Attitudes, Barriers, and Facilitators: Impact on U.S. Municipal Leaders' Intention to Use Evidence-Based Management

James C. Schafer

A Dissertation Presented in Partial Fulfillment
of the Requirements for the Degree of
Doctor of Business Administration

Cambridge College
December 2024

The dissertation of James C. Schafer has been approved by:

Anita Springer
Anita Springer (Jan 30, 2025 22:25 CST)

Dr. Anita Springer DISSERTATION CHAIR

Rebecca L. Siceloff
Rebecca L. Siceloff (Jan 31, 2025 17:29 EST)

Dr. Rebecca Siceloff

Sherri Whitcher
Sherri Whitcher (Jan 31, 2025 14:51 PST)

Dr. Sherri Whitcher

CAMBRIDGE COLLEGE

2024

Doctor of Business Administration Committee

Hereby approves the dissertation of

James Cameron Schafer

Candidate for the Degree of
Doctor of Business Administration
2024

Approval Committee:

Dr. Anita Springer, DBA, National Graduate School of Quality Management
Dissertation Chair

Dr. Rebecca Siceloff, DBA, National Graduate School of Quality Management
Dissertation Committee Member

Dr. Sherri Whitcher, EdD, Pepperdine University
Dissertation Committee Member

Accepted by:
Dr. Laurie A. Rosner, DBA Program Chair

CAMBRIDGE COLLEGE

2024

Abstract

During the COVID-19 outbreak, some scholars questioned the significant decisions made by county and municipal leaders related to the closure of businesses and schools. Some scholars argued that our leaders might have based their decisions on politics, tradition, intuition, and unsystematic experience rather than firmly grounded scientific research. Some scholars have advocated for evidence-based management (EBMgt) as a framework to improve managerial decision-making. EBMgt is a framework that applies a systematic methodology, scientific knowledge, and explicit logical thought to inform organizational and public-policy decision-making. This study investigated which attitudes, perceived barriers, and facilitators impacted U.S. municipal leaders' intention to use EBMgt. The study also examined whether U.S. municipal leaders' attitudes and intention to use EBMgt differ within select demographic variables, such as generation, education, public administration experience, and municipality size. While 95% of U.S. municipal leaders ($N = 228$) responded that it was important to integrate the best available evidence into the municipal management decision-making process, 98% admitted to using personal experiences, and a mere 36% used scientific research findings as a source of evidence for municipal management decision-making. Lack of time, unfamiliarity with EBMgt, and lack of training opportunities were the top three perceived barriers to using EBMgt. The top three facilitators to using EBMgt were the availability of EBMgt training programs, creating a culture of practicing EBMgt, and the availability of organizational support. One demographic variable affected the intention to use EBMgt. The literature revealed that EBMgt may be one of the most advocated, yet least applied, decision-making frameworks to aid policymakers in determining what works and why in public initiatives.

Keywords: evidence-based management, federal decision-making, Evidence Act

Dedication

I dedicate this dissertation to my wife, Maria Elena. I could not have made this journey without your encouragement and support. I am grateful for having you as my companion in all things that life offers.

Acknowledgments

Undertaking a dissertation and then finally completing it is an achievement that could not have been done without the contributions of professors, fellow students, college administrators, friends, and family. I am grateful to each of you for your wisdom, support, and encouragement.

I would like to single out my dissertation chair, Dr. Anita Springer, for her patience and unwavering support during what seemed to be an endless stream of manuscripts that cumulated into a competed dissertation. I would also like to thank my committee members, Dr. Rebecca Siceloff and Dr. Sherri Whitcher, for the valuable feedback provided.

Finally, I would like to thank Dr. Michael E. Marrapodi who served as my DBA Program Chair at the time of my proposal defense and whose encouragement helped me reach this milestone.

Table of Contents

List of Tables

List of Figures

Attitudes, Barriers, and Facilitators: Impact on U.S. Municipal Leaders' Intention to Use Evidence-Based Management

Chapter 1. Introduction

An effective and efficient government requires decision-makers to access and use good information to make decisions (Barends et al., 2021; see Commission on Evidence-Based Policymaking, 2016; Hahn, 2019; Lugo-Gil et al., 2019). During the evidence-based movement, various techniques have emerged to improve the quality of decisions made by public officials, healthcare professionals, educators, and business managers. Some of the more popular frameworks in the literature have included evidence-based practices, evidence-based decision-making, evidence-based policymaking, and evidence-based management. This study focused on evidence-based management (EBMgt), an established approach to applying systematic methodology, scientific knowledge, and explicit logical thought to inform organizational and public policy decision-making (Barends & Rousseau, 2018).

Federal legislative efforts that codified scientifically rigorous approaches to improve decision-making have required grantees to use evidence-based practices or provided an incentive or resources to do so, resulting in a trend toward further use of evidence (Lugo-Gil et al., 2019; Pew-MacArthur Results First Initiative [PMRFI], 2018; Reynolds & Ramakrishnan, 2018). The Government Accountability Office (GAO) has recently published a guide that can help federal organizations effectively implement evidence-building and performance-management activities (GAO, 2023). Additionally, many state governments have promoted using evidence in policymaking (PMRFI, 2018). According to the National Association of Counties, federal and state agencies have transferred funds exceeding $500 billion to counties and municipalities yearly (PMRFI, 2018). For that reason, states have had the unique ability to support cities and

counties in their efforts to harness evidence and administrative data to make better-informed policy decisions (PMRFI, 2018; Reynolds & Ramakrishnan, 2018). Studies have examined how counties conduct evidence-based policymaking (PMRFI, 2018; Reynolds & Ramakrishnan, 2018) but have fallen short in research at the local level, leaving a gap in the knowledge of U.S. municipal leaders' attitudes toward the use of evidence in decision-making and management.

Chapter 1 provides an overview and the background of this study as insight into the origins of EBMgt and its methodology. The following three sections clarify the context of the study. These sections include the rationale of the study, the problem statement, and the purpose of the study. Then, the study's research questions, and the nature of the study are presented. Following are definitions of terms used by scholars, pertinent governmental bodies, and professional associations that carry a specific meaning in the study's context. The final section addresses the significance of the study, assumptions and limitations, and the scope of the study. The chapter concludes by discussing my worldview and the study's theoretical framework.

Overview

The United States government has encouraged effectiveness, efficiency, and accountability using data, information, and evidence for decades through various initiatives, such as the Government Performance and Results Act (GPRA) of 1993 and the GPRA Modernization Act (GPRAMA) of 2010 (Commission on Evidence-Based Policymaking, 2016; Hahn, 2019). Congress enacted the Program Management Improvement Accountability Act (PMIAA) requiring agency leadership to generate and utilize data and other evidence to inform the strategic decision-making underpinning policy (PMIAA, 2016; GAO, 2019a). Shortly after, the Foundations for Evidence-Based Policymaking Act of 2018 (Evidence Act) mandated that federal government decision-makers adopt evidence as the primary source to inform decisions

(Evidence Act; effective January 1, 2019). The Office of Management and Budget (OMB) urged decision-makers to use facts determined through rigorous and systematic analysis and governed by principles of scientific integrity to meet complex issues and challenges (OMB, 2021). Since the 5-year anniversary of the Evidence Act, further efforts by the Federal Government to adopt a culture of evidence have been made. For instance, Federal leaders are expressly encouraged to question deeply held assumptions, embrace experimentation, demand regular measurement and analysis, take time to understand results that may surprise them, and incorporate these results into decisions (OMB, 2024). The GAO's (2023) guide was published to help agencies meet certain GPRAMA and Evidence Act requirements. The GAO refers to 13 key practices within a cycle of four activities in the evidence-building process, which closely aligns with the six-step EBMgt methodology.

Decisions that state, county, and local leaders make have become even more pronounced on their citizens' well-being during crises, such as natural disasters, civil unrest, and pandemics. For example, during the coronavirus disease (COVID-19) outbreak, some questioned the significant decisions made by county and municipal leaders regarding health orders, the closure of schools and businesses, and the allocation of COVID-related resources that flowed from the federal and state governments. Some scholars argued that public officials' decisions might have been based mainly on politics, tradition, intuition, and unsystematic experience rather than firmly grounded scientific research (Bundgaard et al., 2021; Herby et al., 2022; Kuchenmüller et al., 2021; Silva et al., 2020). While some local governments had voluntarily embraced the idea of making decisions based on facts (McKee et al., 2021; Yang, 2020), congressional legislation and OMB mandates to use evidence as the primary source to inform decisions may have had less influence on public sector practices outside of Washington, D.C. County officials, including

department heads, county executive officials, and staff engaging in evidence-based policymaking, have been surveyed and interviewed regarding their jurisdiction's evidence-based efforts (Lugo-Gil et al., 2019; PMRFI, 2018). Still, scholars do not know much about municipal leaders' use of evidence sources or their attitudes and perceived barriers to using EBMgt to improve decision-making. Further research was needed to identify factors that may hinder or facilitate the adoption of EBMgt among public-sector decision-makers, particularly among U.S. municipal leaders.

Background and Rationale of the Study

Academics have traced the practice of systematically using evidence to support decision-making to Gordon Guyatt and colleagues, who coined the term *evidence-based medicine* (i.e., EBMed; Evidence-Based Medicine Working Group, 1992). Sackett et al. (1996) described EBMed as the "conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individual patients" (Sackett et al., 1996, p. 71). Healthcare professionals considered EBMed as the accepted medical practice. The evidence-based movement expanded into other professional areas, and practitioners considered it a defining feature of being a professional in many fields (Barends et al., 2014).

Denise Rousseau (2006) first used the term *evidence-based management* at the Academy of Management in 2005. During that address, Rousseau (2006) spoke about how "an evidence orientation indicates that decision quality is a direct function of available facts, creating a demand for reliable and valid information when making managerial and organization decisions" (p. 260). Rousseau remarked that improving information was an extension of the quality movement over the past 30 years. Evans and Dean (2000) gave systematic attention to discrete facts that indicated quality, such as machine performance, customer interactions, employee

attitudes, and behavior. Rousseau (2006) added that it was also an extension of the seminal work by Pfeffer and Sutton (2006b) in using organization fact-finding and experimentation to improve decision quality. Rousseau drew comparisons between the resistance to EBMgt and what occurred over 100 years ago to adopt scientific management. Some discarded Frederick Taylor's structured methods for improving efficiency (Rousseau, 2006).

As the evidence-based movement evolved, academics and practitioners also attempted to define EBMgt. In addition to the steps in the evidence-based practice (EBP) process (Sackett et al., 1996), practitioners of EBMgt (Barends et al., 2013, 2014) appraised the trustworthiness of the evidence reviewed. Table 1 summarizes the various definitions of evidence-based management found in previous literature (Rynes & Bartunek, 2017).

Table 1

Definitions of Evidence-Based Management (EBMgt)

Source	Definition
Rousseau (2006, p. 256)	EBMgt means translating research principles based on best evidence into organizational practice.
Pfeffer & Sutton (2006a, p. 63; paraphrased)	[Being] routinely guided by the best logic and evidence, relentlessly seeking new knowledge and insight from inside and outside [one's] company, and continually updating [one's] assumptions, knowledge, and skills.
Rousseau & McCarthy (2007, p. 84)	EBMgt means managerial decisions and organizational practices informed by the best available scientific evidence. The judgments EBMgt entails also consider the circumstances and ethical concerns managerial decisions involve.
Briner et al. (2009, p. 19)	EBMgt is about making decisions through the conscientious, explicit, and judicious use of four sources of information: practitioner expertise and judgment, evidence from the local context, a critical evaluation of the best available research evidence, and the perspectives of those people who might be affected by the decision.

Source	Definition
Briner & Rousseau (2011, p. 6)	First, evidence-based practice integrates the practitioner's expertise and external evidence from research. Both sources of knowledge are vital. Second, it is about trying to obtain and use the best available evidence, even if ultimately determined to be inconsistent or rejected as irrelevant. Third, it uses systematic reviews to assess all available and relevant evidence rather than relying on just studies.
Rousseau (2012b, p. 3)	EBMgt … practice incorporates (a) use of scientific principles in decisions and management processes, (b) systematic attention to organizational facts, (c) advancements in practitioner judgment through critical thinking and decision aids that reduce bias and enable fuller use of information, and (d) ethical considerations including effects on stakeholders.
Rynes et al. (2014, p. 305)	EBMgt is a professional form of managerial practice. It is about making decisions through the conscientious, explicit, and judicious use of the best available evidence from multiple sources to help managers choose effective ways to manage people and structure organizations.
Barends et al. (2014) Morrell & Learmonth (2015)	Evidence-based practice in management is about making decisions through the conscientious, explicit, and judicious use of the best available evidence from multiple sources by 1. Asking: translating a practical issue or problem into an answerable question. 2. Acquiring: systematically searching and retrieving the evidence. 3. Appraising: critically judging the trustworthiness and relevance of the evidence. 4. Aggregating: weighing and pulling together the evidence. 5. Applying: incorporating the evidence into the decision-making process. 6. Assessing: evaluating the outcome of the decision taken to increase the likelihood of a favorable outcome.

Note. From "Evidence-Based Management: Foundations, Development, Controversies, and Future," by S. L. Rynes and J. M. Bartunek, 2017, *Annual Review of Organizational Psychology and Organizational Behavior*, *4*, p. 240 (https://doi.org/10.1146/annurev-orgpsych-032516-113306). Reprinted with permission.

Tanfield et al. (2003) noted that although practitioners had applied EBP across several professions, applying EBP in management would be more challenging than it had been in medicine by the time it reached management. Rynes and Bartunek (2017) cited previous research conducted by Pfeffer (1993), Rousseau (2012b), and Rousseau et al. (2008). They observed that management was a less developed field than medicine, with a lower agreement regarding the critical research questions in management and how managers should study these questions, noting that management was not a profession. These researchers concluded that managers did not receive a standardized education based on an agreed-upon body of knowledge, required no accreditation to practice, and did not face professional malpractice suits. Past studies have indicated that evidence-based management can threaten managers' freedom to run their organizations as they see fit (Rousseau, 2006).

Advocates of the evidence-based movement have pointed to managerial studies that claimed that EBMgt had improved productivity, reduced costs, increased profits, and improved employee commitment and recruitment. Researchers noted quality improvements in architecture (Criado-Perez et al., 2020b), conservation (Criado-Perez et al., 2020a), education (Hale et al., 2017), healthcare (Bond, 2018), management (Barends et al., 2015, 2017; Bezzina et al., 2017; De Frutos-Belizón et al., 2019; de Man et al., 2020; Rynes et al., 2017; USGAO, 2019a, 2019b), and public policy (Hahn, 2019). Nilsen et al. (2024) recently explored how artificial intelligence may shorten the time to conduct research, generate evidence, synthesize findings, and disseminate information used to implement findings.

Rynes and Bartunek (2017) suggested that they knew of no research showing organizations that implemented EBMgt as their daily practice showed reliably better results than before or compared with control or matched organizations that did not (Rynes & Bartunek,

2017). They suggested that longitudinal follow-ups of managers who had received EBP training must determine how many implemented EBP, to what extent, and to what measurable outcomes (Rynes & Bartunek, 2017). Despite some reports of organizational improvement, several studies indicated that the best available evidence was not the basis for some managerial decisions. For instance, Barends et al. (2017) surveyed Dutch/Belgian, British, Australian, and American managers mainly in the human resource area (n=2,789). When asked about the evidence sources that they consulted in their daily practice, respondents reported basing their decisions on personal experience (91%), intuition (64%), knowledge acquired through formal education (62%), advice from colleagues (59%), management literature (34%), and scientific research (27%). However, the study cited that only 14% had read a peer-reviewed academic journal (Barends et al., 2017).

Lugo-Gil et al. (2019), who studied health and human service decision-makers, revealed that many government healthcare leaders and staff tasked with making program or policy decisions might not understand the purpose and application of evidence. The study suggested that anecdotal evidence rather than rigorous research often influenced decision-makers (Lugo-Gil et al., 2019). In two Congressional reports, Davis et al. (2018) and Hart et al. (2018) noted that federal healthcare managers rarely used academic research evidence for decision-making. Instead, they relied on personal experience, casual benchmarking, tradition, and assumptions for decision-making rather than research and facts (Davis et al., 2018; Hart et al., 2018). In a more recent study, Daouk-Öyry et al. (2021) observed that practitioners often preferred making decisions solely according to their personal experience. Personal experience could be highly susceptible to systematic errors, prone to bias, and often negatively affected the quality of the practitioners' decisions. More recently, studies showed that government officials' decisions may have appeared incongruent with the evidence in academic research findings; thus, citing peer-

reviewed journal articles may have diminished the perceived power held by government officials and chief executive officers (CEOs) (Putansu, 2020).

Some state entities, such as the Washington State Institute for Public Policy and the Michigan Interagency Council on Homelessness, have taken creative approaches to assemble, share, and use administrative data to promote evidence-based policy (Reynolds & Ramakrishnan, 2018). The Pew-MacArthur Results First Initiative published a study with multiple examples of counties across the country that have joined the evidence-based movement. Each county profiled in the report adopted some aspect of evidence-based policymaking (PMRFI, 2018). However, these examples illustrated the framework for evidence-based policymaking, not the more robust EBMgt framework characterized by Barends, Rousseau, Rynes, Briner, and other advocates of EBMgt.

A lack of studies has existed on EBMgt usage outside the healthcare context (Rynes & Bartunek, 2017). Most studies about the attitudes, perceived barriers, and facilitators to EBMgt have occurred in healthcare. Other fields, such as management, often only have had perspectives or advocacy studies on evidence-based management (Rynes et al., 2018; see also Jackson & Leung, 2018; Rousseau, 2018, 2020a). When business managers collected evidence for managerial decision-making, they considered other factors, such as pertinent professional expertise, economic realities, and the values and ideologies of stakeholders (Head, 2015). For instance, in the business sector, Jepsen and Rousseau (2019) argued that business leaders who had undercut relevant evidence or who otherwise used less robust decision-making processes eroded trust. Thus, when managers used evidence in decision-making, employee trust in business leaders could be enhanced (Jepsen & Rousseau, 2019). Unfortunately, the literature review

revealed little about actual EBMgt use in any sector outside of healthcare (Barends & Rousseau, 2018; Rynes & Bartunek, 2017).

Filling the gap in the literature on what factors may hinder or facilitate the use of EBMgt among U.S. municipal leaders provided the rationale for this research. The theory of planned behavior (TPB) stated that the intention to carry out a behavior was a reliable predictor of actual behavior (Ajzen, 1991). Guo et al. (2018) applied TPB to examine to what extent attitude, social norms, and perceived behavioral control impacted the intention to use EBMgt among U.S. hospital administrators (Guo, 2015). Guo et al. (2018) later identified factors that might have hindered or facilitated the adoption of EBMgt among U.S. healthcare administrators (Guo et al., 2018). While healthcare is a critical environment, more of the population is affected by the decision-making of U.S. municipal leaders responsible for the quality of life and the effectiveness of the programs they administer to their residents. Therefore, this study provided empirical knowledge to contribute to the scholarly literature by identifying which factors may hinder or facilitate the adoption of EBMgt among U.S. municipal leaders. In addition, the study examined whether U.S. municipal leaders' attitude and intention to use EBMgt differ within select demographic variables, such as generation, education, public administration experience, and municipality size.

Statement of the Problem

Hulpke and Fronmueller (2021) contended that EBMgt provides decision-makers with an objective, rational method to make fact-based managerial decisions free of personal bias. Congress recognized the importance of federal government decision-makers adopting evidence as their primary source to inform decisions by enacting legislation such as the Evidence Act and the Program Management Improvement Accountability Act (Hahn, 2019). A growing number of

state governments, professional schools, and management practices have promoted organizational evidence-based decisions by managers and staff, boards and policymakers, and other stakeholders (Barends et al., 2021; Hahn, 2019; Ramis et al., 2019; Reynolds & Ramakrishnan, 2018; Rickinson & McKenzie, 2021; Robinson et al., 2021; Rousseau, 2020a). States have transferred over $500 billion funds to local governments annually (Reynolds & Ramakrishnan, 2018). These funds have supported programs for policing, crime, healthcare, education, employment, transportation, recreation, public utilities, and public infrastructure; for this reason, EBMgt is just as relevant to U.S. municipal leaders as to federal and state decision-makers. The smaller size of counties and municipalities and close relationships with service providers, agency leaders, and other stakeholders make them uniquely equipped to carry out some critical elements of evidence-based policymaking (PMRFI, 2018).

Despite the popularity of the evidence-based movement, researchers have noted that while some practitioners might use evidence in their decisions, managers infrequently base their decisions on the best available and most relevant evidence (Barends et al., 2017; Mosley & Gibson, 2017; Pesta et al., 2017). The literature suggests how counties conducted evidence-based policymaking (PMRFI, 2018; Reynolds & Ramakrishnan, 2018), but the factors affecting municipal leaders' decisions, particularly regarding the use of evidence, appeared to be in short supply. I found no research on the attitudes, perceived barriers, and facilitators to using EBMgt among U.S. municipal leaders.

During the COVID-19 outbreak, some questioned the significant decisions made by county and municipal leaders. These decisions regarded issues such as health orders, the closure of businesses, and the allocation of COVID-related resources. Many argued that municipal leaders might have based their decisions on politics, tradition, intuition, and unsystematic

experience rather than firmly grounded scientific research (Bundgaard et al., 2021; Herby et al., 2022; Kuchenmüller et al., 2021; Silva et al., 2020). Applying TPB to examine variables, such as demographics, surrounding municipal leaders' use of evidence in decision-making could be of interest to those who challenged the decisions of municipal leaders during the pandemic and could lead U.S. municipal leaders to engage in opportunities to improve their education of EBMgt.

Purpose of the Study

The purpose of this study was to determine which attitudes, barriers, and facilitators (Guo, 2015) impact U.S. municipal leaders' intention to use evidence-based management as defined by Guo (2015). The study also examined whether U.S. municipal leaders' attitude toward using EBMgt as defined by Guo (2015) and their intention to use EBMgt differ within select demographic variables, such as generation, education, public administration experience, and municipality size. Organizations may use the study's findings to minimize the identified barriers and enhance identified facilitators to affect decision-makers' intention to use evidence-based management.

