use of appropriate tools, technology, or measures is a success factor*. This theme refers to the perception that use of appropriate tools technology or measures supports the implementation of PMS. This theme was mentioned 10 times in two interviews. Participant 5 said, "With the adoption of new tools, we've been able to break certain constraints in diving into data to provide accurate results which in turn helps the team address and solve problems better." Participant 1 indicated:

> Also, we use Trapeze a lot. It's probably the largest operations software in the industry, in transit. It actually has plane transportation as well. We use that for all of our—well, managing most of our operations, not all of it, but most of our operations are managed via that software. It's really great software. We use the full suite of different services that they provide. It gets updated every year. They roll out some new operative systems so it's great to work with that. I mean, that's definitely, it is a good piece of software that we utilize here and we try to get that incorporated to as many different aspects of our operations as possible.

Coordination across departments, teams, or individuals is important. The next most frequently occurring theme for Research Question 2 was *coordination across* *departments, teams, or individuals is important.* This theme refers to the perception that coordination across departments, teams or individuals in the organization is important. The importance of coordination across departments, teams, or individuals was mentioned seven times in four interviews. For example, Participant 2 mentioned:

> I do a lot of coordination with other departments who are largely responsible for kind of collecting data or reporting data and kind of a lot of designing methodologies to collect certain performance data that we see as kind of I guess more fine-tuned versions of large performance metrics. I coordinate and organize our quarterly performance data analytics program. So, we just had that today actually. So basically, that is coordinating analysis throughout the organization. They are driving kind of initiatives that are related to improving performance measures

Participant 3 also referenced coordination. He said, "I am responsible for ensuring the objectives outlined in the agency-wide Transit Asset Management Plan (TAMP) are executed for the agency, including improvement projects to grow the Asset Management program."

Use of data is a success factor. The next theme for Research Question 2 was *use of data is a success factor*. This theme refers to the perception that use of data is a success factor in the implementation of PMS. Data use as a success factor was mentioned six times in three interviews. For example, Participant 3 explained, "We utilize age-based analysis, in addition to physical inspection data for facilities. In the future, we are hoping to navigate away from majority age-based analysis and use physical condition assessment data." Discussing activities and responsibilities, Participant 4 explained that they are, "Part of my daily routine. Seeing trends, knowing what performs better at different times, which geographies are more pertinent to promotional ads, they all combine to bring efficiency and superior results to our digital marketing efforts at MDOT-MTA."

Having staff who are flexible and adaptive is a success factor. The next theme for Research Question 2 was *having staff who are flexible and adaptive is a success factor*. This theme refers to the perception of flexible and adaptive staff contributing to the implementation of PMS. Having staff who are flexible and adaptive is a success factor was mentioned four times in two interviews. For example, Participant 5 indicated:

> So far, it's been a journey of self-discovery and a great learning curve for me. Being able to adapt to any project thrown at me. Over the past two years, I have evolved to be a better team player. Able to manage multiple projects concurrently and deliver good results on time…If any measure requires a new tool to be able to address the area of concern, we train our staffs on any tool we chose to adopt. Over the years, these trainings have helped us better utilize each tool and we've been able to implement successful.

Participant 4 suggested:

> MDOT-MTA has a wealth of incredibly smart, talented, and driven individuals that aren't afraid to tackle legacy system issues as they arise. They're open to change and encourage change, which is key to successfully solving performance problems; if you are not open to change, you cannot be flexible enough to adapt to circumstances when things do not go as expected. This is by far the most important factor to our success in overcoming challenges to successful performance management.

Supportive leadership for a data driven approach is a success factor. The next most frequently occurring theme for Research Question 2 was *supportive leadership for a data driven approach is a success factor*. This theme refers to the perception that supportive leadership for a data driven approach or culture is a success factor in the implementation of PMS. Supportive leadership for a data-driven approach is a success factor was mentioned three times in three interviews. Participant 2 mentioned:

> Yeah, so, we have a very supportive leadership group in terms of implementing new technology and innovative solutions to measuring our performance. I think that support from leadership to have a data-driven approach to managing the system is probably the biggest help to us and that's I guess, the biggest success factor.

Participant 1 explained:

> I think the leadership here has been great. We are trying to figure out ways to still measure to the best of our ability and then put that information out there so the public can see how we're measuring it so it's very clear and transparent to them. I think there has been tremendous leadership on our behalf as an organization in trying to get all of this information out to as many people as possible and make it as clear and understandable as possible

In a final example of this theme, Participant 4 stated, "Data-driven decisions and data measurement is an initiative supported from the Administrator on down the organization's hierarchy. That adds a lot of power behind efforts to improve upon and have continued success with performance management systems."

Real-time response to data requests is a successful factor. The final theme for Research Question 2 was *real time response to data requests is a success factor*. This theme refers to the perception that real time response to data requests contributes to successful implementation of PMS. This factor was mentioned two times in two interviews. Participant 2 indicated, "Other things come up, various things come up throughout the course of the day, the week, the month. A lot of responding to data requests from internal stakeholders and sometimes external stakeholders." Participant 1 explained:

> I think just in general the industry is tending more and trying to do better understand using data and the new applications and software and technologies

> that are becoming available within the industry to assess their performance, which is awesome, and that's great and that's a lot of what we are trying to do here in developing real time transit for the application of real time transit app, getting that information uploaded to different software like Google so people can use that to orient and to use those types of services to figure out how to find themselves around an urban environment using Google maps and stuff, and having accurate data being uploaded to that. It really makes a big difference in terms of if someone's trying to use the boss and they're a tourist here and that's what they're comfortable using so they're using that, like making sure that information is accurate. We use tons of this information to try to make improvements to the type of services that we provide.

Research Question 3

Research Question 3 asked how different contexts play a role in the successful implementation and greater use of PMS in public offices. The three primary themes related to this research question are summarized in this section. As reflected in Table 3, the primary themes were (a) the role of cross-department collaboration, (b) the presence of overlap in different departments or data requests, and (c) siloing of some areas or departments. Table 3 also shows the frequency with which the themes appeared across interviews and across the data.