Research Questions

Five research questions and associated hypotheses guided this study.

Research Question 1: Which attitudes have a statistically significant effect on U.S. municipal leaders' intention to use EBMgt?

H_o1: A municipal leader's attitude concerning the importance of integrating the best available evidence into the municipal management decision-making process does not affect their intention to use EBMgt.

H_a1: A municipal leader's attitude concerning the importance of integrating the best available evidence into the municipal management decision-making process does affect their intention to use EBMgt.

H_o2: A municipal leader's attitude concerning the use of EBMgt to increase the quality of municipal management decisions does not affect their intention to use EBMgt.

H_a2: A municipal leader's attitude concerning the use of EBMgt to increase the quality of municipal management decisions does affect their intention to use EBMgt.

H_o3: A municipal leader's level of support concerning the use of EBMgt in municipal management does not affect their intention to use EBMgt.

H_a3: A municipal leader's level of support concerning the use of EBMgt in municipal management does affect their intention to use EBMgt.

H_o4: A municipal leader's attitude concerning the use of EBMgt in municipal decision-making to improve organizational performance does not affect their intention to use EBMgt.

H_a4: A municipal leader's attitude concerning the use of EBMgt in municipal decision-making to improve organizational performance affects their intention to use EBMgt.

Research Question 2: Which barriers have a statistically significant effect on U.S. municipal leaders' intention to use EBMgt?

H_o1: A lack of interest does not affect municipal leaders' intention to use EBMgt.

H_a1: A lack of interest does affect municipal leaders' intention to use EBMgt.

H_o2: A lack of skills in appraising the quality of evidence does not affect municipal leaders' intention to use EBMgt.

H_a2: A lack of skills in appraising the quality of evidence affects municipal leaders' intention to use EBMgt.

H_o3: A lack of strong research evidence to support the use of EBMgt does not affect municipal leaders' intention to use EBMgt.

H_a3: A lack of strong research evidence to support the use of EBMgt affects municipal leaders' intention to use EBMgt.

H_o4: A lack of time does not affect municipal leaders' intention to use EBMgt.

H_a4: A lack of time affects municipal leaders' intention to use EBMgt.

H_o5: A lack of training opportunities does not affect municipal leaders' intention to use EBMgt.

H_a5: A lack of training opportunities affects municipal leaders' intention to use EBMgt.

H_o6: Unfamiliarity with EBMgt does not affect municipal leaders' intention to use EBMgt.

H_a6: Unfamiliarity with EBMgt affects municipal leaders' intention to use EBMgt.

H_o7: A lack of skills in searching the literature does not affect municipal leaders' intention to use EBMgt.

H_a7: A lack of skills in searching the literature affects municipal leaders' intention to use EBMgt.

Research Question 3: Which facilitators have a statistically significant effect on U.S. municipal leaders' intention to use EBMgt?

H_o1: The availability of access to journals and databases does not affect municipal leaders' intention to use EBMgt.

H_a1: The availability of access to journals and databases does affect municipal leaders' intention to use EBMgt.

H_o2: The availability of EBMgt training programs does not affect municipal leaders' intention to use EBMgt.

H_a2: The availability of EBMgt training programs does affect municipal leaders' intention to use EBMgt.

H_o3: The availability of organization support does not affect municipal leaders' intention to use EBMgt.

H_a3: The availability of organizational support does affect municipal leaders' intention to use EBMgt.

H_o4: Creating a culture of practicing EBMgt does not affect municipal leaders' intention to use EBMgt.

H_a4: Creating a culture of practicing EBMgt does affect municipal leaders' intention to use EBMgt.

H_o5: EBMgt promotion by professional associations does not affect municipal leaders' intention to use EBMgt.

H_a5: EBMgt promotion by professional associations does affect municipal leaders' intention to use EBMgt.

Research Question 4: To what extent does U.S. municipal leaders' attitude toward using EBMgt differ within select demographic variables (i.e., generation, education, public administration experience, and municipality size)?

H_o1: U.S. municipal leaders' attitude toward using EBMgt does not differ within the generation variable.

H_a1: U.S. municipal leaders' attitude toward using EBMgt differs within the generation variable.

H_o2: U.S. municipal leaders' attitude toward using EBMgt does not differ within the education variable.

H_a2: U.S. municipal leaders' attitude toward using EBMgt differs within the education variable.

H_o3: U.S. municipal leaders' attitude toward using EBMgt does not differ with the years of public administration experience variable.

H_a3: U.S. municipal leaders' attitude toward using EBMgt differs within the years of public administration experience variable.

H_o4: U.S. municipal leaders' attitude toward using EBMgt does not differ within the municipality size variable.

H_a4: U.S. municipal leaders' attitude toward using EBMgt differs within the municipality size variable.

Research Question 5: To what extent does U.S. municipal leaders' intention to use EBMgt differ within select demographic variables (i.e., generation, education, public administration experience, and municipality size)?

H_o1: U.S. municipal leaders' intention to use EBMgt does not differ within the generation variable.

H_a1: U.S. municipal leaders' intention to use EBMgt differs within the generation variable.

H_o2: U.S. municipal leaders' intention to use EBMgt does not differ within the education variable.

H_a2: U.S. municipal leaders' intention to use EBMgt differs within the education variable.

H_o3: U.S. municipal leaders' intention to use EBMgt does not differ within the public administration experience variable.

H_a3: U.S. municipal leaders' intention to use EBMgt differs within the public administration experience variable.

H_o4: U.S. municipal leaders' intention to use EBMgt does not differ within the municipality size variable.

H_a4: U.S. municipal leaders' intention to use EBMgt differs within the municipality size variable.

Nature of the Study

This quantitative study applied the theory of planned behavior (Ajzen, 1991) to determine which attitudes, perceived barriers, and facilitators (Guo, 2018) impact U.S. municipal leaders' intentions to use evidence-based management. The study also examined whether U.S. municipal leaders' attitude and intention to use EBMgt differ within select demographic variables, such as generation, education, public administration experience, and municipality size. I surveyed 14,672 U.S. municipal leaders (mayors, city managers, and city administrators) listed in the GovSearch API ™ database. I adapted the data collection instrument used in Guo's (2015) study of the factors (attitude, subjective norm, and perceived behavior control) that influenced U.S. healthcare administrators' intentions to use EBMgt.

Surveys are the preferred quantitative approach to measuring a population's trends, attitudes, or opinions (Creswell, 2014). For years, academics have administered surveys to

understand the attitudes and perceived barriers to using EBP in healthcare (Guo et al., 2016; see also McCune, 2021). Quantitative researchers provided an unbiased approach to questions about a phenomenon (Kuhn & Hacking, 2012). Also, prior qualitative studies have identified variables that can affect a manager's intention to use EBMgt; therefore, qualitative data collection was unnecessary (Barends et al., 2017; see also Guo, 2015; Rademaker et al., 2019; Williams & Kogan, 2019).

Definitions of Terms

This section clarifies the terms used in this study with special meanings and other standard terms with particular meanings with citations, as appropriate.

Attitude: An attitude is a degree to which a person has a favorable or unfavorable evaluation or appraisal of the behavior in question (Ajzen, 1991, p. 188).

Attitude toward evidence-based management: This study variable refers to the perceptions of municipal leaders about EBMgt.

Barriers: These study variables are circumstances, influences, or individuals that in with or inhibit evidence-based research in the decision-making process.

Evidence-based management: EBMgt is the conscientious, explicit, and judicious use of the best available evidence in making decisions about the management of individual organizations (Barends et al., 2017). According to Barends et al. (2017), this managerial approach involves researching validated scientific processes, using a six-step approach and repeated continuously for the program’s life, practice, or policy. EBMgt includes using evidence from four sources: research, organizational, practitioner, and stakeholder (Barends et al., 2017).

Facilitators: These study variables are circumstances, influences, or individuals contributing to applying evidence-based research in decision-making.

Intention: This study variable is a conscious plan to exert effort to carry out a behavior.

Perceived behavioral control: This study variable (Guo, 2015) refers to perceptions about how easy or difficult it was to perform a given behavior.

Subjective norm: This study variable (Guo, 2015) refers to a perceived social pressure to perform a behavior or not.

Significance of the Study

An effective and efficient government requires decision-makers to access and use good information to make decisions (OMB, 2024; see also, Barends et al., 2021; Barends & Rosseau, 2018; Commission on Evidence-Based Policymaking, 2016; Hahn, 2019; OMB, 2021; Onwujekwe et al., 2020; Peña & Behrens, 2019; Pfeffer & Sutton, 2006a). This research expanded on studies of state governors harnessing evidence and administrative data to make better-informed policy decisions with federal and state dollars (Reynolds & Ramakrishnan, 2018). The authors called on states to support cities and counties in their efforts to adopt an evidence-based policymaking approach. I built on prior studies that used Ajzen's theory of planned behavior (TPB) to predict the use of EBMgt. TPB has undergone empirical scrutiny in thousands of studies, making it among the most applied theories in the social and behavioral sciences (Bosnjak et al., 2020). TPB has been previously effective at predicting intention in healthcare (Hagger et al., 2022; Guo et al., 2018), education (Hugh et al., 2022), and human resource management (Barends et al., 2019). The Pew-MacArthur Results First Initiative (PMRFI, 2018) suggested that the relatively smaller size and close relationships with service providers, agency leaders, and other stakeholders made counties and municipalities uniquely

equipped to carry out key elements of evidence-based policymaking. For this reason, I proposed conducting a study of U.S. municipal leaders similar to research on other types of managers.

Empirical research can have practical, theoretical, and methodological significance. The practical significance of this research was to identify the facilitators and barriers of EBMgt for practitioners, policymakers, and academics among U.S. municipal leaders. In addition, the research allowed a comparison between the results of a similar survey instrument used to study healthcare administrators' attitudes toward EBMgt (Guo et al., 2018) and those of municipal leaders. Since EBMgt grew out of evidence-based practices established more than two decades ago in the medical field (Sackett et al., 1996), I anticipated that healthcare administrators might have reported more positive factors driving them to exercise EBMgt than municipal leaders. The theoretical significance of the research was to demonstrate the applicability of TPB to a U.S. municipal leader population. Finally, the methodological significance of the study was to provide an additional quantitative study of how to study populations' intentions to use EBMgt.

Assumptions and Limitations

Findings were limited to the perceptions of municipal leaders who responded out of a particular bias, either positive or negative, toward the use of EBMgt in managerial decision-making. Thus, one limitation was that a response bias may have occurred due to self-reporting by the participants.

Scope of the Study

The delimitations of this study were those parameters set in the study over which I had control. The population of municipal leaders in the United States of America was one delimitator. The instrument only consisted of closed-ended questions, which may have been a delimitator of the study. Participants were not allowed to answer with open-ended responses,

which may or may not have increased the number of participants willing to complete the survey. However, providing closed-ended questions provided opportunities for better quantitative analysis.

Worldview and Theoretical Framework

A researcher's worldview or fundamental beliefs influence the research undertaken (Creswell, 2014). Creswell (2014) suggested that researchers explicitly state the worldview they espouse. Researchers are more cognoscente of the motivations for selecting the quantitative, qualitative, or mixed-method approach (Creswell, 2014). Any approach to social research carries assumptions about the nature of social reality (ontology), the nature of knowledge (epistemology), and the purpose of research and its link with the social world (Greenhalgh & Russell, 2009).

The post-positivist worldview places high value on careful observation and measurement of the objective realities in the world. The traditional research approach, or the scientific method, embraces the quantitative research approach. In this approach, a researcher begins with a theory, collects data that either supports or refutes the view or formal hypotheses, then makes necessary revisions and conducts additional tests. This process reduces the ideas into small, discrete sets of variables and hypotheses to test to answer a research question. The post-positivist researcher assumes that understanding social phenomena is primarily a problem of objective measurement (Greenhalgh & Russell, 2009). Researchers, however, must have a reflexive awareness of how their background, theories, and assumptions might influence the collection and analysis of data (Greenhalgh & Russell, 2009). As Weber (2004) noted, excellent researchers choose a research method that fits their purposes. So, while there are clear distinctions between post-positivist and interpretivist or constructivist methods, researchers should choose an approach that best suits the

subject (Weber, 2004). The post-positivist worldview and Ajzen's TPB were foundational for this quantitative, cross-sectional study. Some describe practitioners of EBMgt as having an objective, rational view of the world and employing highly rational decision-making methods (Hulpke & Fronmueller, 2021); therefore, I attempted to remain in the realm of a rational post-positivism worldview when conducting this research.

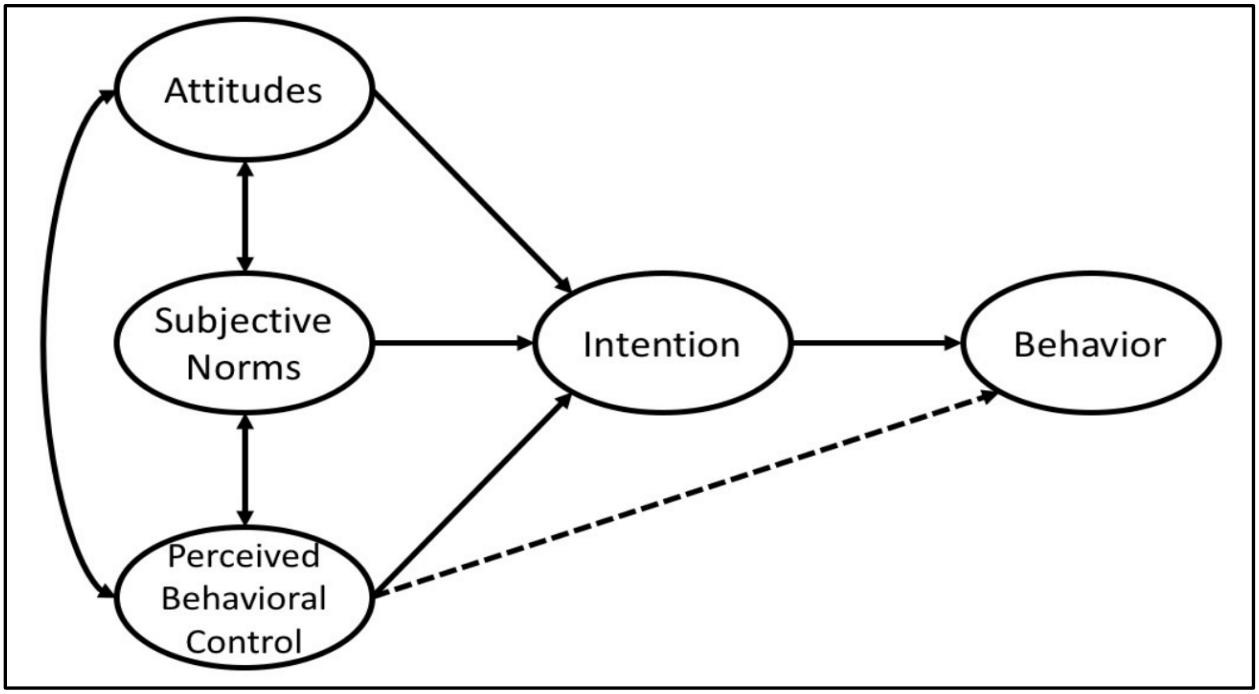
Attitudes are important determinants of the intention to adopt EBMgt, and they can facilitate or be an obstacle to adoption (Barends et al., 2017). The theoretical framework proposed for the design of this study was Ajzen and Fishbein's (1980) theory of planned behavior (TPB). As of April 2020, Ajzen's TPB to predict behavior has undergone empirical scrutiny in more than 4,200 academic papers referenced in the Web of Science database, making it among the most applied theories in the social and behavioral sciences (Bosnjak et al., 2020). I synthesized TPB studies to research attitudes toward EBMgt, and these results are presented in the next chapter. In addition, researchers have employed TPB to understand human social behavior in areas unrelated to EBMgt. TPB assumes that intentions are the driving force behind human behavior (Ajzen, 1991).

According to Ajzen (1991), three kinds of constructs drive human behavior: (1) attitudes about the likely consequences of the behavior, (2) beliefs about the normative expectations of others (subjective norms), and (3) beliefs about the presence of factors that may facilitate or impede the performance of the behavior (perceived behavioral control). The TPB framework posits that behavioral beliefs produce a favorable or unfavorable attitude toward the behavior. Normative beliefs result in perceived social pressure or subjective norm. Moreover, control beliefs give rise to perceived behavioral control or self-efficacy—the perception of behavioral control moderates the effects of attitude toward the behavior and subjective norm on intention.

Studies using TPB suggest that the more favorable the attitude and subjective norm are, the greater the perceived control is and the stronger the person's intention to perform the behavior in question. When people perceive sufficient control over their behavior, they will likely carry out their intentions when the opportunity arises. The intention is thus assumed to be the immediate antecedent of behavior. To the extent that perceived behavioral control is volitional, it can serve as a proxy for actual control and contribute to predicting the behavior in question (Ajzen, 1991). Figure 1 shows the constructs of the TPB theoretical framework.

Figure 1

Diagram of the Theory of Planned Behavior (TPB)



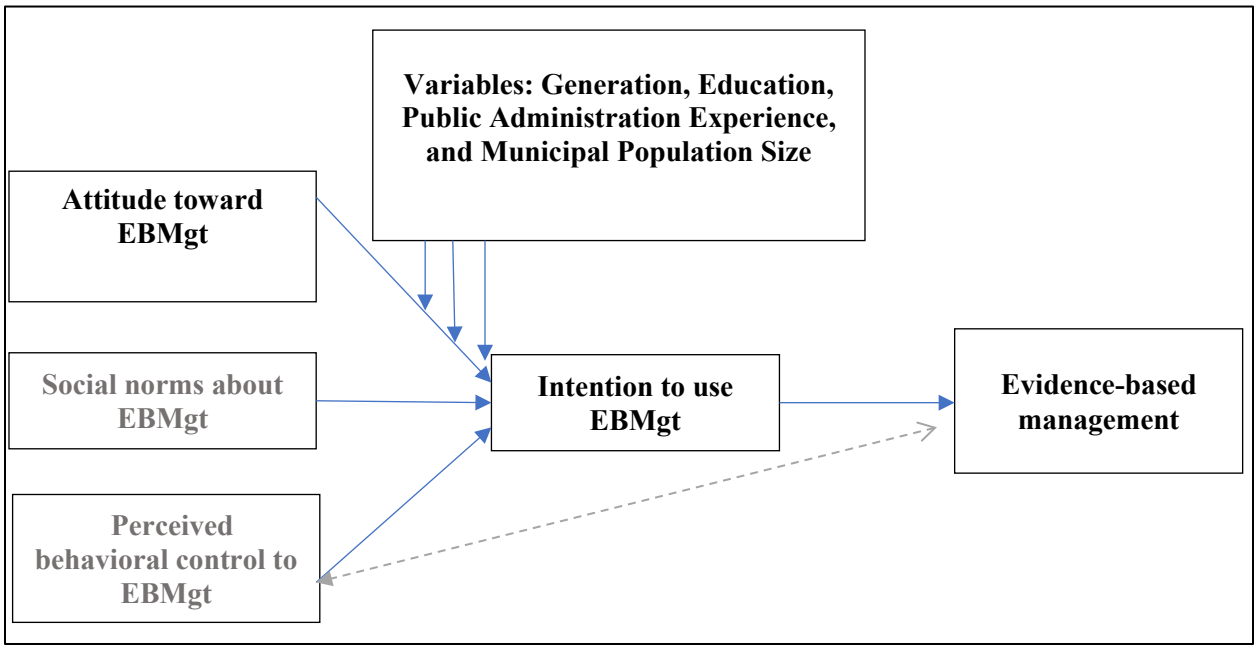
Note. From "The Theory of Planned Behavior," by I. Ajzen, 1991, *Organizational Behavior and Human Decision Processes, 50*(2), p. 182 (https://doi/10.1016/0749-5978(91)90020-T). Reprinted with permission.

However, Ajzen later argued that the TPB might not be the exclusive model to predict intention. Therefore, Ajzen suggested that the TPB model should remain flexible enough to include additional predictors that can capture a significant proportion of the variance in intention. In this model, an individual's attitudes and subjective norms and the degree to which an individual perceives personal factors (e.g., generation, education, or public administration experience) or contextual factors (i.e., resources and time constraints) act as a barrier to behaving in a specific way. Hence, in this study, if municipal leaders formed positive attitudes toward research evidence and perceived that they can overcome barriers, they were more likely to incorporate research evidence into the quality of their decision-making and management practices.

This study focused on the independent variable of attitude toward EBMgt rather than all three of the independent variables shown in Figure 1. Guo (2015) demonstrated that attitude was the strongest variable to impact intention; therefore, I sought to focus on this variable. Figure 2 illustrates the theoretical model on which this study is based. I also examined barriers and facilitators as defined by Guo (2015).

Figure 2

Conceptual Model of This Study



Note. Adapted from *Prediction of Intention to Use Evidence-Based Management Among Healthcare Administrators in the United States* (p. 4), by R. Guo, 2015. Copyright 2015 by Ruiling Guo. Adapted with permission.

Conclusion for Chapter 1

Additional research was required to determine the factors that enhance or hinder U.S. municipal leaders' intention to adopt EBMgt. This study determined U.S. municipal leaders' attitude toward EBMgt, which was a key component in the TPB. Additionally, the study identified specific attitudes, facilitators, and barriers. The research also examined whether U.S. municipal leaders' attitude and intention to use EBMgt differ within select demographic variables, specifically, generation, education, public administration experience, and municipality size. This study was a quantitative correlational study design using a cross-sectional survey sent

to 14,672 U.S. municipal leaders. The results may be helpful in international professional organizations, such as the Center for Evidence Based Management, the American Society for Quality, and public administration professional associations, to understand municipal leaders' current attitudes, perceived barriers, and facilitators toward using EBMgt. Policymakers may use the study's research findings to improve decision-making among public-sector managers to minimize the perceived barriers to using EBMgt or to increase facilitators to EBMgt to encourage evidence-based management.

Organization of the Remainder of the Study

This dissertation includes five chapters: introduction; literature review; methodology; results of research questions; and discussion, implications and recommendations. The introduction serves as a platform for presenting the research topic and the problem statement. It identifies the basis and rationale of the study, the research questions, the nature of the study, definitions, the importance of the research, key assumptions and limitations, scope, and the conceptual basis. The next section of the study includes a review of recent evidence-based management literature, the theory of planned behavior, and quality management systems considered for this study. Chapter 3, Methodology, provides a transparent, detailed presentation of the dissertation's research strategy, population and sample, instrumentation, and protocols for data collection and analysis. In the fourth chapter, data from the survey on the theoretical construct of intention, attitude, the perceived barriers, and facilitators of evidence-based management allowed me to develop the dissertation's findings for the research questions. The final chapter, Conclusions and Recommendations, presented some additional analysis beyond the research questions, my conclusive remarks, and further recommendations for professional practice and future research.

Chapter 2. Literature Review

The purpose of this study was to determine the attitudes, perceived barriers, and facilitators that impact U.S. municipal leaders' intention to use evidence-based management (EBMgt). The study also examined whether select demographic variables, namely, generation group, education, years of public administration experience, and municipality size, affect the intention to use evidence-based management. Organizations may use the study's findings to minimize the identified barriers and enhance identified facilitators to affect decision-makers' intentions to use EBMgt. This literature review revealed what scholars knew and what they recommended for further research on the topic of EBMgt. The first section of the literature review summarizes select legislation on federal program performance. Next, the origins and seminal studies of EBMgt are discussed. Before the review of recent EBMgt literature, the review method is presented; then, this literature from the past 5years is discussed. The chapter continues by addressing the theoretical frameworks considered for this study and evidence-based survey instruments that were considered for this research. The final section explores the role of EBMgt through the lens of quality management systems.

Review of Select Program Performance Federal Legislation

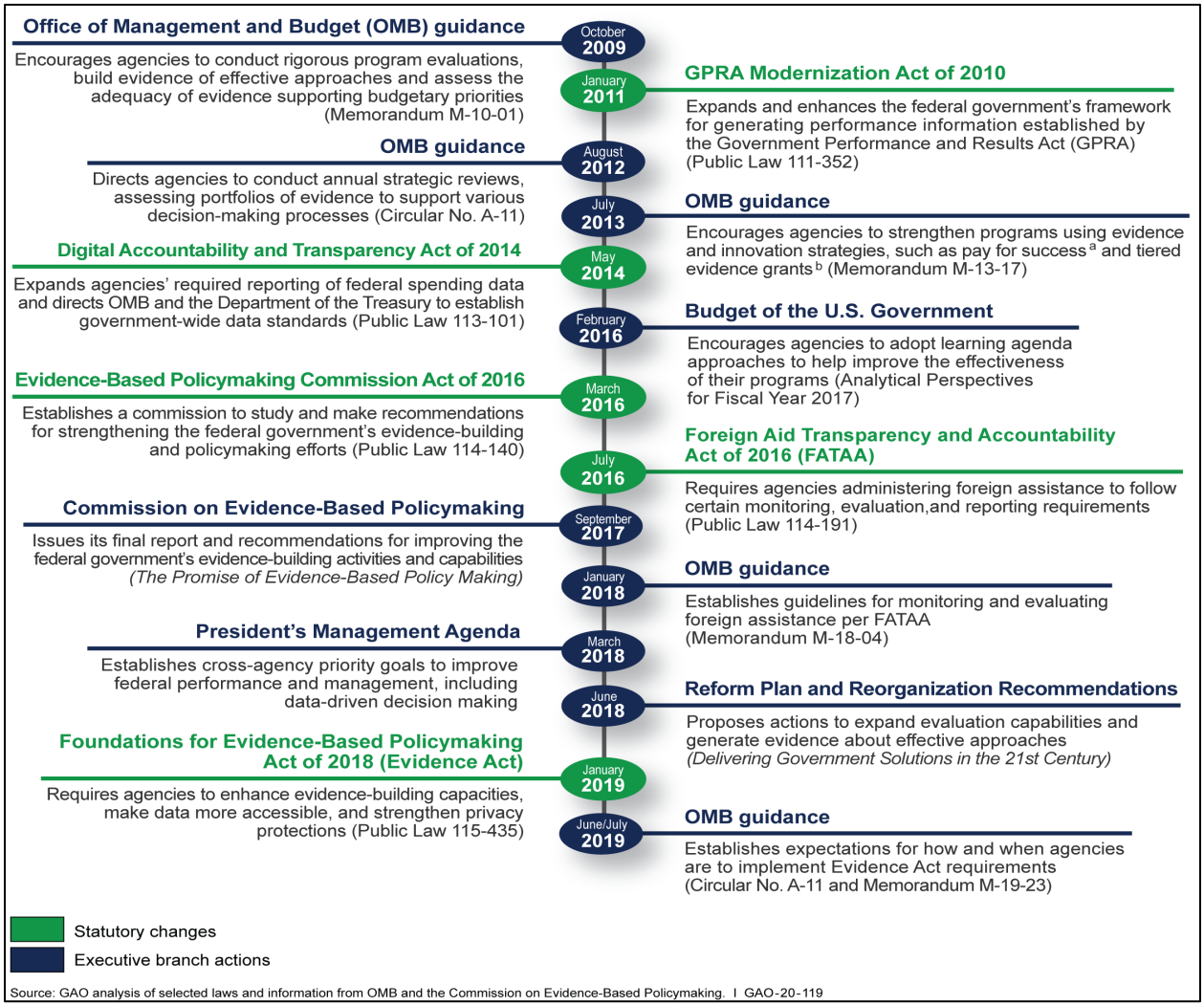
Since the inception of federally funded social programs, concerns have arisen about program effectiveness, efficiency, and accountability, giving credence to the notion that program evaluation had its foundations in accountability and systematic social inquiry (Christie & Alkin, 2008). One of the more prominent evaluation theorists at the time was Carol Weiss, who observed that evaluators and policymakers should use ideas and generalizations from research and evaluation reports to shape their thinking about issues. New insights from the research and

evaluation reports can influence how evaluators and policymakers consider solutions and formulate actions (Weiss, 1987).

Two decades ago, Congress enacted the 2002 program assessment rating tool (PART) to improve program results by focusing on program design, strategic planning, and program management (Lemire et al., 2018). Since 2010, Congress has enacted five laws to strengthen Federal evidence-building (see Figure 3). The GPRA Modernization Act of 2010 (2011) required federal agencies to be accountable for results and elevated the importance of using performance data in decision-making (Pub. L No. 111-352 Stat. 3866). In overseas development assistance programs, the U.S. Global Development Policy and Foreign Aid Transparency and Accountability Act of 2016 set forth guidelines for measurable goals, performance metrics, monitoring, and evaluation plans (Foreign Aid Transparency and Accountability Act of 2016, 22 USC § 2151). The most recent initiative in government performance came in 2019 when Congress enacted the Foundations for Evidence-Based Policy Act of 2018 (Evidence Act). This Act mandated placing senior management to oversee data collection. In addition, the Act required evaluations of policymaking and program impacts and increased public access to federally held data. Program evaluation was identified as the essential evidence-building activity to generate data, information, and evidence for federal managers' decision-making (OMB, 2021). The OMB (2017) noted that evidence might come from various sources, including descriptive statistics, performance measurement, policy analysis, program evaluations, and other research. Six departments and agencies were recognized by the Federal Standard of Excellence Advisory Committee for progress toward the effective use of evidence and data in their budget, policy, and management decisions (Foundations for Evidence-Based Policymaking Act of 2018).

Figure 3

Selected Actions Taken by Congress and the Office of Management and Budget (OMB) to Strengthen Federal Evidence-Building and Improve Coordination



Note. From *Evidence-Based Policymaking* (p. 9), by the U.S. Government Accountability Office, 2019 (https://www.gao.gov/assets/710/702997.pdf). In the public domain.

The OMB's role is to direct the Chief Financial Officers Act agencies and departments of the Government on how to implement federal legislation. However, the OMB clarified that its

guidance applied to all federal agencies (OMB, 2021). In Memorandum 21-27, the OMB proclaimed that the American people faced complex issues and challenges. According to OMB's guidance, decision-makers must use facts through rigorous and systematic analysis governed by principles of scientific integrity (OMB, 2021). Some state entities had taken cues from the federal government and have developed their evidence-based initiatives, yet little was known of the widespread use of EBMgt in the public sector at any level.

Origins of EBMgt

Evidence-based practices were traced to the early 1990s as a strategy used in the medical field to systematically use evidence to support decision-making about the care of individual patients (Sackett et al., 1996). However, evidence-based medicine (EBMed) has had its critics. Some noted that EBMed had focused too much on randomized clinical trials and meta-analyses (Feinstein & Horwitz, 1997). EBMed had evolved into a more significant phenomenon, practiced in various medical disciplines (Kovner et al., 2000). These scholars suggested that healthcare providers generally had underinvested in management support. On the other hand, they evaluated best practices within the organization and learned from past strategic interventions. Therefore, creating EBMgt cooperatives might have been a means to change this trend.

Evidence-based healthcare leaders proposed a statement that the principles of EBP be understood by all healthcare professionals (Sackett et al., 1996). Healthcare professionals should recognize EBP in action and implement evidence-based policies. Finally, the statement urged healthcare professionals to develop a critical attitude to their practice and evidence (Davis et al., 2018). EBP described all aspects of the discipline that recognized evidence's importance in informing all healthcare decisions. Without these skills, professionals and organizations would have found it challenging to provide best practices (Dawes et al., 2005). Walshe and Rundall

(2001) explored whether and to what extent the principles of EBPs could be applied in the healthcare managerial domain. They noted that the work conducted at the Center for Health Management Research (CHMR) suggested that healthcare managers, healthcare organizations, and researchers should develop and pursue a shared research agenda to address the culture, research and evidence, and decision-making in healthcare.

Seminal Studies in EBMgt

The scholars highlighted in this section are known for their seminal works to narrow the scientific-practitioner gap in the EBMgt space. These scholars are recognized for their contribution to developing appropriate methodologies in the management field by applying rational approaches to EBPs that were used in the healthcare environment. This section extends the discussion of EBMgt beyond the evolution of its definition presented in Chapter 1.

Some scholars noted a lack of rigor in the literature reviews in scientific journals. In their opinion, the reviews of secondary sources depended on implicit, idiosyncratic methods of data collection and interpretation (Cook et al., 1997). An article published in the *British Journal of Management* by David Tanfield, David Denyer, and Palminder Smart (2003) offered a rational methodology to minimize bias. This method employed exhaustive literature searches of published and unpublished studies using a systematic review methodology that provided an audit trail of the reviewer's decisions, procedures, and conclusions (Tanfield et al., 2003). This method differed from traditional narrative reviews by using a replicable, scientific, and transparent process. Several organizations were formed to establish agreed and formalized procedures for systematic reviews. These organizations included the Cochrane Collaboration, the National Health Science Centre for Reviews and Dissemination, and the National Institute for Clinical Excellence. Despite differences between medical and management research, Tanfield et al.

(2003) suggested that the systematic review process could be applied to the management field to produce reliable knowledge and enhance practice by developing context-sensitive research. Although not a seminal scholar on EBMgt, another critic of the then-current state of academic research was Ioannidis (2005). He recognized a disconcerting trend of inaccurate research results in then-recent publications. Simulations showed that for most study designs and settings, a research claim was more likely to be false than true (Ioannidis, 2005). For instance, Ioannidis (2005) concluded that research findings were often false due to (a) smaller studies, (b) smaller effect sizes, (c) more significant numbers of untested relationships, (d) more flexibility in statistical analyses, and (e) more extensive financial interests and prejudices in the field.

The second seminal scholar in the EBMgt space was Denise Rousseau, credited with using evidence-based management for the first time. In her outgoing presidential address to the Academy of Management, Rousseau expressed her hope that research and education would help managers make well-informed, less arbitrary, and more thoughtful decisions (Rousseau, 2006). Outlined in her address were some of the following elements of EBP: (a) establishing cause-effect connections in professional practices, (b) isolating the variations that measurably affect desired outcomes, and (c) using information-sharing communities to reduce overuse, underuse, and misuse of specific practices. She also called for building decision supports to promote practices the evidence validates, along with techniques and artifacts that made the decision easier to execute or perform (e.g., checklists, protocols, or standing orders; Rousseau, 2006).

One year after Rousseau's address, the *Harvard Business Review* published an article by Pfeffer and Sutton that debunked management myths that defied academic consensus and critical thinking (Pfeffer & Sutton, 2006a). The authors of this highly cited article promoted an EBMgt approach. They advocated using internal and external organizational fact-finding and

experimentation to improve decision quality, noting abundant studies showing that many current management practices were either ineffective or utterly damaging (Pfeffer & Sutton, 2006a).

A significant additional contribution to the field of EBMgt research was the *Oxford Handbook of Evidence-Based Management* (Rousseau, 2012b). The 23-chapter book represents the body of knowledge on EBMgt that includes contributions from 38 EBMgt scholars. The authors argued that decision-makers should use, in addition to scientific research, other sources of evidence that include practitioner expertise and judgment, internal organizational data, and the values and concerns of stakeholders (Rousseau, 2012a).

Until 2014, scholars of EBMgt coalesced around the premise that managers should use EBMgt to improve the quality of organizational and managerial decisions through more systematic processes and better use of relevant information, particularly the cumulative findings of scientific research. Barends et al. (2014) recommended the following six steps as the core feature of an evidence-based management approach: *(1)Asking:* Translating a problem into an answerable question; *(2) Acquiring:* Systematically searching and retrieving evidence; *(3) Appraising:* Critically judging trustworthiness and relevance; *(4) Aggregating:* Weighing and pulling together the evidence; *(5) Applying:* Incorporating the evidence into the decision-making process; and *(6) Assessing:* Evaluating the outcome of the decision. The systematic review applied to the management field that Tanfield et al. (2003) promoted is now a required component in the six-step EBMgt approach described by Barends et al. (2014).

Much was written about evidence-based medicine, evidence-based practices, evidence-based decision-making, evidence-informed decision-making, and evidence-based policymaking. A five-step approach to evidence-based practice in the medical curriculum was one of the drivers of the development of evidence-based medicine (Rousseau, 2012b). However, none of the

collection of practices in the evidence-based movement applied the six-step managerial process, including the systematic review or meta-analysis, defined as evidence-based management (Barends et al., 2014). In the next section, I explained the method of review to identify studies where the EBMgt approach is mentioned in peer-reviewed articles. Since the research conducted by Rynes and Bartunek (2017), no article was identified that summarized outside of medicine, where EBMgt is practiced. The following review of recent literature pinpointed clusters of EBMgt use in both public and private sectors.

Method for Review of Recent EBMgt Literature

A comprehensive search was conducted to identify EBMgt literature of the previous five years (2018–2022). Peer-reviewed articles in English-language scholarly journals, available in full text, were included in the search criteria. The peer-reviewed articles for the literature review included systematic reviews, meta-analyses, cohort studies, individual studies, case studies, reviews, and editorials. Excluded from this literature review were books, articles in trade journals, reports, conference papers and proceedings, working papers, articles from magazines and newspapers, wire feeds, blogs, podcasts, and websites. A review of recent doctoral dissertation studies was discussed at the end of this section. In addition, gray literature curated on the Center for Evidence Based Management's (CEBM) online reference page was included since this organization has the unique purpose of educating practitioners of EBMgt.

The Campbell Collaboration Library of Systematic Reviews and Cochrane Library databases were initially searched. However, the returned articles were nearly exclusively conducted in the healthcare sector. Therefore, those two databases were excluded since EBMgt in healthcare was not the focus of this research. Initially, a database search of Google Scholar

was conducted. However, since the database had no option to filter out articles that were not peer-reviewed nor those available in full-text to me, Google Scholar was not further considered.

I searched ABI/Inform Global, ProQuest, Business Source Ultimate, and the Web of Science Social Science Index for common phrases from the EBMgt space. These terms included: *evidence-based practices, evidence-based management, evidence-informed management, research evidence in management, evidence-based decision-making, evidence-based practices,* and *evidence-based policymaking*. As mentioned in the previous section, the phrases above represented a family of practices that comprise the evidence-based movement. These initial searches provided insights into the evidence-based movement by gauging the popularity of the term "evidence-based" used anywhere in the text of an article within the various databases. In the case of the ProQuest database search, the returned articles (n=164,882) indicated a steady increase in the use of the term over the past five-year search period. I also conducted several searches that restricted search terms used in an article's title or abstract. For instance, in Cambridge College's ABI/INFORM Collection, the database returned only 26 articles with *evidence-based management* in the title or the abstract fields. However, when searching for the identical term used anywhere in the text, the database returned 258 articles. The Cambridge College Business Source Ultimate database search returned under 30 articles containing the term *evidence-based management* appearing in the title or the abstract fields. Similarly, the Web of Science (WoS) database returned fewer than 40 articles.

I selected the phrase *evidence-based management* used anywhere in the article to generate a more significant number of relevant articles. The initial search using the term *evidence-based management* used anywhere in the text of the article, published in English and available in full text, for the period January 1, 2018, to April 30, 2022, yielded the following

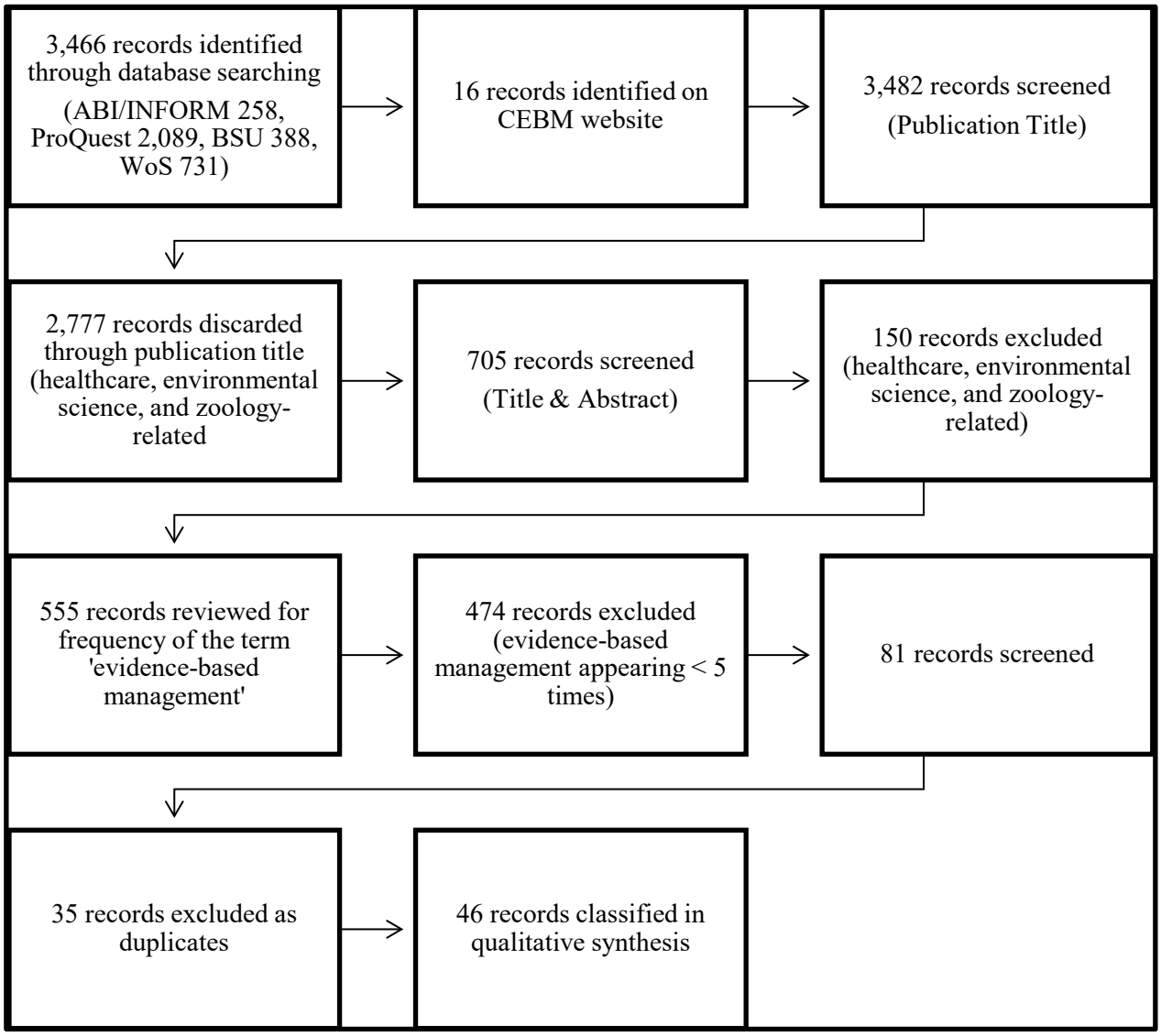
results: ABI/INFORM (n=258), ProQuest (n=2,089), Business Source Ultimate (n=388), and Web of Science (n=731). A total of 3,466 records were returned from the four databases. The Center for Evidence Based Management website that listed articles dedicated to EBMgt and contained both peer-reviewed articles and gray literature was reviewed for additional articles. Sixteen articles from the Center for Evidence Based Management were added to the records returned by the databases. Therefore, a total of 3,482 records were identified.

In their study, Rynes and Bartunek (2017) filtered results in the WoS database by limiting the fields to management, business, applied psychology, public administration, interdisciplinary social sciences, and industrial and labor relations. Using the same filters excluded 673 articles from the WoS database. Articles in journals related to healthcare, zoology, or the environmental sciences excluded another 2,104 articles. Next, an individual title and abstract review were conducted to identify and exclude articles on healthcare, environmental sciences, and zoology but published in interdisciplinary academic journals for all four databases. Once this analysis was conducted, an additional 150 articles were excluded, leaving 555 articles to be filtered.