Table 3

Themes, Definitions, and Frequency of Themes for Research Question 3

	Theme	# of interviewees mentioning the theme	# of times the theme appeared across the interviews
Cross-department collaboration plays a role	Cross department collaboration plays a role in successful implementation and use of PMS.	4	8
There is some overlap in different departments or data requests	There is some overlap in different departments or data requests, which plays a role in successful implementation and use of PMS.	2	2
Some areas or departments are siloed	Some areas or departments are siloed in their use of PMS.	1	1

Cross-department collaboration plays a role. The most frequently occurring theme for Research Question 3 was *cross-department collaboration plays a role*. This theme refers to the perception that cross-department collaboration supports successful implementation and use of PMS. This theme was mentioned eight times in four interviews. For example, Participant 1 said, "The cross-department collaboration ensures that the entire agency has a voice in the decisions that are being made for asset management, which helps with the implementation of asset management across the agency." In another example of this theme, Participant 5 noted:

My major role is to dive deep into Bus Operations measures, collaborate with other departments when necessary to collate and translate data to show our actual progress versus the goal with the variation. I highlight possible recommendations. As a team, we then brainstorm to develop more ways to ensure we keep providing a safe, efficient, reliable transit experience across Maryland with world-class customer service.

For my department, we have four divisions we manage, and we work/collaborate with several other departments. We report to the COO and the Administrator. My work environment has a culture that permits creativity and innovation.

In a final example, Participant 4 mentioned:

I don't think the agency's size or structure makes much of a difference in the designing, implementing, and utilization of performance measurement systems. We have an Office of Performance Management (OPM) and Office of Innovation that work closely together to lead efforts around the gathering of data and analysis of data for a better overall system experience. In this regard, they might drive new contract requirements or procurements around open and flexible technology solutions, but that's a result of function rather than size.

There is some overlap in different departments or data requests. The next most frequently occurring theme for Research Question 3 was *there is some overlap in* *different departments or data requests*. This theme addresses the perception that overlap exists between different departments or data requests, and this plays a role in successful implementation and use of PMS. This theme was mentioned twice in two interviews. For example, Participant 2 stated:

> I came from the MTA's Department of Planning. In the planning department, I was doing a lot of management of data for kind of planning reports and there is a lot of crossover for what data is needed, so that was kind of my transition into performance management. I have some academic background in transit performance metrics.

When asked to describe the nature of the operating environment, including the possible existence of multiple stakeholders, and overlapping jurisdictions, Participant 3 indicated, "The Asset Management Program within the Office of Planning and Programming facilitates asset management for the entire agency and relies on collaboration across all departments and divisions to do asset management together."

Some areas or departments are siloed. The final theme for Research Question 3 was *some areas or departments are siloed*. This theme refers to the perception that some areas or departments are siloed, or isolated, in their use of PMS. This theme was mentioned once in a single interview. In the only example of this theme, Participant 4 shared:

> Performance measurement in the Office of Communications and Marketing is much more siloed than other performance measurement systems. Our systems are customer communication focused rather than operational or logistic focused. For what we do, the data we have and look at regularly fully enables our marketing efforts to be successful. However, those efforts don't directly impact operation of bus or rail transit. They bring up the quality of service for the organization, but in its unique way.

Research Question 4

Research Question 4 asked how the characteristics of a public agency help explain the efficacy of some of the problems, barriers, and challenges of PMS. The six primary themes related to this research question are summarized in this section. As reflected in Table 4, the primary themes were (a) assigning different individuals or departments to specific PMS roles influences efficacy, (b) flexibility improves efficacy, (c) smaller organizational size plays a role in efficacy, (d) a horizontal organizational structure influences efficacy, (e) organizations that allow creativity are effective, and (f) larger organizations can face challenges with assessment or data. Table 4 also shows the frequency of the themes' appearance across interviews and across the data.

Table 4

Themes, Definitions, and Frequency of Themes for Research Question 4

Theme	Definition	# of interviewees mentioning the theme	# of times the theme appeared across the interviews
Assigning different individuals or departments to specific PMS roles influences efficacy	Assigning different individuals or departments to specific PMS roles influences efficacy.	4	6
Flexibility improves efficacy	Flexibility in what to report or in PMS goals improves efficacy.	2	3
Smaller organizational size plays a role in efficacy	Smaller organizational size plays a role in efficacy because staff can share and interact.	1	3
A horizontal organizational structure influences efficacy	A horizontal versus a vertical organizational structure influences efficacy.	1	2
Organizations that allow creativity are efficacious	Organizations that allow creativity and innovation are efficacious.	1	2
Larger organizations can have challenges with assessment or data	Larger organizations can have challenges with assessment or use of data.	1	1

Assigning Different Individuals or Departments to Specific PMS Roles Influences Efficacy. The most frequently occurring theme for Research Question 4 was *assigning different individuals or departments to specific PMS roles influences efficacy*. This theme refers to the perception that assigning different individuals or departments to specific PMS roles influences efficacy. This theme was mentioned six times in four interviews. For example, Participant 2 indicated:

> We don't break it out by modes because there's only a few of us that are tracking all these measures so what we do is we have some people who are devoted to different systems. So like tracking systems. So, depending on what measure and what system that you're using, it depends on you know, like that's how we break down our department

Participant 1 explained his specific PMS roles:

> My responsibilities are primarily for compliance reporting at the federal state and administrative level as well as policy documentation and formulation, developing all the operational and administrative policies that we use as an organization. I am also responsible for all the compliance reports and the external reporting. So, if somebody from the outside organization, private industry or another transit agency would like to request any information, I would provide that for them.

Participant 4 was also assigned to specific PMS roles:

> Daily and monthly analytics related to the MDOT-MTA website and social media accounts. I compile a daily report to the Administrator of social media activity and issues along with a monthly report covering activity across all the chosen umbrella organization's websites and social media performance. These include numbers like visitors and pageviews, reach and engagement, and results of promotional spending for digital marketing content.