Then, a search for *evidence-based management* was conducted for the remaining articles (n=555) to identify and exclude articles where *evidence-based management* appeared fewer than five times. This process eliminated articles that referred to evidence-based management a few times in the article and the bibliography. These articles were determined not to focus on the research topic in a meaningful manner. This process eliminated 474 records resulting in 81 reviewed for duplicates. Once duplicate studies (n=34) were removed, 46 records were left for classification in a qualitative synthesis, as shown in Figure 4.

Figure 4

Review Flow Diagram of Evidence-Based Management (EBMgt) Literature Published from January 1, 2018, to April 30, 2022



Review of Recent EBMgt Literature

This section of the literature review picks up where Rynes and Bartunek (2017) left off to reveal the state of current research in EBMgt. I endeavored to provide a high-level qualitative synthesis of academic literature in EBMgt. After classification, the 46 articles fell into the

following five categories: (1) critiques/reviews (9%), (2) EBMgt used in public administration (11%), (3) EBMgt in managerial education (32%), (4) EBMgt in business (28%), and (5) EBMgt used in human resources (20%). Categorized articles are listed in Appendix A.

Recent Literature on Critiques and Reviews of EBMgt

Four articles were categorized as recent critiques of EBMgt or recent reviews of EBMgt articles or books. The first of these articles was Thaning's (2020) editorial commentary on Denise Rousseau's article entitled "The Realist Rationality of Evidence-Based Management," which appeared in a 2020 issue of the *Academy of Management Learning & Education*. In his commentary, Thaning summarized Rousseau's four epistemic "facets" of evidence-based management: (1) scientific findings encompassing large sample sizes, statistical controls, controlled observations, validated measures, and systematic testing were the first facets of EBMgt to counter human bias; (2) a logic model that uses organizational facts to implement company strategies may minimize data misuse due to political agendas; (3) decision aids could bring awareness to biases that might erode good decision-making; and (4) ethical considerations of stakeholders are important in decision-making (Rousseau, 2020, as cited in Thaning, 2020). This focus on the inclusion of stakeholder interest could have been interpreted as a response to those who characterized evidence-based management as "managerialist" (Thaning, 2020; see also Hulpke & Fronmueller, 2020). Thaning (2020) contended that the two significant critiques of EBMgt were that it was too excessively focused on the epistemic ideals of the natural sciences and that ethical considerations were minimized in the EBMgt process (Hulpke & Fronmueller, 2020).

Hulpke and Fronmueller (2020) reviewed Barends and Rousseau's book, *Evidence-Based Management: How to Make Better Organizational Decisions*, which recognized the book's

impact among academics, acknowledging that it had been cited 130 times within the first year after its publication. In their opinion, the book overlooked the topic of business ethics within EBMgt (Hulpke & Fronmueller, 2020). The reviewers argued that the prominent scholars on EBMgt prioritized facts and minimized values using the highly rational EBMgt approach (Hulpke & Fronmueller, 2020). Ultimately, the reviewers recommended Barends and Rousseau's text on EBMgt but emphasized that managerial choices must be made considering facts in addition to values (Hulpke & Fronmueller, 2020).

Hulpke and Fronmueller (2021) questioned if EBMgt was a hyper-rational fad. They argued that advocates promoted the EBMgt approach to managerial decision-making to help avoid fads but suggested that EBMgt had many of the characteristics of a fad. From the epistemological perspective, the authors characterized the EBMgt approach to decision-making as highly rational and objective. They suggested that instincts, hunches, ethics, aesthetics, creativity, and feelings were not considered by EBMgt practitioners, which constituted a weakness in the framework that might be overcome with cognitive and affective flexibility. The researchers asked if EBMgt was a fad by comparing characteristics of other managerial approaches with EBMgt. The authors concluded that EBMgt underutilized an individual's intuitive or System 1, a term used to describe humans' intuitive holistic approach, in favor of System 2 thinking—one based on organized rationality. The authors favored fact-assisted sense-making rather than EBMgt. The article also mentioned 45 managerial or organizational ideas or tools, such as Six-Sigma, Triple Bottom Line, and Lean Management, which they argued were managerial fads. While it may be helpful to decision-makers to use the best available evidence, decision-makers were called on to assess and reflect (Hulpke & Fronmueller, 2021). The authors did not believe EBMgt would live up to what some advocates claim, having concluded that

EBMgt was likely a fad that would fade away like the 45 managerial approaches they had listed (Hulpke & Fronmueller, 2021).

Chrobot-Mason et al. (2019) provided an evidence-based response to Sandberg's (2013) book *Lean In: Women, Work, and the Will to Lead.* The authors applied an EBMgt approach to examine which key arguments made by the book's authors needed additional research support. The authors addressed organizational strategies that assist in minimizing stereotypes of gender and discrimination through the lens of EBMgt. The authors argued that the literature suggests pushing fear away and taking on leadership roles to develop a leadership identity rather than accepting Sandberg's (2013) advice, which was based on limited scholarly evidence (Chrobot-Mason et al., 2019).

Summary of Articles in the Critiques and Review Category

The four articles in this category included recent critiques of EBMgt and recent reviews of EBMgt articles or books. Compared to Rynes and Bartunek's (2017) categorization, fewer articles on EBMgt were critiques of EBMgt, signaling that the field of EBMgt was maturing and becoming a more mainstream managerial approach. The primary critique of EBMgt was that the rational EBMgt approach favors scientific findings and organizational data over stakeholders' values and business ethics (Hulpke & Fronmueller, 2020, 2021).

Recent Literature on the Use of EBMgt in Public Administration

Five of 46 articles were studies on the use of EBMgt in public administration. In one article, Hall and Van Ryzin (2018) developed and tested a survey instrument to measure the extent to which public administrators used research and evidence in management decision-making. Named the norm of evidence and research in the decision-making scale, the instrument was tested on about 100 public servants. My findings suggested that men with higher seniority

relied less on evidence when making decisions. New insights into organizational behavior and policy formation could result from the new scale. The researchers contended that their scale offered insights into organizational norms and culture in public servants' preferences for using research and evidence in managerial decision-making (Hall & Van Ryzin, 2018). Across all the literature I reviewed, the research population was the most similar to the research I conducted. I reviewed and considered the scale, but it was determined to be less effective for answering the research questions in this proposed study.

Kaushal (2018) developed an evidence-based framework for decision-making based on assembling evidence from various sources, appraising the evidence using a hierarchy of evidence sources, and disseminating the evidence to practitioners. Kaushal (2018) assessed that evidence-based decision-making was a respected managerial tool that would be useful for government leaders to demonstrate transparency and accountability. In another study, Schafer (2019) conducted a systematic review of 40 peer-reviewed articles published in public administration journals to identify and summarize empirical articles demonstrating public participation within a government or nonprofit agency. This empirical study demonstrated how a systematic review could be incorporated to classify and summarize best practices in recruiting the public to become active in their community (Schafer, 2019).

Rapid urbanization has created significant challenges for planning, developing, and operating cities. Information technology was a critical strategic element for offering effective public services to citizens (Ribeiro et al., 2019). The researchers developed a model using EBMgt practices of asking a question about a problem and seeking to answer the question by creating a conceptual model and then applying the model to understand decision-making among municipal managers better. The research highlighted the importance of using available evidence,

in this case, the city's data about information technology, when making decisions. Although the model was yet to be applied, the author believed that a city could use the model to improve the quality of life for its citizens by leveraging digital capabilities (Ribeiro et al., 2019).

Many articles on using EBMgt in public health existed in the literature. Although these articles were excluded from consideration since this study focused on sectors unrelated to healthcare, one article deserved particular attention. During the COVID-19 pandemic, public administrators ordered their citizens to shutter private businesses. At the same time, they severely reduced access to public services because they followed evidence-based public health policy from the Centers for Disease Control and Prevention (Yang, 2020). Yang's (2020) essay posited that the COVID-19 pandemic gave the government an excellent opportunity to re-examine what defined evidence in situations with a high potential loss of life and uncertainty.

Summary of Articles in the Public Administration Category

Five articles in this category were studies conducted in the public arena. Hall and Van Ryzin's (2018) study on developing a survey instrument to measure the extent to which public administrators employed research and evidence in management decision-making could have been used in this proposed research. However, a similar survey instrument (Guo, 2015) was determined to answer the research questions of the proposed study better.

Recent Literature on the Use of EBMgt in Managerial Education

The category of managerial education included 15 articles, or 32% of the articles in the literature review search, and was generally divided into three sub-groups. The first sub-group included essays that advocate teaching EBMgt and, more precisely, the benefits of mastering systematic review skills. The second group of studies focused on students' experiences upon

learning EBMgt methods. The final sub-group of studies in this were empirical studies within the field of education.

Essays on Teaching EBMgt

Five essays were reviewed in this sub-category. Rousseau (2020a) recounted her 40-year academic background and described the importance of synthesizing available evidence to remedy a significant knowledge gap. The seminal writer suggested that educators teach students to assess the evidence they will use in making decisions. She lamented that some doctoral students might fail to synthesize information or cherry-pick the literature they cite in their papers rather than systematically reviewing all the available literature. To help remedy this deficiency, Rousseau teamed up with Eric Barends, another seminal writer on EBMgt, to develop a pipeline of systematic reviews of various management topics for managerial scholars, educators, and practitioners (Rousseau, 2020a).

In this category, Rousseau's (2020b) second essay explained that realist rationality recognizes that humans are inherently biased and have limited cognitive processes. Hence, formal education and skills training could be helpful to familiarize students with EBMgt principles and methods better, improving decision-making quality (Rousseau, 2020).

Rynes et al.’s (2018) editorial comment suggested that EBMgt could narrow the academic-practice gap if managers and students had access to more robust research findings. The researchers note that individuals might often choose not to believe research findings even if research-backed their findings. In their opinion, people often distrust academics and the research they produce because the research threatens long-held beliefs or self-interests. Also, some studies pointed to errors in academic research. While innocent errors may have occurred, researchers had outright-falsified data or results in some cases (Rynes et al., 2018). The researchers

contended that self-interest and fear of losing autonomy and control contribute to rejecting scientific findings (Rynes et al., 2018). Unfortunately, the benefits of practicing EBMgt, such as transparency in systematic reviews and replication of findings, may not be sufficiently convenient for individuals to trust academics (Rynes et al., 2018). As a result, researchers need to be aware that individuals' worldviews, identities, and self-interests may not align with the perspectives and sentiments of the public, which could result in the public lacking confidence in the leaders' decisions. Researchers, instead, could play a more proactive role in helping people draw their conclusions based on evidence, helping repair public trust in science and scientists, and enhancing their communication of evidence to reduce resistance (Rynes et al., 2018).

In another essay, Barends et al. (2021) described the objectives of a coordinating group within the Campbell Collaboration that promotes the development, use, and training in systematic reviews for management and organizational research (Barends et al., 2021). The group's focus was to combat the then current view that unfamiliarity with systematic review methods and insufficient training were pervasive in business and management (Barends et al., 2021).

In the final essay of this sub-group, Wainwright et al. (2018) recommended developing evidence-based information systems in response to the unacceptable impact of recent information system failures. The researchers advocated evidence-based practices to inform and improve information system practice. Like the others in this sub-category, the researchers recognized that the profession should undertake empirical research and systematic literature reviews to improve knowledge transfer to stakeholders. The need to develop a practitioner research culture, among other standard evidence-based practices, should be undertaken to meet the needs of information systems practitioners (Wainwright et al., 2018).

Student Experiences with EBMgt

Five of the 15 articles in the category of management education focus on students' learning and perceptions of EBMgt. All of the authors of these articles observed that students who applied EBMgt improved critical thinking skills (Auger et al., 2018; John et al., 2020; Priem, 2018; Wright et al., 2018). For instance, Auger et al. (2018) studied students' learning outcomes after learning to apply EBMgt. The student's field assignment involved visiting a random organization, assessing a managerial problem, analyzing the problem's causes, and suggesting courses of management action. Then, the research team collected qualitative data from students on their perceptions of evidence-based management. After analyzing more than 500 statements and nearly 200 interviews, the researchers concluded that students who learned the EBMgt approach gained introspection and critical thinking skills and became grounded in theory (Auger et al., 2018).

Similar to Auger et al. (2018), Priem (2018) suggested that, by applying EBMgt and developing students' ability to appraise narratives critically, students could become good strategic thinkers and achieve higher-order critical thinking skills (Priem, 2018). John et al. (2020) drew on EBMgt practices to produce a project client map using a research framework for design science. The researchers intended to help students process a conceptual management problem into an evidence-based solution. The researchers theorized that students could apply critical and analytical skills to discover various research directions and how each of these might impact organizational outcomes (John et al., 2020).

The fourth article in this subgroup involved research on how some students journey through doubt and uncertainty to a more solid grasp of a concept. This type of study is also known as threshold concept learning. In a qualitative study, Wright et al. (2018) introduced

students to the EBMgt approach and challenged them to determine managerial improvements based on evidence. The students' preconceived ideas of EBMgt moved from the perception that EBMgt would be challenging to apply, to the view that EBMgt would be hard to avoid in future decision-making (Wright et al., 2018).

Empirical Studies Using EBMgt

This category included five articles describing findings from empirical research using EBMgt methods. Rojon et al. (2021) argued that EBMgt relied on systematic reviews of available and relevant academic research and the expertise of professionals and practitioners. They explained that a systematic review methodology was an approach that describes how to collect, analyze, and synthesize the literature in an organized and replicable manner. Upon analyzing nearly 400 systematic reviews, the researchers found that greater attention was placed on discussing how systematic reviews were conducted and the search strategy used than a robust synthesis of the results of the included studies. Four things could be done to improve the evaluation of the systematic review methodology. Researchers should define the methods used, ensure that the research question(s) can be answered through the methodology selected, interpret the findings accurately, and analyze and categorize the findings to reveal insights that contributed to knowledge (Rojon et al., 2021).

Sharma and Bansal (2020) studied how systematic reviews might be more impactful in assisting researchers in bridging academic and practice knowledge during systematic reviews. The researchers observed differences in how these managers and researchers conducted systematic review processes, which might have caused some researchers to miss the valuable insights that systematic reviews might produce. To reduce tensions, researchers and managers should focus on a common interest (topic) and return to it when facing disagreements. Secondly,

both parties should list aspects of the critical review topic separately and discuss the two lists to find commonalities. When conducting the review, practitioner conference reports and other gray literature should be considered for inclusion. Also, deviations from protocols and reasons for doing so should be recorded. Finally, as a strategy for putting the evidence into practice, the researchers recommended identifying low-hanging fruits, such as webinars to get the evidence into practice, and asking managers to present the findings within and outside their organizations, such as at industry conferences (Sharma & Bansal, 2020).

Brink et al. (2018) used EBMgt to compare school accreditation standards versus undergraduate business school learning goals. For each school, a score was calculated based on how many learning goals were in non-hyperdimensional categories. Researchers concluded that learning goals were most likely related to managerial competencies (Brink et al., 2018). Leroy et al. (2022) studied the crucial role that business schools play in future leader development. Some doubted whether academic institutions could provide evidence of the efficacy of their leader development programs. By interviewing 60 academic directors, the researchers concluded that some leader development programs did not always align with scientific recommendations. The researchers concluded that more professional standards were needed to establish, maintain, or enhance the academic leadership development industry's creditability in business schools.

Moreover, the researchers dared academics to consider themselves evidence-based scholars of leadership science as well as evidence-based developers (Leroy et al., 2022). The last article in this group included Scafuto et al. (2020), who conducted a study that focused on the influence of the literature structure in business schools. Through bibliometric coupling, a process that referred to the frequency that two documents share at least one standard reference in their bibliographies, the authors identified themes that influenced research trends in business schools.

Summary of Articles in the Managerial Education Category

The 15 studies in this category suggested that learning EBMgt enhances higher-critical thinking skills. Additionally, familiarity with EBMgt approaches may change one's subjective norms from doubt and uncertainty to a more confident belief that EBMgt could help arrive at a managerial or organizational change based on evidence from multiple sources (Auger et al., 2018; John et al., 2020; Priem, 2018; Wright et al., 2018). Systematic review skills are critical in the EBMgt process. Therefore, it was essential to this research that municipal leaders be queried on their familiarity with systematic reviews to understand better their likelihood of using EBMgt.

Recent Literature on the Use of EBMgt in Human Resources

Nine articles in the recent literature focused on EBMgt in human resources. Nearly all authors argued that increasing the use of hard evidence and improved data would enhance decision-making for human resource (HR) managers. One author suggested that the HR departments in organizations are one of the last to use data analytics for strategic managerial decisions (Cassar et al., 2018). The author argued that better quality decision-making supported by data analysis might reduce bias in decision-making among HR managers.

However, new skills must be learned, not traditionally a part of HR training (Cassar et al., 2018). In this study, the researchers aimed to understand how human resource management (HRMgt) data analytics could impact HR practitioners' evolving role and how data analytics could make HRMgt more strategic in scope by using HRMgt data. According to the six HR professionals who participated in this study, HR managers' roles could affect strategic organizational effectiveness. When viewed from a business perspective, the study participants' view of data, especially quantitative data, facilitated decisions within HRMgt functions, such as recruitment, selection, and training, both at the input and output levels. As a result, HR-driven

data integrated with other business activities may have ensured that data had a communicative value rather than a stand-alone value (Cassar et al., 2018). The authors claimed that HRMgt could not by itself be reduced to data. The project, which had not been completed at the time of publication, endeavored to develop a skill set with competency in information technology, data analysis, and data interpretation methods that would make HR managers more effective in strategic decision-making (Cassar et al., 2018).

In another article, Greasley and Thomas (2020) argued that increasing evidence-based approaches in HR departments and positivistic approaches in academic studies in HRMgt would significantly influence HR practices. The authors' mixed-method research approach involved a survey followed by rigorous statistical analysis to provide quantitative data. Interviews with 60 employees, HR professionals, and line managers provided qualitative data. NVivo software was used to code the interview transcripts. The researchers identified 125 codes to categorize text strings in identifying the main themes. Fourteen relevant codes were extracted to perform the study's analysis. Among senior and HR managers, the researchers found an onto-epistemological gap, with senior managers preferring quantitative data. In contrast, the HR managers showed skepticism toward data to quantify subjective well-being (Greasley & Thomas, 2020).

The third article in this category focused on HR analytics and was authored by McCartney and Fu (2022). Despite HR analytics being increasingly adopted, it was still unclear whether HR analytics could positively influence organizational performance. Consequently, McCartney and Fu (2022) sought to uncover how HR analytics improves organizational performance by understanding why, how, and when this occurs. An analysis of 155 Irish organizations was conducted using structural equation modeling to analyze a chain mediation model that links EBMgt, organizational performance, HR technology, and HR analytics. The

results of the researchers' study confirmed the researchers' chain model, which suggested that HR analytics enables EBMgt, leading to enhanced organizational performance. McCartney and Fu's (2022) study provided insight into the reasons and processes that lead to higher organizational performance through HR analytics. According to the authors, HR analytics enables and facilitates access to HR technology. In addition, the effect of EBMgt on organizational performance was supported by empirical evidence (McCartney & Fu, 2022).

Gubbins et al. (2018) advocated the evidence-based human resource development (EBHRD) professionals' engaging with EBMgt to combat the perception that educated trial and error leads to HR practices. Professional competencies for human resource development (HRD) professionals, such as instructional design, learning technologies, and coaching, were expected. However, researchers noted that HRD practitioners seldom displayed, collected, or assessed evidence of such competence (Gubbins et al., 2018). Using EBHRD may have impacted HRD practitioners' ability to improve relationships between management executives and employees by enhancing credibility, trustworthiness, and professionalism (Gubbins et al., 2018). In their advocacy for HRD to become more evidence-based, the researchers called for using peer-reviewed scientific evidence and the best available evidence in decision-making. Researchers concluded that more HRD-specific systematic reviews and meta-analyses of scientific research were needed (Gubbins et al., 2018).

According to Ross et al. (2020), managing academic research to ensure its impact on professional practice is an ongoing challenge for HRD. The researchers analyzed case studies of academic impact submitted across all disciplines. In contrast to other areas of human resources and human development, learning and development dominated the majority of impact case studies across all disciplines. The authors also found that learning and development was the

primary path to impact. The authors contended that learning and development in a work context helped the researchers, irrespective of discipline, be impactful. The results of their study illustrated the gap between academia and practice in research (Ross et al., 2020).

In the sixth article in this category, Lopes de Leao Laguna et al. (2019) described the various approaches practitioners applied in HR research, such as reflective practice, action science, participatory action research, and insider action research. Using similar variables as those in this proposed dissertation, the researchers sought to determine if select demographic characteristics were associated with the selection of HR research. Variables, such as experience, education, expertise, position, and organizational size, were used in the research. The researchers concluded that while nearly all of the HR managers who participated in the study conducted HR research, few used evidence in situations that merited its use. The study was the first to provide empirical evidence of HR research practices (Lopes de Leao Laguna et al., 2019).

Lake et al. (2019) encouraged EBMgt practices to be applied in organizations when selecting employee assessments. The researchers studied the selection of assessments, such as the Myers-Briggs Type Indicator (MBTI), to enhance organizational decision-making. Participants evaluated 11 attributes of the test's reliability (e.g., "the test had excellent reliability") and its utility (e.g., "the MBTI could be used to select the best employees during hiring"). According to the study, 75% of the participants identified the four-letter MBTI code, 62% knew their own four-letter MBTI classification, and 25% had personally administered the MBTI. Ideally, the selection of assessments would be based on scientific qualities and the accuracy of predictions from the assessment. Instead, they are often far less rigorous and focused on name-brand recognition. For instance, the researchers found that evidence does not support any of the attributes used in the MTBI. Also, the MTBI manual strongly suggests against using

the MBTI for hiring purposes (Lake et al., 2019). Practitioners could incorporate EBMgt by developing a critical thinking mindset by asking why individual assessments were being used and consulting experts in personality and psychometrics (Lake et al., 2019). The researchers contended that an evidence-based mindset is needed when selecting an assessment to avoid over-reliance on name brands (Lake et al., 2019).