Flexibility improves efficacy. The next most frequently occurring theme for Research Question 4 was *flexibility improves efficacy*. This theme refers to the perception that flexibility in reporting information or in PMS goals improves efficacy. This theme was mentioned three times in two interviews. Participant 2 explained flexibility in the following manner:

> I also have flexibility with exactly what the data is that we're reporting and I think there's a good relationship between myself and our department and the executive and the administrator's office about like what data is relevant, what we need to reporting on and what makes sense and what to hold people accountable to and what to really say like, "Hey, you know this isn't really a good measure of your department's performance, let's rethink a way to reformat this measure." So, I think there could be a case, I could see it where something like farebox recovery is a big transit performance measure that is kind of industry-wide, people know what that is, it's a bad measure of any one department or it's a bad performance

> measure because it depends on so many different things that no one department or office or person can really impact that much. So, if we were to say, "Hey, we need to improve our farebox recovery." That is, I think too much a—like if that was the mandate, I might have different feelings about the mandate but because the mandate, it allows us to really go into the departments and understand what they're doing, how they should be measured on it and then kind of do that from the ground up and kind of create those measures, in that case, the executive mandate is effective.

In a final example, Participant 4 stated:

> Because we have a dedicated Office of Performance Management and Office of Innovation, coupled with a myriad of data-hungry Directors and managers across other departments, employee's willingness to participate in setting goals and working on or overseeing implementation drives our ability to see the desired results.

Smaller organizational size plays a role in efficacy. The next most frequently occurring theme for Research Question 4 was that *smaller organizational size plays a role in efficacy*. This theme refers to the perception that smaller organizational affects efficacy because staff can share and interact. Smaller organizational size plays a role in efficacy and was mentioned three times in one interview. Participant 2 stated:

> Obviously, I want like a hundred and then I can delegate every single task and we could dive it further down into things but when I say we're appropriately sized, probably. I think that actually is a benefit to being small but at the same time, no one's really kind of prohibited from sharing their views with anyone in the department and that's kind of more or less the way that the agency works as a whole.

A horizontal organizational structure influences efficacy. The next most frequently occurring theme for Research Question 4 was *a horizontal organizational structure influences efficacy*. This theme refers to the perception that a horizontal versus a vertical organizational structure influences efficacy. This theme was mentioned twice in one interview (Participant 2). Participant 2 described his organization as follows:

> So technically, it is vertical. We have our director, our chief, our managers and then people that are just regular staff but in the way we function is horizontal, you know? We're small enough that we have meetings with our entire department, and everyone can kind of talk and we can kind of hash things out. It's good to have the hierarchical structure in some cases for delegation of duty like a project and things like that but it's pretty horizontal in terms of what ideas kind of come to fruition and there is no like, "Oh, you have to—I'm the manager, you have to go through me before you talk to the director." We don't function like that really.

Organizations that allow creativity are efficacious. The next most frequently occurring theme for Research Question 4 was *organizations that allow creativity are efficacious*. This theme refers to the perception that allowing creativity and innovation within an organization contributes to overall effectiveness. Organizations allowing creativity were mentioned two times in one interview (Participant 5). Participant 5 explained:

> For my department, we have four divisions we manage, and we work/collaborate with several other departments. We report to the COO and the Administrator. My work environment has a culture that permits creativity and innovation…Well, my operating environment is open to innovation, and we have the mentality to always do all it takes to get the job done right.

Larger organizations can have challenges with assessment or data. The final theme for Research Question 4 was *larger organizations can have challenges with assessment or data*. This theme refers to the perception that larger organizations face challenges in assessing and using data. This theme was mentioned once in one interview (Participant 3). Participant 3 indicated:

> Because our agency is so large with 6 operating modes of transportation, it is very challenging to solve the issues for the entire agency at once. This has resulted in us launching an asset management system pilot, which is a year-long effort begun in July 2018. This pilot provided the opportunity to focus on a small facility

division within our Bus mode, physically assess assets through Field Inventory Verification, where we also did condition and performance assessments at the same time, and will ultimately lead to review strategies and improving processes through developing SOPs for Inventory Maintenance, Condition and Performance Assessments that can be developed an used across the entire agency.

Research Question 5

Research Question 5 asked how public managers describe possible successful factors in the implementation of PMS in their organizations. The three primary themes related to this research question are summarized in this section. As reflected in Table 5, the primary themes were (a) having to report to legislators increases accountability, (b) legislation guides successful implementation of PMS, and (c) PMS is driven by wanting to serve or provide better service. Table 5 also shows the frequency with which the themes appeared across interviews and across the data.

Table 5

Themes, Definitions, and Frequency of Themes for Research Question 5

Theme	Definition	# of interviewees mentioning the theme	# of times the theme appeared across the interviews
Having to report to legislators increases accountability	Having to report to legislators increases accountability and makes obtaining data easier.	2	4

Legislation guides successful implementation of PMS	Legislation guides successful implementation of PMS.	3	3
PMS is driven by wanting to serve or provide better service	PMS is driven by wanting to serve customers or provide better service.	1	1

Having to report to legislators increases accountability. The next most frequent theme that occurred for Research Question 5 was *having to report to legislators increases accountability*. This theme refers to the perception that the expectation of reporting to legislators improves accountability and makes obtaining data easier. This theme was mentioned four times in two interviews. For example, Participant 2 expressed the following sentiment:

> Yeah, there's several things that we have to report to the legislature in terms of performance. There are also simple things that we have to report to our executive, which is GSO or MDOT. It does help definitely in creating that for me, I don't have to twist people's arm to get them to participate in our performance management program because it's kind of driven from the top. So, it definitely adds a level of accountability to our performance drivers that they know that this is something that leadership is invested in, that's definitely critical.

Participant 1 shared:

> It's almost all legislative. The state legislature in the NIGP Code outlines specific reporting that we have to conduct every year or every quarter or every three or

two or four or five years, and then we have that information audited at those intervals as requested or outlined in the NIGP code. Federally, it's part of the Federal Transit Administrations, National Transit Database Reporting which is also established through federal legislation.

Legislation guides successful implementation of PMS. The next most frequently occurring theme for Research Question 5 was *legislation guides successful implementation of PMS*. This theme was mentioned three times in three interviews. Participant 3 indicated:

> The FTA Final Rule on Asset Management (July 2016) mandates that all Transit Agencies maintain their assets in a State of Good Repair (SGR) and annually report on their asset base through the National Transit Database. Part of this requirement is utilizing a decision support tool, TERM Lite, to assess the SGR needs for the agency in addition to developing a Transit Asset Management Plan.