Over several centuries, academicians have tried to reveal that rigor and relevance are related, but their efforts have been largely theoretical, and their methods have been flawed. Paterson et al. (2018) established an institutional logic structure and addressed the methodological flaws present in earlier attempts. The legitimacy given to academic journals had increased the relevance of these publications for practicing managers. The study found that methodological rigor was a weaker predictor of academic legitimacy than practitioner ratings of relevance. This study offered new insights into the divide between researchers and practitioners and contributed to the ongoing discussion about the link between integrity and application in academic management.

The concept of evidence-based medicine (EBMed) was defined by Sackett et al. (1996) as the integration of three factors in medicine: (1) the most robust evidence from scholarly publications, (2) the experience and understanding of the professional, and (3) patient preferences. According to Marin-Garcia (2021), effective Operations Management and Human Resource Management require a three-stage publication model. First, protocol papers would be published, then data papers, and then traditional articles would be published. Research of merit would be recognized and cited at each stage of the scientific evaluation process. In addition to examples of a protocol paper and a data paper, Marin-Garcia (2021) presented examples of the other stages of the scientific dissemination model, as the two stages were highly unrecognized by

science dissemination researchers in business and management. As part of the editorial, the authors proposed a four-step framework for promoting transparent and reproducible research and evidence-based proficient practices in Operational and HR Management. Social networks would be notified as part of these steps, and practitioners should announce articles. The model would allow researchers to evaluate the impact of their research and learn how to make better decisions based on their research's impact on the community outside the academy. In her concluding remarks, Marin-Garcia (2021) supported transparency, accessibility, and replicable science.

Summary of Articles in the HR Category

All of the authors who have written articles on EBMgt in the HR area expressed the opinion that EBMgt could positively impact organizational performance. These findings were supported by studies that demonstrated the value of HR analytical data in managerial decision-making. Despite the increasing use of EBMgt in HR departments, they were slow to adopt evidence-based human resources management within the organization (Cassar et al., 2018).

Recent Literature on the Use of EBMgt in Business Management

Only 13 articles were classified as studies in the business sector. Martelli and Hayirli (2018) argued that efforts to implement EBMgt have reached a dead-end. Contemporary frameworks have faced challenges as a result of the persistence of meaningful critiques. New conceptual paths would be needed in the field that acknowledged and moved beyond these criticisms (Martelli & Hayirli, 2018). EBMgt has remained a crucial concept in all definitions of the term, and the researchers attempted to define the idea of finding the best available evidence. The authors examined the relevant theory and offered recommendations for each element, culminating with a conversation about the three fundamental dynamics: rank, fit, and variety. According to cybernetic theory, variety rather than rank or fit produces the best evidence

in a specific field. EBMgt could capture various contextual, institutional, and political aspects in management decision-making. However, systematic reviews and practical barriers could not resolve underlying sociopolitical issues without more rigorous research and more extensive catalogs of contingencies (Martelli & Hayirli, 2018). Martelli and Hayirli's (2018) paper offered a unique perspective on EBMgt, which may have helped resolve the impasse between supporters and opponents of EBMgt by introducing the theoretical frame of variety.

De Graaf (2019) suggested in his article that since the financial crisis of 2008, business and economics professionals' roles and ethics have been called into question. The concept of craftsmanship has been suggested to reorient the industry. De Graaf's (2019) article discussed business ethics and behavioral theory about professional practices. For a behavioral theory to be of practical relevance, scholars must have a strategy for dealing with normative questions. Researchers in business ethics may benefit from learning about how professionals make decisions based on evidence from EBMgt, a recent behavioral approach. Ethical issues influenced a professional's decision-making process at critical moments. In gathering and evaluating evidence, reflective practitioners developed insights regarding ethical concerns (de Graaf, 2019).

A study of evidence-based practice in office buildings conducted by Criado-Perez et al. (2020b) examined the sources of evidence that shape decisions made by office building designers and developers. In the mixed-methods study, 187 senior building designers and developers were surveyed, and 18 interviewees participated in the survey to assess practitioners' understanding of EBP and the adoption of different evidence sources. The study revealed that practitioners and academics differed in their knowledge of EBPs. For instance, barriers to EBP in the workplace, managers' learning goals, and work environment norms play an essential role in

the industry. The researchers concluded that the sector requires EBP for individuals, organizations, and industries (Criado-Perez et al., 2020b).

A second article by Criado-Perez et al. (2020a) argued that EBMgt is a valuable tool for making better decisions amid the deluge of information available today. EBMgt's enablers, especially those at the organizational level, are little understood. Criado-Perez et al. (2020a) identified factors that might facilitate the implementation of EBMgt based on absorptive capacity literature. Meta-analyses were used to determine whether there was a correlation between antecedents and absorptive capacity in the empirical literature. The authors identified several organizational-level enablers of EBMgt, including the ability to implement information systems, leadership, availability of resources, and collaboration. Employee empowerment, motivation to learn, and prior related knowledge are some of the enablers on an individual level. Criado-Perez et al. (2020a) suggested a research agenda on EBMgt, made recommendations for practitioners, and illustrated the importance of organizational-level enablers for EBMgt.

According to popular performance management books, such as *In Search of Excellence* (Peters & Waterman, 1982), *Built to Last* (Collins & Porras, 1994), and *Good to Great* (Collins, 2001), academics and managers are interested in identifying the factors that create and sustain high organizational performance. According to de Waal and de Haas (2018), researchers should evaluate whether organizations that implement specific high-performance organization (HPO) frameworks or methods succeed in strengthening their organizations and improving performance for a sustained period through the application of an EBMgt approach. Using corporate reports to create organizational event histories, the researchers examined the rhythms of change between 1995 and 2004 in European insurance companies. The researchers used the nonparametric Mann-Whitney test to evaluate 35 attributes from which six distinguishing features of HPOs emerged:

(1) leadership excellence, (2) accessibility, (3) result orientation, (4) protracted orientation, (5) continuous improvement, and (6) staff renewal. Competitive performance and the six HPO factors have a natural and favorable relationship in HPO research. To become an HPO, an organization needs to improve in the areas suggested by de Waal and de Haas (2018).

Lupova-Henry et al. (2021) distilled a literature review's findings to develop a developmental business model. The stakeholders and their functions, assets, administration, service offerings, and valuation activities were the business model components that the authors' found through their systematic review. Lupova-Henry et al. (2021) recommended utilizing these variables as inputs to the innovative design process instead of a set of rules or predefined procedures in keeping with the design-science procedure (Lupova-Henry et al., 2021).

Airport operations are complex. Regional airports can overcome many challenges by combining operational knowledge with advanced data analytics and stakeholder engagement. In the case study of Viggo Eindhoven Airport, Melissen and Jochems (2020) examined the airport's continuous improvement process to integrate passenger- and fleet-driven processes with high-quality ground services. Due to Viggo Eindhoven Airport's multi-peaks in arriving and departing flights, airport employees had to be multi-skilled to handle the waves of labor demand. To maximize the benefits of multiskilling, the airport’s staff identified additional tasks the staff could take over from other airport service providers or existing duties or functions that could be combined to reduce downtime due to synergy benefits. Through collaboration between the airport’s business development and support team and various departments within the line organization, unnecessarily tricky processes could be optimized. Melissen and Jochems (2020) described that data was the ultimate medium to validate ideas that enabled staff to make well-

informed decisions and thereby required evidence on which to base every change in the system at the airport (Melissen & Jochems 2020).

Pradhan and Jackson (2021) argued that over the past several decades, sports management organizations have become increasingly dependent on understanding how to align and adapt their framing strategies for individual and organizational success. Historically, when studying the organizational dynamics of sports organizations from an economic perspective, the above dynamics had centered on three key issues (Pradhan & Jackson, 2021). The authors contended that semi-monopolizations' role in salary caps, regulations, and their effects on sports team organizations had become an important issue in the business. Secondly, it was essential to find out which forms of change could reinforce or dramatically usurp previous performance patterns by building shifts or continuity in player talent and performance. Finally, the baseball manager's use of data and decision-making patterns illustrated how data and predictive analytics could address the escalation of commitment issues (Pradhan & Jackson, 2021).

Hak and Sanders (2018) argued that the adaptation of principled negotiation in organizations was like the adaptation of EBMgt because cognitive biases and cultural values play a more significant role than specific and conscious choices within the negotiation style. Organizations must be willing to adopt principled negotiation and EBMgt to innovate. These ideas have inevitably meet with resistance when they are introduced. The analysis of principled negotiation provides an alternative means of adapting principled negotiation within organizations and enables an understanding of how cognitive biases and cultural values could affect this approach (Hak & Sanders, 2018). According to the authors, researchers were encouraged to use evidence-based and principled negotiations to conduct research. Organizations and decision-makers within organizations could benefit from the analysis presented in the

authors' paper. Hak & Sanders (2018) suggested that companies and parties benefit more from considering cognitive biases, cultural values, and choices made in the first offer during negotiations.

Jackson and Leung's (2018) study examined how managers could create more flexible organizations through EBMgt. According to the article, companies need to build this capacity around ambidexterity, which means continuing operations while allowing innovation. Organizations could learn ambidexterity in non-regulated, non-compliance environments by following a framework used in highly regulated, compliance-driven industries (Jackson & Leung, 2018). Different leadership and organizational considerations were addressed in each of the four organizational design strategies identified in this article. EBMgt practices about competency building (exploitation), innovation, and an equal balance between the two (ambidexterity) could be analyzed. A lifecycle, change management strategy, data practice, and bias awareness were four strategies managers could use to expose their current decision-making biases. Although EBMgt acknowledges that evidence should be utilized, it does not go far enough toward understanding how it could have help organizations achieve ambidexterity (Jackson & Leung, 2018).

The role of EBMgt in the investment industry was explained in Rubenfeld's (2018) article. The author argued that a horse-drawn carriage is a corporate equivalent of making decisions based solely on prior experience or instinct. The modern world is more interested in accurate data than ever. As a result, firms are willing to invest resources in data accuracy and better decision-making. In the investment industry, the author noted that EBMgt allows firms to use data to make better investment decisions and that EBMgt is a way to gain insights into the efficiency of investment operations. The EBMgt approach allows suboptimal processes to be

identified at a more advanced level and measured as the process is changed until an optimal process is established and operated consistently (Rubenfeld, 2018).

Research shows that processes scientifically proven to increase the odds of success are vital to making good organizational decisions (Rousseau, 2018). The literature has suggested that about half of managerial decisions do not achieve their objectives, which indicates a need for improved approaches to informed decision-making in organizations. Managers get caught up in this failure by rushing to judgment, imposing their preferred solutions, ignoring uncertainty, downplaying risks, and discouraging alternative approaches (Rousseau, 2018). The author contended that several EBPs could offset human judgment and bias limitations. Increasing the repertoire of decision processes in organizations, Rousseau (2018) argued, can increase agility and knowledge in an uncertain world.

Siponen and Baskerville (2018) argued that there is a high value placed on new theory contributions in information systems security (ISS) research. Researchers typically follow this formula: Introduce a fresh set of constructs of information systems and demonstrate empirical support for it, then introduce another new approach (or a group of constructs with some linkages) and confirm empirical support for it, and so on (Siponen & Baskerville, 2018). However, many critical scientific aspects have been overlooked by this approach despite its merits. Moreover, no one has yet demonstrated that their best research or unique theoretical contributions could outperform industry best practices or practitioner intuition (Siponen & Baskerville, 2018). The authors recommended examining ISS research from the perspective of long-term research programs consisting of four levels: (1) metalevel research, (2) primary research, (3) applied research, and (4) postintervention research. Ultimately, the achievement of these studies did not depend on new theories but on which program proved to be the most effective in addressing ISS

problems (Siponen & Baskerville, 2018). A critical obstacle to the practical relevance of ISS research was the lack of evidence of effective interventions (e.g., treatment effect rates). In the absence of such data, ISS research could not determine best practices or override folklore and fads that often-influenced operations. Applying EBPs may have been more ethical when treatment effect rates were so high (Siponen & Baskerville, 2018).

In the last article in this category, Kulikowski (2021) proposed an evidence-based benchmarking model to bridge benchmarking practices with EBMgt principles. This article was summarized in the section regarding EBMgt and quality management systems.

Summary of Articles in the Business Management Category

Based on the 13 articles in this category, aspects of EBMgt could be used in decision-making, whether in airport operations, professional sports operations, architecture, or other aspects of business management. The authors in this category advocated for adopting EBMgt to enhance managerial decision-making. None of these authors specifically described whether the six-step EBMgt method was applied, such as the systematic review of scientific journal articles and the analysis of the systematic review results.

Summary of Recent EBMgt Literature

The 46 articles in this review were selected from 3,466 records that included *evidence-based management* in a peer-reviewed, English-language journal published from January 1, 2018, to April 30, 2022. Five hundred fifty-five articles were filtered to determine if the phrase *evidence-based management* appeared five or fewer times, leaving 81 articles. After duplicate records were excluded, 46 articles were classified into five categories: (1) critiques/reviews (9%), (2) EBMgt used in public administration (11%), (3) EBMgt in managerial education (30%), (4) EBMgt in business (30%), and (5) EBMgt used in human resources (20%).

Kulikowski's article (2021) included all six terms (i.e., ask, acquire, appraise, aggregate, assess, and apply) representing the EBMgt process. Unfortunately, it cannot be determined from the literature over the past five years that the EBMgt six-step process was followed in any public administration, education, human resource, or business study.

Doctoral Dissertations

From 2017 to mid-2022, 37 doctoral dissertations in the English language that contain the term *evidence-based management* in the title or abstract are listed in ProQuest Dissertations & Theses Global database. The topics of the dissertations included healthcare (n=11), environmental studies (n=8), education (n=2), and business and law (n=16). Sixty-one percent of the dissertations in the areas of education business and law (n=11) referred in the study's abstract to using the EBMgt approach of the systematic review to address dissertation research questions. The remaining dissertations addressed a particular aspect of EBMgt. For example, Young (2022) conducted a case study to explore the engagement between federal leaders to implement EBMgt frameworks to inform the best strategic decisions. His research provided a value proposition for how to nudge people in an organization to make decisions when supported by the best evidence (Young, 2022). In another instance, Cruz (2022), using a systematic review to conduct a thematic synthesis of 29 critically appraised studies, explored factors that influenced practitioners' use of academic research evidence in management decision-making. Using a mixed-methods experimental design approach, Villanueva (2019) assessed whether training modules focused on three core competencies that increase success in evidence-based practice. His research revealed the importance of understanding and leveraging the entire organizational system (e.g., training and culture) to best support EBPs among individual practitioners (Villanueva, 2019). In another case study, Caruso (2018) determined that budget analysts use scientific evidence only when the

evidence conforms to the organizational context. She concluded that decision-makers could engage in information analysis in public budgeting and that knowledge could improve public budgeting practice and management (Caruso, 2018). Over 60% of the dissertations retrieved when searching for EBMgt in their title or abstract used the systematic review approach. The systematic review is foundational to EBMgt, and the importance of practitioners in learning EBMgt methods was the focus of the articles in this classification.

Theoretical Frameworks Considered

Studies have investigated the use of EBMgt through different theoretical approaches, including social cognitive theory, cognitive flexibility theory, cognitive load theory, and cognitive apprenticeship theory (Ramis et al., 2019; Rousseau & Gunia, 2016). However, conclusions suggested that their studies could not determine influential theories for developing and supporting EBP capability, and thus additional rigorous research was required (Ramis et al., 2019). Among the several theories regarding behavioral change, the theory of reasoned actions (TRA; Fishbein & Ajzen, 2009) and TPB (Ajzen & Madden, 1986; Bosnjak et al., 2020) have been the most popular. Ajzen established TPB as an extension of TRA. TRA consisted of two attitudes and subjective norm constructs to predict the ultimate dependent variable, intention. Ajzen later added a third construct of perceived behavioral control and named his theory TPB. Ajzen's (1991) article on TPB has generated over 60,000 citations to date (Tornikoski & Maalaoui, 2019), making it among the most applied theories in the social and behavioral sciences (Bosnjak et al., 2020).

Ajzen (1991) contended that TRA and TPB could predict an individual's intention to perform a particular behavior, which indicates the willingness or readiness to engage in that behavior (Ajzen, 1991). Ajzen (1991) and Doll and Ajzen (1992) suggested that specific human

behavior was determined by an intention that reflected an attitude toward the behavior and subjective norm under volitional control. Untaru et al. (2016) reframed TRA, adding that an individual would make a conscious personal choice rather than following external forces during the decision-making process.

TRB was the chosen theoretical framework to evaluate the relationship between attitudes, social norms, and perceived barriers to using EBMgt for the study conducted by Barends et al. (2017) to predict international managerial attitudes and perceived barriers regarding EBP. Also, Guo et al. (2017) investigated what influences the behavior of U.S. healthcare administrators, revealing that attitude was the strongest predictor of their intention to use EBMgt. The next chapter presents the methodologies used by Guo et al. (2015), which were adapted to survey municipal leaders' intentions to use EBMgt.

Evidence-Based Survey Instruments Considered

A widely administered survey is the evidence-based practice attitude scale, designed by Aarons (Rye et al., 2019). This survey was initially used to assess mental health nurses' attitudes toward EBP. Upton and Upton (2014) designed the evidence-based practice questionnaire used by McCune (2021) to measure attitudes concerning EBPs among perinatal nurses. McCune's (2021) research design identified relationships between the nurses' age, years of clinical experience, and level of education, and attitudes in supporting EBP. However, while providing a basis for assessing attitudes, the survey instrument did not adequately provide a robust basis to assess the perceived barriers to and facilitators of using EBMgt.

I also considered Barends et al.'s (2017) survey instrument. This survey was intended to compare attitudes and perceived barriers to EBP of managers to those of physicians and nurses. Their survey was adapted from two well-established surveys used in medicine and nursing with

sound psychometric properties for examining attitudes and barriers related to EBP (Shaneyfelt et al., 2006). Guo's (2015) study measured the attitudes, perceived barriers, and facilitators of adopting EBMgt among U.S. healthcare administrators. Ultimately, I determined that the survey instrument Guo (2015) used would be the most effective instrument to answer this dissertation's research questions. I received permission to adapt the Guo (2015) survey. Both McCune (2021) and Guo (2015) quantitatively analyzed their survey data using descriptive and inferential statistics.

Quality Management Systems and EBMgt

EBMgt is one of a family of practices in the evidence-based movement and is defined again here:

> Evidence-based management is about making decisions through the conscientious, explicit, and judicious use of the best available evidence from multiple sources:
>
> Asking: translating a practical issue or problem into an answerable question.
>
> Acquiring: systematically searching for and retrieving the evidence.
>
> Appraising: critically judging the trustworthiness and relevance of the evidence.
>
> Aggregating: weighing and pulling together the evidence.
>
> Applying: incorporating the evidence into the decision-making process.
>
> Assessing: evaluating the outcome of the decision taken to increase the likelihood of a favorable outcome (Barends & Rousseau, 2018, p. 2).

Well before EBMgt became a movement and a set of practices dating back to Rousseau (2006) through the articulated definition above from Barends and Rousseau (2018), quality experts identified the information needed to make a particular decision. Only then did they formulate specific questions that, when answered, provided the decision (Juran & Godfrey, 1951). According to Tort-Martorell et al. (2011), making decisions is the core activity of management. Managers should not make decisions based on gut feelings or intuition. Most scholars have agreed that intuition or personal experience may, at best, complement the best and most relevant information available to decision-makers. However, even the most relevant and available information may fall short of providing the information to make a business decision with total certainty. Thus, making decisions based on facts has always been one of the principal trademarks of quality management systems (Tort-Martorell et al., (2011).

Collectively, fact-based decision-making, evidence-informed decision-making, evidence-based practices, management by fact, evidence-based decision-making, and evidence-based management are central components of the three most prominent quality management systems. For instance, the principles of customer focus, leadership, engagement of people, process approach, improvement, evidence-based decision-making, and relationship management represent the seven principles of ISO 9001:2015 (International Organization of Standardization [ISO], 2015, p.7). The European Foundation for Quality Management (EFQM) recognized the need to collect and analyze feedback to improve or change products, services, or solutions (EFQM, 2021). The Malcolm Baldridge model considers management by fact as a core concept to measure and analyze an organization's performance internally and in the competitive environment (NIST, 2021). As evidenced here and previously mentioned, the quality movement promoted similar concepts under several terms and definitions.

Gathering External and Internal Evidence

The most direct means to obtain data may be from external sources such as scientific journals. However, practitioners have argued that external data may be complex for business managers to find or apply to their organization (Kulikowski, 2021; Tort-Martorell et al., 2011). Therefore, Tort-Martorell et al. (2011) argued that companies should look internally for data. The authors suggested collecting this data from the organizations' operations and analyzing it in a rigorous scientific manner to answer managerial questions. The authors added that this data might be the only source of true competitiveness. This method, they argued, increases organizational knowledge, which may lead to new questions establishing a cycle of learning (Tort-Martorell et al., 2011).

The research conducted by Tort-Martorell et al. (2011) investigated what hinders the use of EBMgt in business. Its authors have observed difficulties in generating scientific managerial evidence for general use that applies to various organizations. Organizations may hire consultants to provide external expertise to solve business problems. Tort-Martorell et al. (2011) contended that some external consultants need to offer new managerial fads to organizations to maintain their consultant revenues. Tort-Martorell et al. (2011) concluded that EBMgt is about making decisions based on scientific evidence to minimize the number of bad decisions. Given their view that the adoption of external evidence is highly complex, the more straightforward approach may be to develop internal data or evidence through a combination of observational and experimental studies to generate internal data.

History of Benchmarking

There are relationships between EBMgt and benchmarking, but first, an understanding of benchmarking is in order. A brief history of benchmarking noted that benchmarking was

probably invented at Xerox when Robert Camp and his group went to Japan in 1979 to study the operations at a Xerox affiliate—Fuji-Xerox (Camp, 1993). Xerox's benchmarking process had ten steps, with the first five steps being the most important. Camp suggested that these first five steps include: (1) determining what to benchmark, (2) determining whom to benchmark against, (3) exercising all the data sources that will help do this kind of work, (4) analyzing the gap between what one does and what the sum of the practices would say one should do, and (5) revising internal performance measurements and goals (Camp, 1993). From Xerox, the practice spread to other manufacturing giants, such as Motorola and du Pont, in the 1980s and, by 1990, to the healthcare sector (Camp, 1993). Benchmarking, as defined by Tort-Martorell et al. (2011), means studying another company's best practices for running a process and trying to apply them in one's organization. Tort-Martorell et al. (2011) believed that it was challenging to apply the practices of one company to another due to the complexities of organizations and the variability of human behavior. Practitioners who wish to use external EBMgt face enormous challenges in creation and dissemination (Tort-Martorell et al., 2011). The simple act of uncovering best practices and the ability to identify three or more companies that have implemented those practices has made benchmarking the change agent (Camp, 1993) that is still practiced today.

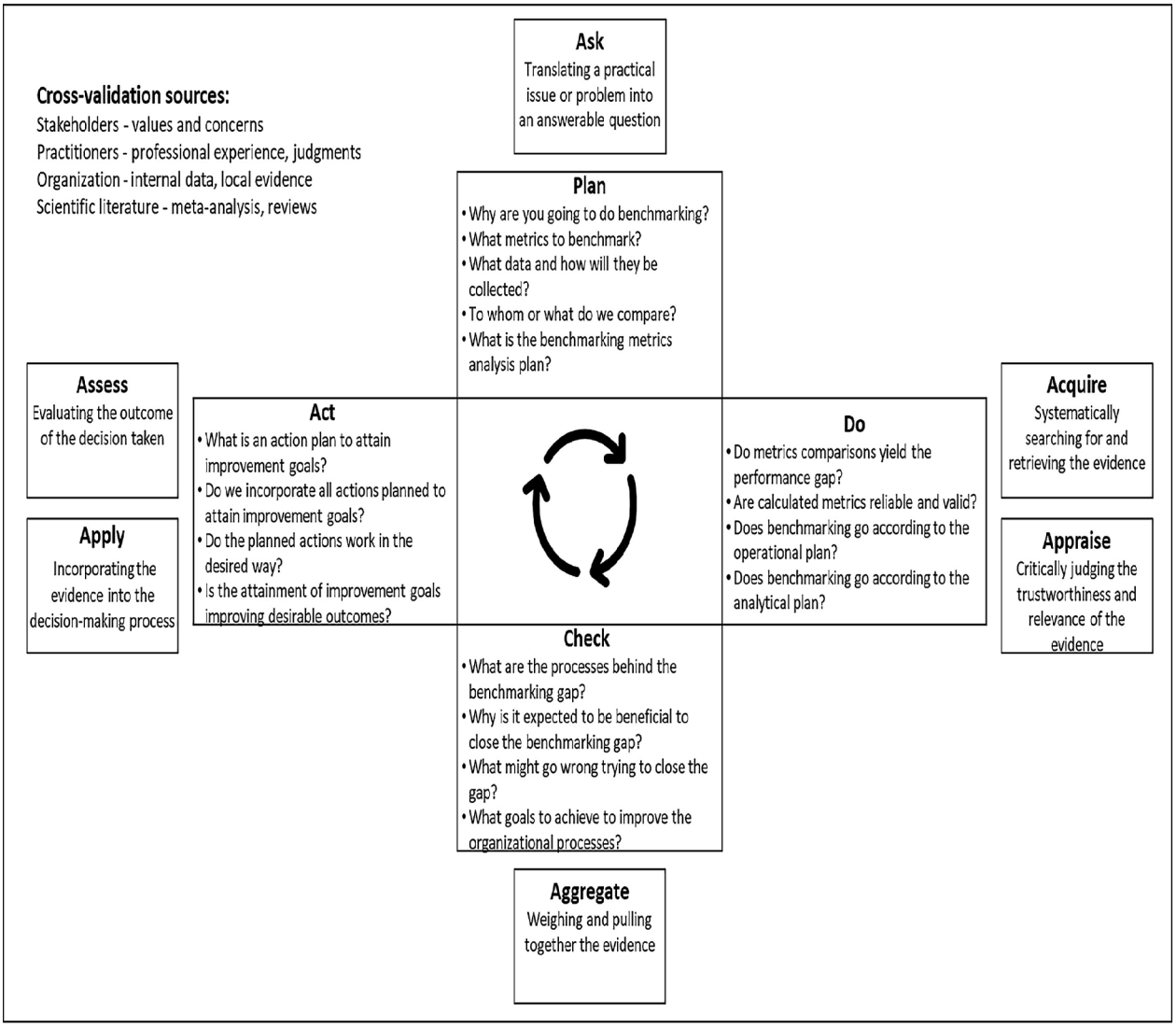
Improving Benchmarking with EBMgt

While benchmarking was believed by Tort-Martorell et al. (2011) to be in slow decline a decade ago, the practice has been re-examined within the EBMgt movement. For instance, Kulikowski (2021) demonstrated how EBMgt could enhance benchmarking. Kulikowski (2021) proposed an evidence-based benchmarking model in his conceptual paper, which aimed to bridge benchmarking practices with EBMgt principles. The model also was anticipated to minimize the difference between the opposing viewpoints on benchmarking as a beneficial management

practice and management hype. Kulikowski's empirical research disciplines of benchmarking and EBMgt were critically analyzed, integrated, and compared in his study. By combining benchmarking actions with EBMgt principles, Kulikowski (2021) demonstrated how benchmarking events complemented by EBMgt principles may improve managerial decision-making. Most contemporary benchmarking procedures follow a standard benchmarking model that involve four phases: plan, do, check, and act (PDCA). For example, Kulikowski (2021) integrated EBMgt practices using four sources of evidence and a six-step critical thinking process to develop an evidence-based benchmarking model (see Figure 5). Kulikowski (2021) proposed a novel framework for benchmarking and EBMgt that brought together practices that had been incompatible so far. Kulikowski (2021) contended that the evidence-based benchmarking model might improve the contemporary understanding of benchmarking practices by clarifying conceptual confusion around casual benchmarking. He added that it might be possible to improve business performance by using evidence-based benchmarks as a practical, heuristic tool (Kulikowski, 2021).

Figure 5

An Evidence-Based Benchmarking Model Integrating Evidence-Based Management Practices



Note. From "The model of evidence-based benchmarking: A more robust approach to benchmarking," by K. Kulikowski, 2021, *Benchmarking: An International Journal*, *28*(2), p. 726 (https://doi.org/10.1108/BIJ-04-2020-0175). Copyright 2021 by Informa UK Limited, trading as Taylor & Francis Group. Reprinted with permission.

Conclusion for Chapter 2

In this literature review, I provided a brief historical context for improving policy and program performance in the federal government stemming from Carol Weiss's 1962 seminal study on juvenile delinquency programs. Weiss observed that evaluators and policymakers should use ideas and generalizations from research and evaluation reports (Weiss, 1987). Various federal government programs and regulations moved in that direction. Specifically, the most recent federal regulation covering scientific research in federal managers' decision-making is the Foundations for Evidence-Based Policymaking Act of 2018.

The history of EBMgt was discussed, describing that EBP was traced from the early 1990s as a strategy used in the medical field to systematically use evidence to support decision-making about the care of individual patients (Sackett et al., 1996). The discussion also explained how the seminal authors Tanfield, Denyer, Smart, Pfeffer, Sutton, Rousseau, Briner, Rynes, and Barends refined the management approach known today as EBMgt. Next, the method for review of the recent literature on EBMgt revealed 46 articles published since 2018 in English scholarly journals. Then I classified these 46 articles in the review of recent EBMgt using the protocols by Rynes and Bartunek (2017), followed by a review of recent doctoral dissertations on EBMgt. The search undertaken in five databases for peer-reviewed articles on EBMgt could not identify a single study to understand better the attitudes, perceived barriers, and facilitators to adopting EBMgt among public sector decision-makers or U.S. municipal leaders. However, the review of recent literature uncovered the norm of evidence and research in the decision-making scale (Hall & Van Ryzin, 2018), which I evaluated as a possible survey instrument to answer the research questions in the study.

The literature review then addressed the theoretical frameworks considered in this research. The rationale for choosing the theory of planned behavior (TPB), the most applied theory in social and behavioral science (Bosnjak et al., 2020), was explained. Recent studies applied TPB to predict the attitudes and perceived barriers regarding EBP among U.S. healthcare administrators (Guo, 2015), prenatal nurses (McCune, 2021), and international managers (Barends et al., 2017). The chapter concluded with a brief discussion of EBMgt as a core component in three prominent quality management systems—the ISO 9001:2015, the EFQM, and the MBNQA. As a quality tool, EBMgt is widely understood as a process for making decisions based on facts which remains a principal trademark of quality management systems (Tort-Martorell et al., (2011). Recent research by Kulikowski (2021) was highlighted to demonstrate how evidence-based benchmarking may improve a decades-long practice to improve organizational performance.

Chapter 3. Methodology

Overview

The purpose of this study was to determine which attitudes, perceived barriers, and facilitators (Guo, 2018) impact U.S. municipal leaders' intention to use evidence-based management. The study also examined whether select demographic variables, such as generation, education, years of experience, experience with EBMgt, and municipality size, affect the intention to use EBMgt. Therefore, a survey design was employed to generalize quantitatively from a sample to a population the trends, attitudes, or opinions of that population (Creswell, 2014).

Ethical Considerations

Regardless of the research approach contemplated—quantitative, qualitative, or mixed methods, the Institutional Review Board (IRB) at one's institution reviews research plans to comply with federal requirements regarding research of human subjects. The National Research Act and the Belmont Report describe the three principles to which all researchers who conduct studies that involve human subjects must adhere. These principles include respect for persons, beneficence, and justice (National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research, 1978). As this study involved human subjects, I obtained approval from the IRB at Cambridge College. I registered for the Human Subjects Research Certificate Program through the Collaborative Institutional Training Initiative. I deemed the risk of harm to study participants to be very low. Strict adherence to all Cambridge College guidelines ensured that research subjects were handled in an ethical manner and informed about the study's intent before proceeding to the online survey. The remainder of this section describes the ethical considerations that were included in the design of the research study.

Researchers must ensure self-determination, protection of human subjects with diminished autonomy, and full disclosure through informed consent (Brown & Hale, 2014). Creswell (2014) wrote that full disclosure is ensured by including the following information in the informed consent form: (1) identification of the researcher, (2) identification of the sponsoring institution, (3) identification of the purpose of the study, (4) identification of the benefits of participating, (5) identification of the level and type of participant involvement, (6) notation of risks to the participant, (7) a guarantee of confidentiality to the participant, (8) assurance that the participant can withdraw at any time, and (9) provision of the names of persons to contact if questions arise (Creswell, 2014). Participants were informed about the study's intent before proceeding with the survey. Voluntariness was one element of informed consent requiring that participants are not coerced, threatened, or unduly influenced to participate in research studies. Each participant was instructed that participation in the survey was optional, and that participants were able to withdraw at any time. Participants were required to consent before continuing the survey. The consent statement appeared on the opening page of the survey. The participants were asked to certify if they met the three eligibility criteria of the survey. The survey software was programmed to prevent participants who did not meet the eligibility criteria from taking the survey. Appendix C contains the informed consent text that was displayed to the potential participants.

Qualtrics® is a web platform for creating and distributing online surveys and the software selected for this study. Security features in the software ensured that confidentiality was maintained. I removed any individual identification information with an internet protocol (IP) address. Thus, no sensitive information about the participant was collected. My email address

was available on the consent form for the participant during the survey should they have wished to contact me about the study.

I deleted data generated once it was downloaded. This ensured an additional level to protect the identity of the participants. Several measures, such as identifiers to replace email addresses, protected the anonymity of respondents. Survey results were downloaded to a flash drive and files on internal hard drives were deleted. The flash drive is secured for three years, and then will be destroyed. I will ensure participants' confidentiality by referring to study respondents as group results if shared in scholarly articles and presentations. No compensation was given to survey participants.

Organization of the Remainder of the Chapter

The remainder of the chapter includes the dissertation's research questions. Next, sections on the research design and the research approach are presented. Then, an overview of the quality management model is described. The chapter concludes with a discussion of the population and sample, selection of participants, research instrument, procedures, data collection, data analysis, and reliability and validity of the selected research instrument.

Research Questions

Five research questions and associated hypotheses guided this study.

Research Question 1: Which attitudes have a statistically significant effect on U.S. municipal leaders' intention to use EBMgt?

H_o1: A municipal leader's attitude concerning the importance of integrating the best available evidence into the municipal management decision-making process does not affect their intention to use EBMgt.

H_a1: A municipal leader's attitude concerning the importance of integrating the best available evidence into the municipal management decision-making process does affect their intention to use EBMgt.

H_o2: A municipal leader's attitude concerning the use of EBMgt to increase the quality of municipal management decisions does not affect their intention to use EBMgt.

H_a2: A municipal leader's attitude concerning the use of EBMgt to increase the quality of municipal management decisions does affect their intention to use EBMgt.

H_o3: A municipal leader's level of support concerning the use of EBMgt in municipal management does not affect their intention to use EBMgt.

H_a3: A municipal leader's level of support concerning the use of EBMgt in municipal management does affect their intention to use EBMgt.

H_o4: A municipal leader's attitude concerning the use of EBMgt in municipal decision-making to improve organizational performance does not affect their intention to use EBMgt.

H_a4: A municipal leader's attitude concerning the use of EBMgt in municipal decision-making to improve organizational performance affects their intention to use EBMgt.

Research Question 2: Which barriers have a statistically significant effect on U.S. municipal leaders' intention to use EBMgt?

H_o1: A lack of interest does not affect municipal leaders' intention to use EBMgt.

H_a1: A lack of interest does affect municipal leaders' intention to use EBMgt.

H_o2: A lack of skills in appraising the quality of evidence does not affect municipal leaders' intention to use EBMgt.

H_a2: A lack of skills in appraising the quality of evidence affects municipal leaders' intention to use EBMgt.

H_o3: A lack of strong research evidence to support the use of EBMgt does not affect municipal leaders' intention to use EBMgt.

H_a3: A lack of strong research evidence to support the use of EBMgt affects municipal leaders' intention to use EBMgt.

H_o4: A lack of time does not affect municipal leaders' intention to use EBMgt.

H_a4: A lack of time affects municipal leaders' intention to use EBMgt.

H_o5: A lack of training opportunities does not affect municipal leaders' intention to use EBMgt

H_a5: A lack of training opportunities affects municipal leaders' intention to use EBMgt

H_o6: Unfamiliarity with EBMgt does not affect municipal leaders' intention to use EBMgt.

H_a6: Unfamiliarity with EBMgt affects municipal leaders' intention to use EBMgt.

H_o7: A lack of skills in searching the literature does not affect municipal leaders' intention to use EBMgt.

H_a7: A lack of skills in searching the literature affects municipal leaders' intention to use EBMgt.

Research Question 3: Which facilitators have a statistically significant effect on U.S. municipal leaders' intention to use EBMgt?

H_o1: The availability of access to journals and databases does not affect municipal leaders' intention to use EBMgt.

H_a1: The availability of access to journals and databases does affect municipal leaders' intention to use EBMgt.

H_o2: The availability of EBMgt training programs does not affect municipal leaders' intention to use EBMgt.

H_a2: The availability of EBMgt training programs does affect municipal leaders' intention to use EBMgt.

H_o3: The availability of organization support does not affect municipal leaders' intention to use EBMgt.

H_a3: The availability of organizational support does affect municipal leaders' intention to use EBMgt.

H_o4: Creating a culture of practicing EBMgt does not affect municipal leaders' intention to use EBMgt.

H_a4: Creating a culture of practicing EBMgt does affect municipal leaders' intention to use EBMgt.

H_o5: EBMgt promotion by professional associations does not affect municipal leaders' intention to use EBMgt.

H_a5: EBMgt promotion by professional associations does affect municipal leaders' intention to use EBMgt.

Research Question 4: To what extent does U.S. municipal leaders' attitude toward using EBMgt differ within select demographic variables (i.e., generation, education, public administration experience, and municipality size)?

H_o1: U.S. municipal leaders' attitude toward using EBMgt does not differ within the generation variable.

H_a1: U.S. municipal leaders' attitude toward using EBMgt differs within the generation variable.

H_o2: U.S. municipal leaders' attitude toward using EBMgt does not differ within the education variable.

H_a2: U.S. municipal leaders' attitude toward using EBMgt differs within the education variable.

H_o3: U.S. municipal leaders' attitude toward using EBMgt does not differ with the years of public administration experience variable.

H_a3: U.S. municipal leaders' attitude toward using EBMgt differs within the years of public administration experience variable.

H_o4: U.S. municipal leaders' attitude toward using EBMgt does not differ within the municipality size variable.

H_a4: U.S. municipal leaders' attitude toward using EBMgt differs within the municipality size variable.

Research Question 5: To what extent does U.S. municipal leaders' intention to use EBMgt differ within select demographic variables (i.e., generation, education, public administration experience, and municipality size)?

H_o1: U.S. municipal leaders' intention to use EBMgt does not differ within the generation variable.

H_a1: U.S. municipal leaders' intention to use EBMgt differs within the generation variable.

H_o2: U.S. municipal leaders' intention to use EBMgt does not differ within the education variable.

H_a2: U.S. municipal leaders' intention to use EBMgt differs within the education variable.

H_o3: U.S. municipal leaders' intention to use EBMgt does not differ within the public administration experience variable.

H_a3: U.S. municipal leaders' intention to use EBMgt differs within the public administration experience variable.

H_o4: U.S. municipal leaders' intention to use EBMgt does not differ within the municipality size variable.

H_a4: U.S. municipal leaders' intention to use EBMgt differs within the municipality size variable.

Research Design

The overarching research methodological approach may be qualitative, quantitative, or mixed methods. It should align with the researcher's worldview. Quantitative research may be classified into two research designs: survey design and experimental design (Creswell, 2014). The rationale behind choosing the quantitative research methodology for this study is discussed later in Chapter 3. This section discusses the choice of a quantitative research design.

This study determined which attitudes, barriers, and facilitators (Guo, 2015) impact U.S. municipal leaders' intention to use EBMgt. The research also determined whether there were differences within select demographic variables regarding attitude toward using EBMgt and intention to use EBMgt. Therefore, a survey design was deemed the most appropriate research design because the researcher needs to measure the trends, attitudes, and opinions of a sample of

U.S. municipal leaders (Creswell, 2014). I used inferential statistics to generalize the sample findings to the study population.

It is also possible for a researcher to identify a sample and generalize the results to a larger population in an experiment (Creswell, 2014). However, the experimental design was not justified in this study. This researcher did not determine whether an intervention influences the outcome for a group randomly selected to receive an experimental treatment (Creswell, 2014).

Intention

Intention is a conscious plan to exert effort to carry out a behavior. Intention to use EBMgt was the dependent variable in this study for all the research questions except Research Question 4. Intention was a well-established construct that has been used as a dependent variable in many academic disciplines. The intention Likert scale variable had three items, each rated on a 5-point scale. The following three statements and associated scales, adapted from the survey by Guo (2015), were used to measure intention.

- I plan to use EBMgt for my management decision-making within the next six months. (scale from likely, somewhat likely, neither likely nor unlikely, somewhat unlikely, unlikely)
- I intend to adopt EBMgt in my organization in the near future. (scale from agree, somewhat agree, neither agree nor disagree, somewhat disagree, disagree)
- How likely will you use EBMgt to make decisions during the next six months? (scale from likely, somewhat likely, neither likely nor unlikely, somewhat unlikely, unlikely)

Attitude

Attitude refers to an individual's positive or negative thoughts regarding behavioral actions. Behavioral beliefs influence attitudes about consequences associated with carrying out the behavior and evaluating the outcome. To answer RQ1, *Which attitudes (Guo, 2015) have a statistically significant effect on U.S. municipal leaders' intention to use EBMgt?,* each of the four survey items on attitude served as the dependent variable, rated on a 5-point scale from agree, somewhat agree, neither agree nor disagree, somewhat disagree, or disagree. To answer RQ4, a Likert scale attitude variable comprising the average of four survey items served as the dependent variable. These four survey statements, adapted from Guo's (2015) survey, include:

- Integrating the best available evidence into the managerial decision-making process is important.
- Using EBMgt increases the quality of management decisions.
- I support the adoption of EBMgt in my organization.
- Using EBMgt in my decision-making will likely improve organizational performance.

Barriers

Barriers are circumstances, influences, or individuals that interfere with or inhibit evidence-based decision-making. To answer RQ2, *Which barriers (Guo, 2015) have a statistically significant effect on U.S. municipal leaders' intention to use EBMgt?,* respondents were requested to indicate their opinion on a 5-point scale from agree, somewhat agree, neutral, somewhat disagree, or disagree concerning each of the seven barriers (lack of interest, lack of skills in appraising the quality of evidence, lack of strong research evidence to support the use of EBMgt, lack of time, lack of training opportunities, unfamiliarity with EBMgt, and lack of skills

in searching the literature). Each of the seven barrier survey items served as an independent Likert-type scale variable.

Facilitators

Facilitators are circumstances, influences, or individuals contributing to applying evidence-based research in decision-making. To answer RQ3, Which facilitators have a statistically significant effect on U.S. municipal leaders' intention to use EBMgt? respondents indicated their opinion from agree, somewhat agree, neutral, somewhat disagree, or disagree on each of the five facilitators that may help them use EBMgt. The five facilitators, adapted from Guo's (2015) survey, included (1) access to EBMgt journals and databases, (2) availability of EBMgt training programs, (3) organization support, (4) a culture of practicing EBMgt, and (5) EBMgt promotion by professional associations. Each of the five facilitator survey items served as a Likert-type scale independent variable.