Participant 5 explained:

> From what I'm aware of, there are certain criteria to be met before implementation. First, what is the cost implication? Do we have the right technology in place to get the right results? Do we require additional personnel training? What is the priority/severity level? Just to name a few considerations before we proceed to implementation. Sometimes there are political considerations as well. We weigh all these elements, and we work from there.

In a final example of this theme, Participant 1 shared:

> A lot of it is federally required or state required for different types of applications and compliance reports that we have to do. We are mandated to report a lot of stuff. The federal government and the state government use that to benchmark our performance for funding the cities.

PMS is driven by wanting to serve or provide better service. The final theme for Research Question 5 was *PMS is driven by wanting to serve or provide better service*. This theme, referring to the notion that service to customers is the aim of PMS, was mentioned once in one interview (Participant 4). Participant 4 shared:

> I don't have any experience with external mandates from outside of our agency driving implementation of performance measurement. Decisions made that I've been a part of originated from the idea of "this is needed for better customer experience." Even if it's an internal performance measure, that measure almost always can tie back to another piece that affects the customer's experience with our agency.

Research Question 6

Research Question 6 asked how public managers describe the level of employees' attitudes towards performance measurement systems. The two themes related to this research question are summarized in this section. As reflected in Table 6, the two themes were (a) employees are enthusiastic and have a positive attitude and (b) employees may be reluctant with new PMS measures. Table 6 also shows the frequency of the themes' appearance across interviews and across the data.

Table 6

Themes, Definitions, and Frequency of Themes for Research Question 6

Theme	Definition	# of interviewees mentioning the theme	# of times the theme appeared across the interviews
Employees are enthusiastic and have a positive attitude	Employees are enthusiastic and have a positive attitude about the insight gained from PMS.	4	4
Employees may be reluctant with new PMS measures	Employees may be defensive or reluctant when a new PMS measure is introduced.	2	2

Employees are enthusiastic and have a positive attitude. The next most frequently occurring theme for Research Question 6 was *employees are enthusiastic and have a positive attitude*. This theme which refers to employees' enthusiasm and positive attitude about insights from PMS, was mentioned four times in four interviews. Participant 2 said,

> I think people are enthusiastic about [PMS]. I think it's a really, really interesting insight, you get a lot of insight into how the transit operations really work so, I think it's like if you want to understand how a transit department or transit agency

> works, this is the place to be because you are really seeing like, the whole big picture and so I think people within this department really enjoy that....so, I think people have a good attitude in our department.

Participant 3 said, “Naturally, there is a bit of reluctance when presented with anything new, but through regular workshops and communication we are seeing increased amounts of buy-in across all departments and divisions.” Participant 1 stated, “We are willing to make the goals. So, everyone here, that we get together, and we discuss the benefits of different types of measurements and goals.” Participant 4 described the level of employees’ attitude toward PMS as follows:

> I think they will like it. Individuals can directly see the impact that have through such performance measures. Operators, mechanics, and others that are critical to success as a transit agency are recognized for quality of service. Members of each department can easily see positive impact from their efforts in all sorts of projects. Performance measurement has been a boon more than anything for employees.

Employees may be reluctant with new PMS measures. The next theme for Research Question 6 was *employees may be reluctant with new PMS measures*. This theme refers to the perception that employees may react defensively or reluctantly when a new PMS measure is introduced. This theme was mentioned two times in two interviews. For example, Participant 2 shared:

> I think at first, whenever we implement a new measure or a new system or anything like that, people are defensive, people don't necessarily like being tracked I guess or evaluated by someone who is not necessarily in their profession because as you know transit has a bunch of different professions. You have got operators, you got mechanics, you got administrative people, you've got police officers, you've got engineers, you've got all kinds of different people and one performance management department who's kind of responsible for understanding how all these people's jobs work and so I think at first, you definitely get some of that like, you guys don't know how our job work

Similarly, Justin indicated, "Naturally, there is a bit of reluctance when presented with anything new."

Research Question 7

Research Question 7 asked how managers describe the efficacy and impact of employees' participation in setting PMS goals and objectives on the implementation of PMS. The single theme of research Question 7 is summarized in this section. As reflected in Table 7, the primary theme was that people experience buy-in, or feel a sense of investment, if they contribute. Table 7 also shows the frequency with which the theme appeared across interviews and across the data.

Table 7

Theme, Definition, and Frequency of the Theme for Research Question 7

Theme	Definition	# of interviewees mentioning the theme	# of times the theme appeared across the interviews
There is buy-in if people contribute	There is buy-in if people contribute to identifying PMS measures, recommendations, and goals	4	7

There is buy-in if people contribute. The only theme for Research Question 7 was *there is buy in if people contribute*. This theme refers to the perception that people feel sense of investment if they contribute to identifying PMS measures, recommendations, and goals. This sense of investment, linked with people's contributions, was mentioned seven times in four interviews. In the one example of this theme, Participant 2 explained:

> We certainly kind of opened our doors to anyone who wants to suggest performance measures and we kind of evaluate them to see, so in the end, what we're trying to do is decide whether performance measures like actually impact service that the customers see. So, a lot of the times people might have a performance measure that they're personally invested in and seeing like it makes their job easier but really, it's not something that like impacts the customer on the frontend of our system so that's kind of everything that's driving our performance measure. So, everyone has the ability to kind of weigh in. We kind of act as a clearinghouse to decide what's important.

In a final example, Participant 3 shared:

> The entire agency has buy-in on asset management and the weighting criteria, useful life benchmarks, and major asset management decisions for the agency. The cross-department collaboration ensures that the entire agency has a voice in the decisions that are being made for asset management, which helps with the implementation of asset management across the agency.

Summary

Research Question 1 asked how public managers and agency staff describe the continued challenges, barriers, and problems that public sector organizations experience in the implementation and utilization of PMS. The six primary themes related to this research question were (a) having the appropriate data measurement tools is a challenge, (b) ensuring that the right data are used is a challenge, (c) integrating various data systems is a challenge, (d) knowing who is accountable for certain PMS tasks is a challenge, (e) lack of leadership in external organizations is a challenge, and (f) internal staff buy-in is a challenge.