Demographic Variables

The demographic characteristics of the respondents allowed researchers to better understand to what extent these characteristics affected the relationship between the Likert scale attitude variable and the Likert scale intention to use EBMgt variable (Guo, 2015; McCune, 2021). The literature has suggested that past behavior may affect the strength of the relationship among various demographic variables and attitude and intention (Barends, 2017; Guo, 2015). To answer RQ4 and RQ5, information on these ordinal-scale variables was collected: generation, education, public administration experience, and municipality size. I used the Kruskal-Wallis test to identify whether differences exist in attitude toward using EBMgt or intention to use EBMgt across different select demographic characteristics (i.e., generation, education, public administration experience, and municipality size).

Overview of Research Approach Used in this Study

When considering a research approach, I considered which approach would most efficiently answer the research questions in this dissertation. Researchers must select among the qualitative, quantitative, or mixed-methods research approaches. The qualitative approach helps the researcher understand what variables to examine (Creswell, 2014). However, prior studies had identified variables that can affect a manager's intention to use EBMgt; therefore, qualitative data collection was unnecessary (Barends et al., 2017; see also Guo, 2015; Rademaker et al., 2020; Williams & Kogan, 2019). In qualitative studies, researchers gather detailed descriptions from interviewees or survey participants when employing open-ended questions (Roberts, 2010). The survey that was used in this study contains only closed-ended questions. The mixed methods approach is appropriate for researchers who find that neither quantitative nor qualitative is adequate to best answer the research questions (Creswell, 2014). The quantitative approach McCune (2021) and Guo (2015) used was sufficient to answer their research questions, providing further evidence that a mixed-method approach was not necessary for this research.

In Chapter 1, the researcher's post-positive worldview is established. This worldview is generally associated with the quantitative approach and allows the researcher to remain independent and objective (Black, 2005; Saunders et al., 2019). One characteristic of quantitative research is that it allows the researcher to remain detached and independent from the research respondents. Saunders et al. (2019) went on to note that the methods used to collect data are rigorously defined and highly structured, and the collection of results are expressed in numerical and standardized data. The quantitative approach allows for analysis using statistics and diagrams and resultant meanings derived from numbers (Saunders et al., 2019). Finally,

methodologists have suggested the quantitative approach was one method to answer questions about a phenomenon in an unbiased manner (Kuhn & Hacking, 2012).

In previous chapters, I discussed how the EBMgt methodology sought to reduce bias in decision-making. Most important to this study, I anticipated applying quantitative approaches to identify factors that influence an outcome and understand the best predictor of outcomes (Creswell, 2014; Saunders et al., 2019). Hence, the quantitative approach was appropriate for me to determine how attitudes, barriers, and facilitators influence the intention to use EBMgt. In addition, the approach was helpful to determine if there exist differences in attitude toward using EBMgt and in intention to use EBMgt across select demographic characteristics. The alignment of the researchers' post-positive worldview, the methods to reduce bias in the study, and the need to measure independent and dependent variables in the study provided a strong justification for the choice of the quantitative approach.

Overview of Quality Management Model Used

ISO 9000:2015 is a set of international quality management systems (QMS) standards that over one million organizations have adopted, making it one of the world's most widely used management tools (International Organization for Standardization, 2015). The standard is reviewed every five years. Since the standard was reviewed and confirmed in 2021, ISO 9000:2015 remains current (International Organization for Standardization, 2015). ISO 9001:2015 is one of the standards in the ISO 9000 series that is the most generic international standard to establish a quality management system in an organization (International Organization for Standardization, 2019). ISO 9001:2015 is considered by many as a management system standard. ISO 18091 is the first ISO standard for the government sector that provides guidelines for implementing ISO 9001in the local government (International Organization for

Standardization, 2019). ISO 9001:2015 has evolved into a risk-based standard. Some have considered identifying risks and opportunities as the most critical step in ISO 9000:2015 (Cochran, 2015). Cochran (2015) characterized ISO 9000:2015 as emphasizing change management. Change should be done after deliberate planning, where all pieces are in place ahead of time (Cochran, 2015). Whereas the EBMgt six-step process starts with translating a practical issue or problem into an answerable question (Rynes & Bartunek, 2017), the ISO 2009:2015 starts with organizational knowledge. The standard has also evolved so that top management, rather than a quality manager, leads the organizational QMS. Cochran (2015) noted that ISO 9001:2015 defines all components within an organizational process, such as inputs, outputs, criteria and methods, resources, responsibilities and authorities, risks and opportunities, evaluation, and improvement. Each of these processes is required to be documented. The requirements of ISO 9001:2015 involve seven elements: the organization's context, leadership, planning, support, operation, performance evaluation, and improvement (International Organization for Standardization, 2015).

Nearly any organization can apply the ISO 9000's quality management principles of customer focus, leadership, engagement of people, process approach, improvement, evidence-based decision-making, and relationship management (International Organization for Standardization, 2019). Evidence-based decision-making (EBDM) focuses on using evidence from research studies to decide how to manage businesses effectively. The EBDM approach helps identify what works and does not work by analyzing data and information collected through surveys, experiments, observations, and other research methods. EBDM improves transparency in corporate decisions and enables companies to develop strategies based on facts rather than assumptions (International Organization for Standardization, 2019).

Both EBDM and EBMgt could align with the capacity of the quality assurance manager to spearhead organizational improvement in the area of customer satisfaction, program evaluation, internal audit, and management review (International Organization for Standardization, 2019). ISO 9001:2015, Section 9 - Performance Evaluation is about monitoring and measuring information regarding external and internal issues with the organizational context, stakeholders' interests, QMS processes, quality objectives, conformity of products and services, the performance of external providers and their services, customer perceptions, and analysis and evaluation of appropriate data and information arising from monitoring and measurement (Cochran, 2015).

Unlike EBDM, the EBMgt process involves a rigorous six-step process that commences with forming an answerable question from a practical problem using four sources of evidence in the beginning of the performance evaluation process. In EBMgt, the quality manager systematically searches and retrieves evidence from practitioner expertise, internal organizational data, values, concerns of stakeholders, and scientific research. Internal quality auditors should critically judge the veracity and relevance of the data they review. They need to weigh the evidence they gather as it is incorporated into the decision-making process. The final phase of EBMgt suggests that the second evaluation of corrective measures is conducted to evaluate the outcome's success stemming from the performance evaluation.

Population and Sample

The study population was U.S. municipal leaders. This study defined U.S. municipal leaders as mayors, city managers, or city administrators. I paid GovSearch API™ a subscription fee for access to their database, which was believed to be the largest in this study population. The GovSearch API ™ database was accessed to obtain the email addresses of U.S. municipal

leaders identified in its job title field as mayor, city manager, or city administrator. GovSearch API ™ is a government contact data-delivery service that permits subscribers to access contact information across all government levels. The data on municipal leaders included the name, title, mailing and physical address, office telephone number, the position's telephone number, fax number, email address, office URL, office name, party affiliation, and other information. Since the database purported to be updated daily and was 100% human-verified directly with participating agencies (GovSearch API, 2022), selecting the GovSearch API database was anticipated to ensure the most accurate contact information available for this study. This study employed a convenience sample from the GovSearch API™ database population of approximately 16,500 U.S. municipal leaders. The U.S. Census Bureau reported estimates of the resident population for incorporated places (n = 19,502) in the United States (Statista, 2024). Slovin's formula for computing sample size states where N = total population, n = sample size, and e = margin of error at 5% (Ellen, 2024). This formula is represented by the following equation.

$$n = N / (1 + (Ne^2))$$

$$= 19{,}502/1 + 19{,}502\ (0.05)^2$$

$$n= 19{,}502\ /1 + 19{,}502\ (0.0025)$$

$$n = 19{,}502\ /1 + 48.75$$

$$n = 19{,}502\ /49.75$$

$$n = 392$$

Since a municipality could have more than one municipal leader, such as a mayor elected for a term and a city manager who may be a career public servant, I attempted to obtain one municipal leader from a minimum of 392 local governments. The database includes the contact

information of more than 16,500 municipal leaders. For this study, the database represents 85% of the total municipalities of incorporated places in the United States.

Selection of Participants

Non-probability sampling, also referred to as a convenience sample for its ease and accessibility of participants, was proposed for this study (Vogt et al., 2017) For instance, I accessed potential participants from a single database containing contact information. A non-probability convenience sample was appropriate due to the researcher's ability to easily download the contact information of more than 16,500 municipal leaders from the GovSearch API™ database. Once IRB approval was received, I analyzed the dataset to determine if all states are represented. I aimed to obtain 392 participants for an adequate sample size.

Instrumentation

The survey instrument is provided in Appendix B. Permission to adapt the survey from Guo is provided in Appendix C. The first question requested an affirmative response to consent to take the survey. The next three questions were eligibility questions to participate in the survey. The eligibility questions sought to confirm that the participant was at least 18 years of age; was a mayor, city manager, city administrator, commissioner, alderman or hold a leadership role in their municipality; and participated in the pilot test for the survey. Respondents indicating participation in the pilot test were not eligible to participate in the research study because having done the pilot test could have influenced their responses.

The next two questions were added to the survey in response to a recommendation by the SME. These two questions asked if the participate was aware of the concept of EBMgt and to check all the activities that EBMgt involves. Next, the participant was provided a definition of EBMgt used by the Center for Evidence Based Management. Then the participants were asked to

indicate the percentage of their major management decisions has been made using the EBMgt approach in the past six months. Participants were then requested to indicate the frequency with which they used 11 types of evidence.

The remainder of the survey contained seven questions and requested that participants indicate on a 5-point scale their beliefs (attitudes) and intentions towards the use of EBMgt. Then participants indicated on a 5-point scale their agreement with seven barriers that might hinder their use of EBMgt. The next question requesting that participants indicate on a 5-point scale their agreement with five facilitators that might increase their intention to use EBMgt. The remaining questions were about select demographics (i.e. full or part-time employment, generation group, education level, years of municipal administration experience, municipality size, and geographic work location).

Procedures

The Qualtrics® web-based software program was used to draft an evidence-based management online survey. Qualtrics® is a secure and reliable platform that researchers use to develop online surveys. The software includes functionality to export survey results to various statistical data analysis packages, such as SPSS or DataTab, for data analysis. The survey was administered over the Internet, and participants who chose to participate in the online survey made their responses within the Qualtrics® program.

I downloaded more than 16,500 emails of municipal leaders from the GovSearch API™ database subscription. It was anticipated that many email messages would be delivered to actual email addresses since GovSearch API™ stated that they verify each email address personally. Once I received IRB approval, I contacted municipal leaders via email.

As mentioned in the discussion on ethical considerations, each participant received an email about the purpose of the study along with a hyperlink to the survey. This message also stated that participation in the survey was voluntary. Withdrawing during the survey at any time, should they feel uncomfortable with answering the survey, was explicitly stated in the email message. The average time to take the survey was determined to take about 10 minutes based on having taken the survey several times. The software assured that their responses were submitted anonymously. Following the initial email request, a minimum of three reminder emails were sent to potential participants who had still not completed the survey. If 392 responses were not obtained, a final fourth attempt would have been made to those participants who had yet to respond.

Subject Matter Experts

SMEs were asked to examine the face validity of the questionnaire and if they believed the survey questions would allow the research questions to be answered. The SMEs were also asked if they had any suggestions to improve the data collection instrument or survey administration procedures. Six of the seven subject matter experts (SMEs) were selected from the scholars who have conducted seminal research in the field of EBMgt to evaluate the survey questions. I adapted Guo's survey instrument with her permission as evidenced in Appendix C. The SME instructions were provided in Appendix D.

Pilot Study

Guo's (2015) instrument was valid and reliable, and an adaptation of Guo's survey was proposed for this study. However, since a different population was surveyed and since the survey introduced a variable for municipality size, it was deemed beneficial to conduct pilot testing. The survey instrument, sent to six municipal leaders in Florida and Texas, sought qualitative

feedback from the pilot test participants. For instance, the pilot test participants were asked if questions or scales appeared unclear. They were also asked if they had trouble selecting from the provided choices. Also, the participants were asked if they had suggestions to improve the survey. The instructions to the participants in the pilot test were provided in Appendix E.

Data Collection

I used Qualtrics®, a web-based software program, to develop an EBMgt online survey. I sent 14,672 emails to municipal leaders using data provided by the GovSearch API™ database, a contact delivery service. The personal data were erased once downloaded from Qualtrics to ensure the privacy of each respondent. Respondents were given 15 days to complete the survey before receiving up to three automatic reminders to increase the response rate.

Data Analysis

Data analysis was performed using DataTab to conduct Spearman's Rho testing for RQs 1–3 and the Kruskal-Wallis test for RQ4 and RQ5. The percentage of missing data on a given variable is an ongoing concern in research studies (Pampaka et al., 2014). Only data from fully completed surveys were analyzed.

Cronbach's alpha reliability test was conducted to determine the internal consistency of the attitude toward EBMgt and intention to use EBMgt variables. The following criteria were applied to determine the acceptability of Cronbach's alpha measures for these Likert scale variables. Reliability coefficients were determined by applying the criterion in which $a \geq .9$ Excellent, $a \geq .8$ Good, $a \geq .7$ Acceptable, $a \geq .6$ Questionable, $a \geq .5$ Poor, $a \geq .5$ Unacceptable (George & Mallery, 2016 as cited in McKune, 2020).

Descriptive and inferential statistics were calculated to examine the trends in the data. Demographic factors were analyzed using frequencies and percentage tables. The research

questions were analyzed in two separate methods. Spearman's Rho had been used by Guo et al. (2018) to calculate the association between the Likert-type independent variables (attitudes, barriers, or facilitators) and the Likert scale dependent variable (intention), all of which had an ordinal level of measurement. Spearman's rank-order correlation is the nonparametric version of the Pearson's product-moment correlation (Laerd Statistics, 2018a). Whereas an assumption for Pearson's product-moment is that the data are continuous (Laerd Statistics, 2018b), Spearman's Rho is appropriate for ordinal data (Laerd Statistics, 2018c). Whereas Pearson's correlation determines the strength and direction of the linear relationship between the independent and dependent variables, Spearman's correlation coefficient (signified by r_s) measures the strength and direction of association between two ranked variables (Laerd Statistics, 2018c).

Statisticians have noted that the Spearman correlation coefficient, r_s, could result in values from +1 to -1. Table 2 illustrates how I classified the strength of the Spearman correlation coefficient.

Table 2

Classification of the Strength of Spearman Correlation

Amount of r	Strength of correlation
0.0 < 0.1	No correlation
0.1 < 0.3	Little correlation
0.3 < 0.5	Medium correlation
0.5 < 0.7	High correlation
0.7 < 1	Very high correlation

Note. From *Statistik, Eine Verständliche Einführung*, Kuckartz et al., 2013 as cited in *Statistics Made Easy: An Understandable Introduction*, (p. 213), Jesussek & Volk-Jesussek, 2023. Reprinted with permission.

Research Questions 4 and 5 were answered using the Kruskal-Wallis test. The Kruskal-Wallis test is a non-parametric alternative to One-Way ANOVA. I used it to check differences among more than 2 groups, where the data were found to be non-normal.

Validity and Reliability

The SME review described above was conducted to establish the validity of the survey instrument. Adjustments were made, as appropriate, depending on the responses by SMEs who responded to the request for the assessment of the questionnaire. It was anticipated that the survey's reliability would align with the results depicted in Table 3 of Cronbach's alpha analysis by Guo (2015); however, I conducted Cronbach's alpha testing on my own data

Table 3

Cronbach's Alpha Analysis Results (Internal Consistency Reliability)

Factors	Number of indicators	Coefficient alpha
Attitude toward the use of EBMgt	4	0.89
Intention to use EBMgt	2	0.93
Perceived barriers	7	0.88
Facilitators	5	0.84

Note. Adapted from *Prediction of Intention to Use Evidence-Based Management Among Healthcare Administrators in the United States* (p. 69), by R. Guo, 2015. Copyright 2015 by Ruiling Guo. Adapted with permission.

Conclusion

Chapter 3 explains the appropriateness of the quantitative study to answer the dissertation's research questions. It re-introduces the dissertation's research questions and discusses ethical considerations, informed consent, and confidentiality concerns. Later, the

chapter presents the research design, the overview of the research approach used, and the quality management model used. The chapter then addresses the population and sample, selection of participants, research instrument, procedures, data collection, and data analysis. The chapter concludes with a discussion on the instrument's reliability as determined by subject matter experts and how the validity of the instrument was measured once data was received from the survey.

Chapters 4 and 5 present the results of this research and provide recommendations. Once the study is published, policymakers may use the results to provide educational interventions to both diminish the perceived barriers of U.S. municipal leaders while enabling the facilitators, such as availability and training in the use of scientific research findings in decision-making and thereby raise the confidence of U.S. municipal leaders in using EBMgt.

Chapter 4. Presentation of Data

This study focused on EBMgt, an established approach to applying a systematic methodology, scientific knowledge, and explicit logical thought to inform organizational and public policy decision-making (Barends & Rousseau, 2018; Rousseau, 2020). Researchers have noted that while some practitioners might use evidence in their decisions, managers infrequently base their decisions on the best available and most relevant evidence (Barends et al., 2017; Mosley & Gibson, 2017; Pesta et al., 2017; Rousseau, 2020). Criado-Perez et al. (2023) noted that EBMgt is a rarely adopted framework to assist in decision-making despite being increasingly advocated. The literature suggests that some governmental leaders and philanthropic organizations have made efforts to conduct evidence-based policymaking to improve state and local programs (Arnold Ventures, 2023; PMRFI, 2018; Reynolds & Ramakrishnan, 2018). I found no studies about the attitudes, perceived barriers, and facilitators to using EBMgt among U.S. municipal leaders. Hence, this study aimed to determine which attitudes, barriers, and facilitators impacted U.S. municipal leaders' intention to use EBMgt. The study also examined whether U.S. municipal leaders' attitude toward using EBMgt and their intention to use EBMgt differ within select demographic variables, such as generation, education, public administration experience, and municipality size.

Research Questions

Five research questions guided this study.

Research Question 1: Which attitudes have a statistically significant effect on U.S. municipal leaders' intention to use EBMgt?

Research Question 2: Which barriers have a statistically significant effect on U.S. municipal leaders' intention to use EBMgt?

Research Question 3: Which facilitators have a statistically significant effect on U.S. municipal leaders' intention to use EBMgt?

Research Question 4: To what extent does U.S. municipal leaders' attitude toward using EBMgt differ within select demographic variables (i.e., generation, education, public administration experience, and municipality size)?

Research Question 5: To what extent does U.S. municipal leaders' intention to use EBMgt differ within select demographic variables (i.e., generation, education, public administration experience, and municipality size)?

Key Trends in the Data and Information

The key trend in the data indicated that the correlation between each of the attitudes toward using EBMgt and the intention to use EBMgt was statistically significant. Also, the correlation between each of the facilitators to use EBMgt and the intention to use EBMgt was statistically significant. Among the attitudes toward using EBMgt, the attitude to integrate the best available evidence into municipal management decision-making received the highest consensus (95%) among U.S. municipal leaders. Despite a near-unanimous agreement about the importance of integrating the best available evidence into the decision-making process, U.S. municipal leaders still overwhelmingly prefer using personal experience over scientific evidence in their decision-making. The data on attitudes, barriers, and facilitators with respect to intention to use EBMgt generally align with the study concluded nearly a decade ago when Guo (2015) surveyed hospital administrators.

Overview of the Chapter

The remainder of this chapter begins by explaining the data collection process used for this cross-sectional, non-experimental study of U.S. municipal leaders conducted with an internet survey. This section addresses the comments received during the pilot study and the subject matter expert (SME) reviews. I then describe the survey distribution, the analysis of the responses to the eligibility questions, and the demographic characteristics of the sample of respondents. The following section addresses the data analysis of the study with discussions of Cronbach's alpha analysis and the assumptions for using Spearman's rank correlation coefficient and Kruskal-Wallis one-way ANOVA on ranks. Then the results from those two statistical tests are presented to determine which hypotheses were rejected. The chapter concludes with the synthesis of the results.

Data Collection

The survey instrument was adapted from the questionnaire used by Guo (2015), who sought to determine the strongest predictors (i.e., attitude, subjective norm, or perceived behavioral control) in determining behavioral intention to use EBMgt among U.S. healthcare administrators. Guo (2015) determined that attitude was the strongest predictor of intention. Hence, I focused on the attitude variable in this research. The questionnaire was revised to remove questions related to subjective norms and perceived behavior control. The remaining survey items were adapted to replace references to hospital administration with items more applicable to the work environment of municipal leaders. For instance, demographic information, such as municipality size, was sought to understand how U.S. municipal leaders' attitude toward using EBMgt and intention to use EBMgt might differ between municipalities of various population sizes. Since the questionnaire was adapted and sent to an entirely different population

than that surveyed by Guo (2015), I conducted a pilot study of municipal leaders and sought comments from SMEs on EBMgt. The next sections describe how the suggestions from SMEs and the outcomes of the pilot test resulted in revisions to the survey questionnaire and the survey platform employed.

Subject Matter Experts

Six SMEs were sent the draft survey and a questionnaire, to assess the survey instrument which are included in Appendix D. Although none returned the survey assessment, one prominent SME recommended adding two questions, which were added directly after the eligibility questions. The first addition was a question designed to obtain data on whether respondents considered themselves familiar with the concept of EBMgt. The second new question listed a series of actions, some of which applied to the EBMgt while others did not. This question allowed participants to demonstrate their understanding of the concept of EBMgt by choosing activities associated with the practice of EBMgt before being presented with a definition of EBMgt.