Research Question 2 asked how public managers describe possible successful factors in the implementation of PMS in their organizations. The seven primary themes related to this research question are were (a) the use of data to drive accountability or recommendations is a success factor, (b) use of appropriate tools, technology, or measures is a success factor, (c) coordination across departments, teams, or individuals is important, (d) use of data is a success factor, (e) having staff who are flexible and adaptive is a success factor, (f) supportive leadership for a data driven approach is a success factor, and (g) real-time response to data requests is a success factors.

Research Question 3 asked how different contexts play a role in the successful implementation and greater use of PMS in public offices. The three primary themes related to this research question were (a) cross-department collaboration plays a role, (b) there is some overlap in different departments or data requests, and (c) some areas or departments are siloed.

Research Question 4 asked how the characteristics of a public agency help explain the efficacy of some of the problems, barriers, and challenges of PMS. The six primary themes related to this research question were (a) assigning different individuals or departments to specific PMS roles influences efficacy, (b) flexibility improves efficacy, (c) smaller organizational size plays a role in efficacy, (d) a horizontal organizational structure influences efficacy, (e) organizations that allow creativity are efficacious, and (f) larger organizations can have challenges with assessment or data.

Research Question 5 asked how public managers describe possible successful factors in the implementation of PMS in their organizations. The three primary themes related to this research question were (a) having to report to legislators increases accountability, (b) legislation guides successful implementation of PMS, and (c) PMS is driven by wanting to serve or provide better service. Research Question 6 asked how public managers describe the level of employees' attitudes towards performance measurement systems. The two themes related to this research question were (a) employees are enthusiastic and have a positive attitude and (b) employees may be reluctant with new PMS measures. Research Question 7 asked how managers describe the efficacy and impact of employees' participation in setting PMS goals and objectives on the implementation of PMS. This research question's single theme highlights the critical relationship between people's level of buy-in and their contribution to PMS.

This chapter included a summary of the data analytic approach, tables summarizing the identified themes, and the frequency of occurrence for the themes. In addition, this chapter detailed the number of interviewees that mentioned a specific theme and examples of the themes. Chapter 5 will provide the interpretation of the findings, implications for social change, recommendations, theoretical implications and conclusions.

Chapter 5: Interpretations and Conclusions

Introduction

The Performance Measurement System (PMS) is a well-established practice in public sector organizations. However, from the literature reviewed, numerous scholars have questioned its efficacy in improving organizational performance. Research has shown that the presumed benefits remain questionable and that many barriers, challenges, and problems persist in implementing PMS. Research has shown numerous universal success factors about successful PMS implementation in public sector organizations. But previous studies appear to treat these success factors as universally applicable, without considering possible within-context issues in different public sector organizations. Therefore, this research embarked on a context-sensitive, in-depth study to explore how an umbrella public organization in the state of Maryland has implemented PMS. It also sought to gain an in-depth understanding of how organizational size, structure, culture, operating mandate, and complexity of operating environment can either constrain or enable the successful implementation of PMS across the selected business units in MDOT. In this current study, five employees across four business units within the umbrella organization were interviewed. Each employee gave detailed information regarding their experience with performance measurement systems within their respective business units.

Despite widespread acclamation for the use of performance measurement systems in public sector organizations, the findings of this study presented in Chapter 4 confirmed that public sector organizations continued to face insurmountable problems, challenges, and barriers. For instance, in addressing Research Question 1, the participants identified numerous continued problems and barriers facing successful PMS initiatives. These include: (a) Having the appropriate data measurement tools is a challenge; (b) Ensuring that the right data are used is a challenge; (c) Integrating various data systems is a challenge; (d) Knowing who is accountable for certain PMS tasks is a challenge; (e) Lack of leadership in external organizations is a challenge; and (f) Internal staff buy in is a challenge.

The findings also reveal some interesting success factors, which are still considered to be universally applicable to all organizations. From the findings presented in Chapter 4, the results revealed how each interviewee mentioned different but important and unique contexts relevant to their job responsibilities and their different business unit in a successful implementation of performance measurement systems.

Interpretations

The intent of this study was to provide insight into how different contexts can impact the implementation (or lack thereof) of PMS across the selected business units in a public organization in the state of Maryland. It was found that organizational size, organizational structure, cross-departmental collaboration, and operating mandate are possible contextual factors that might help explain successes with performance measurement systems in the chosen business units.

In this study, the five employees interviewed gave detailed information regarding their experience with PMS within their respective business units. The business offices selected for the study were small, with 15-20 employees working on performance measurement initiatives and were all successful in their respective performance measurement initiatives. The participants' business offices were: External Reporting and Policy, Data Analytics, the Office of Planning and Programming, the Office of Communication and Marketing, and the Office of Bus Operations, all within the umbrella organization.

Organizational Size

In addressing a research question about how organizational characteristics help explain the continued problems of performance measurement, the word "organizational size" appeared17 times across the interviews. One of the interviewees, Participant 2 who was from a very successful business unit in the study, opined that smaller organizational size plays a role in efficacy of PMS because staff can share insights and interact easily. And smaller organization vis-vis efficacy was mentioned three times in one interview. Another participant (Participant 3) agreed that a larger organization can have numerous challenges with assessment of data, data coordination, and data use.

Smaller organizations in the study dealing with PMS tend to clear the path for more efficiency and reduced bureaucratic hurdles while advancing coordination and communication. The different business units studied in the research were smaller, and all of them appeared to experience continuous success in the implementation of PMS with few or no challenges and barriers. Therefore, organizational size is an important factor in a successful implementation of PMS, and different public organizations needs to design a unique PMS according to their size.

Organizational Structure

Public organizations differ substantially in their organizational structures. Some organizations are structured horizontally, while others are structured vertically. From our qualitative study findings, we found that all the business units in the study were structured horizontally relating to their dealing with PMS initiatives, leading to their successful design and implementation of PMS. One of the interviewees admitted that a horizontal organizational structure influences efficacy and allows everyone to be a boss of their job without taking orders from the above. Another aspect of organizational structure we found is creativity; as an aspect of organizational structure, creativity allows business units to be relatively successful in the design and use of performance measurement systems. One of the participants mentioned that “we report to the COO and the Administrator. My work environment has a culture that permits creativity and innovation.” The above statement from one of the participants, regarding leadership allowing for innovation and creativity, remained evident throughout the entire interview, emphasizing that organizations that allow creativity and innovation are efficacious. However, although both organizational size and structure may be important factors in achieving PMS initiatives, one of the participants disagreed that both organizational size and structure do not make much of a difference in achieving PMS initiatives, because of departmental coordination and collaboration.

Cross-Departmental Collaboration

In addressing the research question of how different contexts play a role in the successful implementation and greater use of PM in public organizations, cross-departmental collaboration was the most frequently occurring theme. Four of the interviewees mentioned the theme, and it appeared 8 times across the interviews. Most of the participants agreed cross-departmental collaboration play a vital role in the successful implementation and use of performance measurement systems (PMS). The participants asserted that cross-departmental collaboration ensures that everyone dealing with PMS initiatives has a voice in decisions that are being made in their respectively agencies. Two of the participants stated that their respective business units are closely overlapped with others, and they can meet their targets because of their strong leadership, clear vision, clear knowledge of all stakeholders, and shared interests in getting the work done. One participant stated, “my major role is to dive deep into Bus Operations measures, collaborate with other departments when necessary to collate and translate data to show our actual progress versus the goal with variation."

Operating Mandate

In addressing the question of how managers describe possible successful factors in the implementation of performance measurement systems in their different units, two (2) participants shared that having to report to state legislators or the governor's office increases the accountability of their work on PMS initiatives. Three out of five responded that legislation guides their successful implementation of performance measurement systems in their respective agencies.

Thus, PMS initiatives were seen by the participants as less paperwork or bureaucratic process, but as clear and concise public policy mandates that must diligently adhered to. One of the participants stated that certain criteria must be met before implementation [of PMS] initiatives. Another stated that

> A lot of it is federally required or state required for different types of applications and compliance reports that we have to do. We are mandated to report a lot of stuff. The federal government and the state government use that to benchmark our performance for funding the cities.

The participants' overall experiences were all positive, and they stated that having clear and unambiguous guidelines, rules, local ordinances and federal safety rules helps in successful achievement of PMS initiatives, because having unambiguous mandates allows both the organization to identify its own performance metrics and employees to have a positive attitude regarding PMS. Most of these agencies are required to report to the state legislature either yearly or quarterly. Thus, it appears that public agencies, departments or organizations with a clear mandate and with a less complex operating environment will have tremendous successes in their PMS initiatives compared to those with a complex operating environment with numerous stakeholders and multiple jurisdictions.

Theoretical Considerations

The results of this study suggest that public organizations are unique and their successes in implementing performance measurement systems depend greatly on how different contexts within, outside, and relevant to their respective public organizations are considered and valued. The contingency theory of organizations and goal-setting theory provide some insight into the results of this study. The contingency theory of organizations (Morgan, 2006), which is closely related to Ludwig von Bertanlanffy's principle of "equifinality" and Katz and Khan's (1966) theory of organizations as open systems. The concept of "equifinality" is explained as a principle in an open system theory that given any end state *(terminus ad quem)* can be attained through different means.

The contingency theory of organizations is based on the premise that no universally acceptable organizational system applies equally to all organizations and in all circumstances. In the words of Pfeffer and Salancik (2016), "[public] organizations survive to the extent that they are effective. To ensure their effectiveness, organizations must continually adapt to their changing environments" (Donaldson, 2006). Therefore, organizations change from one fit to another over time. The theory of organizations as open systems examines various components of an organization's internal and external environment on its behavior. That is, organizations are not closed systems; rather, they are shaped by both internal and external forces (Pfeffer & Salancik, 2015).

In the performance measurement context, it can be argued that the participants in the study saw their individual business units as unique, with varying characteristics and factors that allowed them to successfully design, implement performance measurements system. That is, specific contexts within organizations played important roles and have a tremendous effect on performance measurement initiatives without resorting to rigid, or universally imposed one-size-fits-all performance measurement standards.

Another theoretical model worth mentioning is the goal-setting theory propounded by Edwin Locke (1960), which has as its premise that "particular attributes of personal goals have an effect on performance; and the use of specific and challenging goals produces greater performance results than the use of 'do your best' goals" (Franco-Santos, Lucianetti & Bourne, 2012, p. 98). Goal setting theory has implications for both employees and managers regarding performance measurements systems. The implication is that, if the performance measurement systems are properly designed and implemented, they will meet both managers' and employees' need and objectives in advancing the overall goal and objectives of an organization. For example, Groen, Wouters and Wilderom (2012) suggested that employees' participation in developing performance measures does improve their attitude, social pressure, and capability to take initiative.

In this study, participants offered a clear sense of complete commitment to performance measurement initiatives in their respective business units because both the employees and the management contribute to identifying PMS measures and goals. Collaboration in PMS goals development and unity of purpose allows for shared responsibility among both employees and management; it also allows for all to take ownership of PMS initiatives thereby decreasing the possibility of seeing PMS as a mere bureaucratic or externally driven adventure.

Each of the above models provided insight into the results of this study. First, the experiences expressed by the participants' descriptions of their roles, responsibilities and factors that aid their successful implementation of performance measurement system in their different business units reflect a contemporary quest for a context-sensitive contingency approach to PMS implementation (Gog, Elliott & Richards, 2015). This construct is based on the notion that an organization's characteristics and its successful use of performance measurement system depends on specific organizational contingencies. It is also based on the notion that performance measurement system "cannot be universally appropriate" to every public organization. That is, "each public organization needs to design its own [PMS] system according to its circumstances to avoid loss of performance" (Franco-Santos, Lucianetti & Bourne, 2012, p.98).

Also, the participants in the study have elaborated on the importance of having unity and clarity of PMS goals. The participants expressed being enthusiastic and having a positive attitude about PMS initiatives in their departments because there was unity in PMS goal development and an unambiguous strategic direction from the management. "Being enthusiastic and having a positive attitude about insight gained from PMS initiatives" was mentioned four times in four interviews. However, two participants mentioned that employees may be defensive or reluctant when a new [ambiguous] PMS measure is introduced. The above findings are in line with the construct of goal setting theory, which calls for "specific and clear performance measures and targets…that are associated with reduced ambiguity or confusion about strategic direction which positively affects [PMS] goal commitment, behavior, and ultimately, performance" (Franco-Santos, Lucianetti & Bourne, 2012, p.98).

Implications for Social Change

Performance measurement systems (PMS) exist in public organizations for the purpose of aiding the management to make strategic decisions about the future of their policies, programs, and employees. A well-crafted PM system that is unique to a specific public sector organization would allow public managers to ascertain the effectiveness of programs, policies, and people who work in them. The current study has demonstrated that context is a useful variable in crafting PMS that leads to a successful implementation to continuously improve all facets of a public sector organization.

The participants in this study have demonstrated through their interviews that uniformity of performance measurement systems across the board is a problem with performance measurement systems' (PMS) successful implementation. The current study found out that the business units in the study were able to achieve their PMS goals and employee buy-in because they were cognizant of their individual internal and external environments without relying on required, imposed, and standardized templates of PMS. Similarly, the current study found that specific contexts within organizations played an important role and have tremendous effect on performance measurement initiatives without those organizations resorting to a rigid or universally imposed one-size-fits-all performance measurement standards.

Therefore, the context analysis in this study suggests that management and practitioners in the field of PMS should take a more context-sensitive contingency approach when designing and implementing PMS in public sector organizations. By repositioning PMS in a context-sensitive pattern, public sector managers can make PMS more valuable and effective as a managerial tool for improving performance in their respective organizations. That is, with a context-sensitive approach to PMS, public managers could design a performance measurement system that mirrors their respective internal and external environment, leading to a greater utilization of the PMS results for overall organizational improvement. In other words, failing to create a context-sensitive performance system specific to each public organization to achieve its intended goals would not only cost the jurisdiction loss in investment, leading to the abandonment of PMS results on dusty shelves, but it could also hinder their ability to continuously monitor and improve all facets of their public organizations.

Public service is public trust. Managers, directors and employees working in public organizations are held to higher standards for the purposes of accountability and transparency. Their actions and inactions as they relate to executing strategic decisions about the future of their organizations, policies, programs, and employees are frequently monitored. Thus, the performance management system is a readily available tool available to public organizations for checking and preventing waste, abuse, and fraud and ensuring effectiveness/efficiency of their organizations, policies, and employees. Consequently, the current study submits that there is an urgent need for public organizations to take a context-sensitive contingency approach to designing and implementing performance measurement systems in their respective organizations. Performance measurement systems can be a valuable tool and an efficient process if public organizations' managers and employees subscribe to a context-sensitive contingency approach to designing and implementation, leading to greater utilization of PMS results to improve efficiency and overall monitoring of performance in all facets of a public organization.

Limitations of the Study

The study, a context-sensitive approach to the implementation of PMS in Maryland, is a qualitative single-case study analysis with embedded units. As a qualitative study, the research results and implications for practice are only based on one public department in Maryland, focusing on four business units, which may limit its extrapolation to other public organizations in other jurisdictions. The above explanation is in line with other qualitative studies, where the main goal is not to generalize the findings from the sample as in quantitative study, but to develop an in-depth understanding of a few people about a specific central phenomenon.

The research design for this study was a single-case study with embedded units with the goal to achieve a variety of opinions or variations on the central phenomenon under study using different data collection methods. Much information was gathered from relevant websites on the chosen organization's structure, history, size, and its practices of performance measurement systems. Five participants across four business units within the umbrella agency were purposely selected. We reviewed the essential documents on planning and strategic decision models, but they were not released to us as these were classified as restricted or sensitive government documents.

Recommendations

Public sector organizations should consider the results of this study. Despite the wide-spread acclaim of the usefulness of performance measurement in public sector organizations problems, challenges and barriers still exist, as we have demonstrated in this study. Also, our theoretical considerations showed that the participants in the study saw their individual business units as unique, with varying characteristics and factors that allowed them to successfully design and implement performance measurement systems. That is, specific contexts within organizations played an important role and have a tremendous effect on performance measurement initiatives without resorting to rigid, or universally imposed, one-size-fits-all performance measurement standards.

Therefore, the current study has succeeded in advancing the notion of a context-sensitive contingency perspective to performance measurement systems in a public organization. We took up a challenge previously outlined by Bititci, Garengo, Dörfler, and Nudurupati (2012). Bititci et al. (2012) posited that the main challenge for performance measurement systems is the problem of understanding the role of different contexts in the implementation of PMS. In addition, the findings of the current study are consistent with the study of Jääskeläinen, Laihonen, Lönnqvist, Palvalin, Sillanpää, Pekkola, & Ukko (2012), which signaled the need for both a contingency perspective to PMS in public organizations and a concerted effort to identify patterns among specific case studies. The study by Jääskeläinen et al. (2012) elaborated several contingency factors such organizational size, structure, and complex political environment, which must be considered, as we have shown in our study.

However, the scope of this study was limited to only one umbrella public organization with four business units, interviewing five participants in one location in the United States. Expanding the number of organizations in a different study would allow the researchers to compare performance measurement practices in different types of public organizations in line with empirical work of Jääskeläinen and Sillanpää (2013). Thus, by increasing the number of public sector organizations in a study of PMS, researchers would be able to gain wide range of insights on context, an essential variable in explaining their findings from cross-case, within-case, and between-cases. Consequently, by choosing to increase the number of public sector organizations in their study, the researchers should consider using a multiple case study design, which is feasible if research contains more than one case and when a context is different for each case. This design will aid a researcher to explore and analyze within and across settings as we have already stated. (Baxter & Jack, 2008).

This study employed a single-case study design with embedded units in line with Baxter and Jack (2008). Previous studies have employed different methodologies and research designs to study performance measurement systems such as case examples, surveys, conceptual papers, review papers experienced based observations and archival and secondary data sources. The current researchers agree with Goh, Elliott, and Richards (2015) that the findings of these studies using different methodologies were impressive, but the results were largely inconclusive.

This study employed a qualitative methodology approach that was limited to the lived experiences of the selected participants. However, a pragmatic approach, which is a mixed-method methodology, would allow a researcher to understand the phenomenon under study more thoroughly than what either qualitative or quantitative would provide. Creswell and Clark (2010) submitted that a mixed method is feasible when a researcher might need to explain initial results, generalize findings, enhance a study, or when either qualitative or quantitative methodology is insufficient to fully understand the phenomenon in its entirety. Thus, there is a need for future research to consider a more pragmatic approach in the study of context as it pertains to a successful implementation of performance measurement systems in public sector organizations. By utilizing a mixed-method approach sequentially or concurrently, a future researcher will advance the context-sensitive approach to performance measurement in a novel way, leading to a comprehensive understanding of the important influences of context in designing and the implementation of PMS in public sector organizations using multiple research approaches.

Conclusions

The PMS is a widely established practice in public sector organizations for numerous purposes, including increased accountability and transparency. As public service is a public trust, managers, directors, and employees working in public organizations are held to higher standards in the interest of accountability and transparency. Their actions and inactions as they relate to executing strategic decisions about the future of their public organizations, policies, programs, and employees are frequently monitored. Thus, the performance management system is a tool or a process that is readily available to public organizations to either check or prevent waste, abuse, and fraud and to ensure effectiveness and efficiency of their organizations, policies, and employees.

Despite the wide-spread acclaim of PMS as a tool, practice, or a process for increased efficiency within public sector organizations while leading to accountability and transparency, PMS has faced numerous criticisms. Research over the past four decades has shown that experts in the field have proposed critical successful factors to deal with the challenges that face a successful implementation of PMS to meets its intended goals. Although much is known about the universal critical success factors, little research exists regarding the application of the above factors in successful implementation of PMS in individual public organizations. Previous studies appear to treat the successful PMS implementation as universally applicable without considering with context issues. Thus, the problem of underutilization of PMS information to improve outcomes and foster overall organizational improvement still exists (Pandey, 2015).

Going forward, the findings of this study are consistent in advancing the notion of a context-sensitive contingency perspective to performance measurement system in public organization. The findings of this study affirm that public managers can make performance measurement systems a more effective tool, practice, or a process for overall performance improvement, leading to accountability and transparency in their respective organizations. A context-sensitive approach to PMS design and implementation can make PMS a more valued tool, recognizing that within context issues or factors play important roles within public organizations. In addition, public managers must accept the fact that no two public organizations are the same regarding PMS design and implementation, and PMS standards cannot be universally applied. That is, each public sector organization needs to design a PMS according to its own context or circumstance to able to achieve the intended goals *(terminus ad quem*) of PMS, which are to increase accountability and transparency while curbing abuse, waste, fraud and inefficiencies using specific and different contexts following Ludwig von Bertanlanffy's principle of equifinality.

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Appendix A: Interview Protocol

Date: ____________________________

Location:__________________________

Name /Title of
Interviewer:____

Name/Title of
Interviewee:____

Dept., Agency/ Office of
Interviewee:____

Interview Number: One

Thank you for the willingness to participate in this interview. The entire interview will take not more than 60 minutes and will be audio-recorded and would be transcribed verbatim for analysis. Be reminded that this interview is strictly voluntarily, and you are free and within your rights to end or withdraw from this interview anytime in any event of stress or anxiety. Your responses and participation will aid public managers to fully understand the challenges, problems of PMS and be well equipped to design PMS that considers contextual factors for effective implementation and utilization.

1. How would you describe the length of your time with the department?
2. Please tell me how would you describe your experiences and roles concerning performance measurement system in your department?
3. What aspect of performance measurement activities are you most responsible for?
4. How would you describe those activities and responsibilities?
5. How would you describe your prior experiences with performance measurement system including how the system should be used to effect positive change?

6. How would you describe the current status of the use of performance measurement system in your department in either enabling or constraining the successful use of the system for overall organizational improvement?

Interview Protocol

Date:____________________________

Location:_________________________

Name of
Interviewer/Title:____

Name/Title of
Interviewee:____

Dept., Agency, Office of
Interviewee:____

Interview Number: Two

Thank you for the willingness to participate in this interview. The entire interview will take not more than 60 minutes and will be audio-recorded and would be transcribed verbatim for analysis. Be reminded that this interview is strictly voluntarily, and you are free and within your rights to end or withdraw from this interview anytime in any event of stress or anxiety. Your responses and participation will aid public managers to fully understand the challenges, problems of PMS and be well equipped to design PMS that considers contextual factors for effective implementation and utilization.

1. How would you describe the current state of performance measurement system in your organization?
2. How would you describe the continued challenges, barriers, and problems that your organization is experiencing in the use of Performance Measurement strategically?

3. Describe to me some success factors that your organizations employ in overcoming barriers, challenges, and problems to achieve successful PMS implementation.

4. How would you describe the role your organizational size and structure plays in the process (designing, implementation and utilization) of performance measurement system?

5. How does legislative or executive mandate aid in the successful implementation of performance measurement in your organization?

6. Describe to me the nature of your operating environment including the possible existence of multiple stakeholders, and overlapping jurisdictions?

7. How does your operating environment help in the success of PMS implementation in your organizations?

8. How would you describe the level of employees' attitude towards performance measurement systems?

9. How would you describe the efficacy and impact of employees' participation in setting PMS goals and objectives on the implementation of PMS?

Appendix B: Word Frequencies

Word	Length	Count	Weighted Percentage (%)
performance	11	149	2.15
data	4	70	1.01
measurement	11	70	1.01
office	6	70	1.01
system	6	59	0.85
management	10	53	0.76
department	10	47	0.68
interview	9	45	0.65
measure	7	44	0.63
people	6	43	0.62
use	3	42	0.61
know	4	38	0.55
time	4	38	0.55
transit	7	38	0.55
mta	3	34	0.49
agency	6	33	0.48
different	9	33	0.48
implementation	14	33	0.48
information	11	33	0.48
bus	3	32	0.46
goals	5	31	0.45
systems	7	31	0.45
challenges	10	28	0.40
pms	3	28	0.40
mean	4	26	0.37
good	4	25	0.36
organization	12	25	0.36
mdot	4	24	0.35
using	5	24	0.35
problems	8	23	0.33
new	3	22	0.32

want	4	21	0.30
report	6	20	0.29
right	5	20	0.29
understand	10	20	0.29
better	6	19	0.27
now	3	19	0.27
actually	8	18	0.26
asset	5	18	0.26
getting	7	18	0.26
going	5	18	0.26
successful	10	18	0.26
interviewee	11	17	0.25
responsible	11	17	0.25
size	4	17	0.25
state	5	17	0.25
trying	6	17	0.25
way	3	17	0.25
within	6	17	0.25
analysis	8	16	0.23

Appendix C: Word Cloud