Pilot Study Participants

I sent the survey and the same assessment questionnaire to 10 municipal leaders in Florida and Texas. The pilot test assessment was conducted to determine if questions or scales appeared unclear and if the municipal leaders had trouble selecting from the provided choices. One respondent submitted comments, but after consideration, I determined that these suggested changes would not significantly strengthen the questionnaire; therefore, no changes were made to the survey instrument from that used in the pilot study. However, at least two documented cases of blocked emails were received during the pilot study. I contacted the CEO of DataTab® to address the issue of spam and blocked emails. Upon learning that DataTab® had no tools to

prevent the researcher's emails from being blocked as spam, it was decided to change the survey platform to Qualtrics®, which had such tools, and to use DataTab® for statistical analysis.

Survey Distribution

I downloaded 16,651 records from the GovSearch API® database of state, county, and local officials. Among this group, 14,672 records contained an email address; therefore, this number was invited to participate in the survey. Based on Qualtrics's data, 1,727 emails were returned as undeliverable, 1,253 emails were reported as opened, and 827 surveys were classified as finished. Qualtrics reports the survey as being finished or completed, regardless of whether all the questions were answered. Table 4 describes the results of distributing the survey to U.S. municipal leaders.

Table 4

Survey Distribution Results Summary

Titles	Emails sent to participants	Surveys opened	Surveys finished	Response rate (%)*	Completion rate (%)**
Mayors	8,962	792	504	5.6	64
City managers	4,713	402	280	5.9	70
City administrators	997	59	43	4.3	73
Total	14,672	1,253	827	5.6	66

Note. *Surveys finished / Emails sent to participants = Response rate; **Surveys finished / Surveys opened = Completion rate.

Analysis of Responses to Eligibility Questions

To participate in the survey, respondents needed to meet four criteria: (1) consent to participate; (2) be at least 18 years of age; (3) identify as having the position of a mayor, city administrator, or city manager; and (4) did not participate in the pilot study. The survey skipped

to the last page for participants who failed to meet eligibility questions. In this event, I programmed Qualtrics to display a message indicating the participant's responses were recorded and thanked them for their time. Of the 1,253 respondents who opened the survey, 805 consented to participate, of which 607 identified as holding the position of mayor, city manager, or city administrator. Only surveys that were filled out completely were analyzed (n = 228).

Demographic Characteristics of the Respondents

Table 5 shows the distribution of survey respondents across six demographic variables. All geographic regions of the U.S. had substantial representation in the survey sample.

Table 5

Demographic Characteristics of the Survey Sample

Demographic categories (N = 228)	n	%
Generation		
Baby boomer generation (born 1946–1964)	94	41
Generation X (born 1965–1979)	104	46
Millennials (born 1980–1994) and Generation Z (born 1995–2012)	30	13
Education		
Doctorate degree	24	10
Master's degree	129	57
Bachelor's degree	55	24
Associate degree	9	4
High school diploma or equivalent	11	5
Public administration experience		
26 or more years	57	25
21–25	28	12
16–20	33	15
10–15	52	23
Nine years or less	58	25
Municipality size		
Under 10,000	64	28
10,001–100,000	125	55
100,001–250,000	27	12
Over 250,001	12	5
Work status		
Full-time	196	86
Part-time	32	14
Geographic region		
Northeast (ME, VT, NH, MA, CT, RI, NJ, DE, MD, PA, NY)	22	10
Southwest (AZ, NM, TX, OK)	39	17
West (HI, AK, CA, NV, OR, WA, ID, UT, MT, WY, CO)	48	21
Southeast (AR, LA, MS, AL, TN, KY, WV, DC, VA, NC, SC, GA, FL)	58	25
Midwest (ND, SD, NE, KS, MO, IA, MN, WI, IL, IN, MI, OH)	61	27

Eighty-seven percent of the municipal leaders identified themselves as belonging to either the Baby boomer generation (1946–1964) or Generation X (1965–1979). The municipal leaders who participated in this survey were well-educated, with 67% earning a master's degree or doctorate. There was nearly an even distribution of municipal leaders' years of public administration experience among those with more than 25 years of public administration experience and those with nine or fewer years of public administration experience. Most U.S. municipal leaders (83%) reported working in municipalities with a population size under 100,000. Most respondents (86%) reported working full-time in municipal leadership positions. U.S. municipal leaders who participated in the survey indicated where they worked within five geographic regions of the country. More than one-half of the participants indicated that they lived in the Midwest or the Southeast. The fewest respondents lived in the Northeast. Because convenience sampling was used for this study, it is unknown whether the number of study participants across different regions of the United States is proportional to the number of municipal leaders working in each region. However, a substantial number of participants participated in the study from every geographic U.S. region.

Data Analysis

The data were exported from Qualtrics into a Microsoft Excel spreadsheet, where the data were screened and coded before exporting the results to DataTab®. Only results from participants who answered all of the survey questions were used in the data analysis. Responses were coded on a scale with 5 representing agree or likely answers. The lowest score of 1 represents responses like disagree or unlikely. These questions have a 5-point Likert-type scale for use in Spearman’s Rank Correlation. The demographic data were transferred to DataTab® as nominal variables for use in the Kruskal-Wallis test.

I created the two Likert scale variables in this study, namely, intention to use EBMgt and attitude toward using EBMgt, by calculating the mean of the responses from the four attitude survey questions and the mean of the responses from the three intention survey questions, respectively. The intention Likert scale variable served as the dependent variable for Research Questions 1, 2, 3, and 5. The attitude Likert scale variable served as the dependent variable for Research Question 4.

Reliability Analysis

Cronbach's alpha is a statistical measure used to estimate the reliability or internal consistency of a set of items or, in this case, questions in a survey. All 228 responses were included in the Cronbach's alpha calculations, shown in Table 6. Additionally, Table 6 shows the Cronbach's alpha from Guo's (2015) study in which the same variables were used. Each of the scores of Cronbach's alpha falls into the excellent category (Kuckartz et al., 2013, as cited in Jesussek & Volk-Jesussek, 2023), indicating that the items consistently measure the underlying construct.

Table 6

Cronbach's Alpha Analysis Results (Internal Consistency Reliability)

Factors	Number of indicators	Coefficient α for this study	Coefficient α Guo's survey
Attitude toward using EBMgt	4	0.89	0.89
Intention to use EBMgt	3	0.93	0.93
Perceived barriers to using EBMgt	7	0.81	0.88
Facilitators to using EBMgt	5	0.85	0.84

Note. Adapted from *Prediction of Intention to Use Evidence-Based Management Among Healthcare Administrators in the United States* (p. 69), by R. Guo, 2015. Copyright 2015 by Ruiling Guo. Adapted with permission.

Assumptions for Spearman Rank Correlation Analysis

For Research Questions 1 through 3, I used the Spearman Rank Correlation, commonly known as Spearman's Rho, to understand the relationship between the Likert-scale dependent variable intention to use EBMgt and the following independent variables:

- each of the four Likert-type attitude variables,
- each of the seven Likert-type barrier variables, and
- each of the five Likert-type facilitator variables.

Spearman's Rho was used to assess the strength and direction of the relationships between each of these pairs of ranked variables. Spearman's Rho is a nonparametric measure of association; thus, it does not assume linearity between the two variables (McClenaghan, 2024). There are two key assumptions that data must meet for Spearman's Rho to produce a valid result. The first of these is that the two variables must be measured on a continuous or ordinal scale (McClenaghan, 2024). Ordinal variables include Likert items on a 5-point scale, such as the attitudes, barriers, and facilitators Likert-type variables in this study. The second assumption for using Spearman's Rho is that it requires that the dependent and independent variables have a monotonic relationship. A monotonic relationship exists when either the value of one variable increases with the value of the other variable or the value of one variable increases as the other variable value decreases (McClenaghan, 2024). I created scatterplots to subjectively assess whether there appeared to be a monotonic relationship between the intention dependent variable and each attitude, barrier, and facilitator Likert-type independent variable. I determined a clear monotonic relationship between the attitudes and intention variables. However, it was more difficult to discern a monotonic relationship between the barrier and facilitator variables and the intention variable. Although some of these scatterplots did not reflect a clear monotonic

relationship, I relied on the similarities between this study's data and the data in Guo's (2015) research to use Spearman's Rho for nonparametric testing as Guo did. The scatterplots displaying the relationship between the intention dependent variable and each of the independent variables for Research Questions 1 through 3 are presented in Appendix F.

Kruskal-Wallis Test Assumptions

For Research Question 4, I sought to determine the extent to which U.S. municipal leaders' attitude toward using EBMgt differs for four select demographic variables. For Research Question 5, I sought to determine the extent to which U.S. municipal leaders' intention to use EBMgt differs for the same four select demographic variables. The demographic independent variables were generation, education, public administration experience, and municipality size. The two dependent variables were created by taking the mean of the four Likert-type questions on attitudes toward using EBMgt and the mean of the three Likert-type questions on intention to use EBMgt, resulting in the two Likert-scale dependent variables used in this study.

The Kruskal-Wallis test is a nonparametric test that can be used when the data are assumed to be non-normal or take a skewed distribution (McClenaghan, 2023). Table 7 shows the results of the Shapiro-Wilk test, indicating the data deviate significantly from the normal distribution. None of the four demographic variables showed *p*-values greater than .05 for all of their groups, thus the first assumption for the Kruskal-Wallis test was met. Secondly, the Kruskal-Wallis test requires that the variable of interest must have three or more categorical independent groups (Laerd, 2014; McClenaghan, 2023). Table 7 shows that each of the four demographic variables has at least three categorical groups. The third Kruskal-Wallis test assumption is that the data samples should be independent from one another (Laerd, 2014). The data downloaded from the survey platform showed that no internet protocol (IP) addresses from the respondents were identical. In addition, the groups for each demographic variable were

mutually exclusive by design to avoid any of the respondents being part of more than one group. The fourth test assumption is that each group for each demographic variable has at least five observations for a sufficient sample size (McClenaghan, 2023). Therefore, in the case of the generation category, Generation Z (GenZ) (n = 1) was combined with Millennials (n = 29) to create the group of Millennials and Gen Z (n = 30). In the case of the municipality size category, the groups of 250,001–500,000 (n = 4), 500,001–750,000 (n = 3), and over 750,001 (n = 5) were combined into one group of over 250,001 (n = 12).

Table 7

Shapiro-Wilk Test for Normal Distribution

Demographic categories	n	Attitude statistic	*p*	Intention statistic	*p*
Generation					
Baby boomer generation	94	0.87	<.001	0.85	<.001
Generation X	104	0.67	<.001	0.85	<.001
Millennials and Generation Z	30	0.64	<.001	0.82	<.001
Education					
Doctorate degree	24	0.63	<.001	0.82	<.001
Master's degree	129	0.69	<.001	0.82	<.001
Bachelor's degree	55	0.70	<.001	0.92	.001
Associate degree	9	0.47	<.001	0.89	.202*
High school diploma or equivalent	11	0.58	<.001	0.75	.002
Public administration experience					
26 or more years	57	0.63	<.001	0.85	<.001
21 – 25 years	28	0.72	<.001	0.92	.290*
16 – 20 years	33	0.71	<.001	0.84	<.001
10 – 15 years	52	0.73	<.001	0.85	<.001
9 years or less	58	0.60	<.001	0.78	<.001
Municipality Size					
Under 10,000	64	0.70	<.001	0.88	<.001
10,001 – 100,000	125	0.67	<.001	0.84	<.001
100,001 – 250,000	27	0.63	<.001	0.84	.001
Over 250,001	12	0.66	<.001	0.78	.005

Note. *Normal distribution

Summary of Results

The analysis of data for each research question includes an examination of descriptive statistics as well as hypothesis testing. The threshold for statistical significance for the inferential statistical analysis was $p < .05$ as I sought 95% certainty to reject the null hypothesis. However, one result that was close to $p < .05$ was highlighted in the narrative.

Research Question 1

The first research question and hypotheses were:

RQ1 - Which attitudes have a statistically significant effect on U.S. municipal leaders' intention to use EBMgt?

H_o1: A municipal leader's attitude concerning the importance of integrating the best available evidence into the municipal management decision-making process does not affect their intention to use EBMgt.

H_a1: A municipal leader's attitude concerning the importance of integrating the best available evidence into the municipal management decision-making process does affect their intention to use EBMgt.

H_o2: A municipal leader's attitude concerning using EBMgt to increase the quality of municipal management decisions does not affect their intention to use EBMgt.

H_a2: A municipal leader's attitude concerning using EBMgt to increase the quality of municipal management decisions does affect their intention to use EBMgt.

H_o3: A municipal leader's level of support concerning using EBMgt in municipal management does not affect their intention to use EBMgt.

H_a3: A municipal leader's level of support concerning using EBMgt in municipal management does affect their intention to use EBMgt.

H_o4: A municipal leader's attitude concerning using EBMgt in municipal decision-making to improve organizational performance does not affect their intention to use EBMgt.

H_a4: A municipal leader's attitude concerning using EBMgt in municipal decision-making to improve organizational performance does affect their intention to use EBMgt.

Table 8 shows the four indicators in the survey that measure participants' attitudes toward using EBMgt based on a 5-point Likert-type scale. Most municipal leaders (95%) agreed or somewhat agreed that integrating the best available evidence into the municipal management decision-making process is important. Seventy percent or more of the respondents agreed or somewhat agreed with the remaining three attitudes in the questionnaire.

Table 8

Municipal Leaders' Attitudes Toward Using EBMgt

Survey questions on attitude toward using EBMgt	Participants who responded positively (on 5-point Likert-type questions)	
	n	%
It is important to integrate the best available evidence into the municipal management decision-making process.	217	95
Using EBMgt increases the quality of management decisions.	189	83
I support the adoption of EBMgt in my organization.	159	70
Adopting EBMgt in my decision-making will improve organizational performance.	175	77

Note. N = 228. A positive response is one where respondents answered agree/somewhat agree or important/somewhat important.

Table 9 represents the three indicators in the survey that measured participants' intention to use EBMgt using a 5-point Likert-type scale. Until now, it was largely unknown to what extent municipal leaders indicated they were likely or somewhat likely to adopt EBMgt in their organization. At least 76% agreed or somewhat agreed with the sentiment that they plan to use EBMgt in management decision-making within the next 6 months or to adopt it in their organization in the near future. However, only 60% of the respondents expressed an intention to adopt EBMgt in their organization soon.

Table 9

Municipal Leaders' Intentions to Use EBMgt

Survey questions about the intention to use EBMgt	Participants who responded positively on a 5-point scale	
	n	%
I plan to use EBMgt for my management decision-making within the next six months.	173	76
I intend to adopt EBMgt in my organization soon.	137	60
How likely are you to adopt EBMgt in your organization in the near future?	178	78

Note. N = 228. A positive response indicated a likely/somewhat likely or agree/somewhat agree response to the question.

As illustrated in Table 10, when the attitude data were analyzed, the hypothesis testing showed that all four attitude variables had a statistically significant positive relationship with the intention to use EBMgt. Each attitude had a *p*-value of <.001; therefore, the null hypotheses were rejected. According to the classification of the strengths of Spearman correlation shown in Table 2 in Chapter 3, the belief that it is important to use the best available evidence when

making municipal management decisions had a high correlation (rs = .537) to use EBMgt but not quite as strong as the other three attitudes, which each had a very high correlation (0.7 < rs) to use EBMgt (Kuckartz et al., 2013, as cited in Jesussek & Volk-Jesussek, 2023).

Table 10

Correlation Between Attitudes Toward Using EBMgt and Intention to Use EBMgt

RQ1 hypothesis	Attitudes toward using EBMgt	*p*	The rho correlation coefficient of intention
H1	It is important to integrate the best available evidence into the municipal decision-making process.	<.001	.537*
H2	Using EBMgt increases the quality of management decisions	<.001	.779*
H4	Adopting EBMgt in my decision-making will likely improve organizational performance.	<.001	.788*

Note. *Statistically significant correlation.

Research Question 2

The second research question and hypotheses were:

RQ2 - Which barriers have a statistically significant effect on U.S. municipal leaders' intention to use EBMgt?

H_o1: A lack of interest does not affect their intention to use EBMgt.

H_a1: A lack of interest does affect their intention to use EBMgt.

H_o2: A lack of skills in appraising the quality of evidence does not affect their intention to use EBMgt.

H_a2: A lack of skills in appraising the quality of evidence does affect their intention to use EBMgt.

H_o3: A lack of strong research evidence to support the use of EBMgt does not affect their intention to use EBMgt.

H_a3: A lack of strong research evidence to support the use of EBMgt does affect their intention to use EBMgt.

H_o4: A lack of time does not affect their intention to use EBMgt.

H_a4: A lack of time does affect their intention to use EBMgt.

H_o5: A lack of training opportunities does not affect their intention to use EBMgt

H_a5: A lack of training opportunities does affect their intention to use EBMgt

H_o6: Unfamiliarity with EBMgt does not affect their intention to use EBMgt.

H_a6: Unfamiliarity with EBMgt does affect their intention to use EBMgt.

H_o7: A lack of skills in searching the literature does not affect their intention to use EBMgt.

H_a7: A lack of skills in searching the literature does affect their intention to use EBMgt.

Seven items in the survey measured participants' perceived barriers to using EBMgt. The descriptive statistics revealed that a lack of time, unfamiliarity with EBMgt, and lack of training opportunities were the top three perceived barriers to using EBMgt among U.S. municipal leaders who responded to the survey. Table 11 shows that over 60% of the participants agreed or somewhat agreed that these three potential barriers might hinder their use of EBMgt.

Table 11

Perceived Barriers to Using EBMgt

Perceived barriers	Participants agreed and somewhat agreed		Participants disagreed and somewhat disagreed	
	n	%	n	%
Lack of interest	99	43	69	30
Lack of skills in appraising the quality of evidence	119	52	69	30
Lack of strong research evidence to support the use of EBMgt	107	47	57	25
Lack of time	171	75	24	11
Lack of training opportunities	145	64	27	12
Unfamiliarity with EBMgt	153	67	34	15
Lack of skills in searching literature	108	47	78	34

Note. N = 228.

As illustrated in Table 12, when the data on the barrier items were analyzed, the hypothesis testing showed that three items had a *p*-value of <.001 and thus were statistically significant. I rejected the null hypotheses for three hypotheses, namely, a lack of interest, a lack of skills in searching the literature, and a lack of training opportunities. Hence, I failed to reject the remaining four null hypotheses. A lack of training opportunities had a medium-strength ($0.3 < rs < 0.5$) negative correlation with intention while a lack of interest and a lack of skills in searching the literature each had a smaller negative correlation coefficient (Kuckartz et al., 2013, as cited in Jesussek & Volk-Jesussek, 2023).

Table 12

Correlation Between Barriers to Using EBMgt and Intention to Use EBMgt

Barriers to using EBMgt	*p*	The rho correlation coefficient of intention
Lack of interest	<.001	-.270*
Lack of skills in appraising the quality of evidence	.822	-.015
Lack of strong research evidence to support using EBMgt	.148	-.096
Lack of time	.621	-.033
Lack of training opportunities	<.001	-.354*
Unfamiliarity with EBMgt	.262	.075
Lack of skills in searching the literature	<.001	-.244*

Note. N = 228. *Statistically significant correlation.

Research Question 3

The third research question and hypotheses were:

RQ 3 - Which facilitators have a statistically significant effect on U.S. municipal leaders' intention to use EBMgt?

H_o1: The availability of access to journals and databases does not affect their intention to use EBMgt.

H_a1: The availability of access to journals and databases does affect their intention to use EBMgt.

H_o2: The availability of EBMgt training programs does not affect their intention to use EBMgt.

H_a2: The availability of EBMgt training programs does affect their intention to use EBMgt.

H_o3: The availability of organizational support does not affect their intention to use EBMgt.

H_a3: The availability of organizational support does affect their intention to use EBMgt.

H_o4: Creating a culture of practicing EBMgt does not affect their intention to use EBMgt.

H_a4: Creating a culture of practicing EBMgt does affect their intention to use EBMgt.

H_o5: EBMgt promotion by professional associations does not affect their intention to use EBMgt.

H_a5: EBMgt promotion by professional associations does affect their intention to use EBMgt.

Table 13 shows the responses to the five perceived facilitators to using EBMgt in the survey instrument. The descriptive statistics revealed that creating a culture of practicing EBMgt and the availability of EBMgt training programs were the top two facilitators of using EBMgt among the U.S. municipal leaders who participated in this study. The availability of organizational support was a close third. Two-thirds or more of the survey respondents agreed or somewhat agreed that each of these three facilitators might help their use of EBMgt.

Table 13

Facilitators to Using EBMgt

Facilitators to using EBMgt	Participants who agreed and strongly agreed		Participants who disagreed and strongly disagreed	
	n	%	n	%
Availability of access to journals and databases	141	62	32	14
Availability of EBMgt training programs	157	69	19	8
Availability of organizational support	152	67	21	9
Creating a culture of practicing EBMgt	157	69	24	11
EBMgt promotion by professional associations	135	59	19	8

Note. N = 228.

As illustrated in Table 14, when the facilitator data were analyzed, the hypothesis testing showed that all five variables had a *p*-value of <.001; therefore, all five null hypotheses were rejected. Each of the facilitators to using EBMgt was statistically significant with a medium-strength ($0.3 < rs < 0.5$) positive correlation. However, the correlation coefficient for the facilitator creating a culture of practicing EBMgt nearly fell into the high ($0.5 < rs < 0.7$) correlation category (Kuckartz et al., 2013, as cited in Jesussek & Volk-Jesussek, 2023).

Table 14

Correlation Between Facilitators to Using EBMgt and Intention

Facilitators to using EBMgt	*p*	The rho correlation coefficient of intention
Availability of access to journals and databases	<.001	.359*
Availability of EBMgt training programs	<.001	.336*
Availability of organizational support	<.001	.347*
Creating a culture of practicing EBMgt	<.001	.493*
EBMgt promotion by professional associations	<.001	.358*

Note. N = 228. *Statistically significant correlation

Research Question 4

The fourth research question and hypotheses were:

RQ 4: To what extent does U.S. municipal leaders' attitude toward using EBMgt differ within select demographic variables (i.e., generation, education, public administration experience, and municipality size)?

H_o1: U.S. municipal leaders' attitude toward using EBMgt does not differ within the generation variable.

H_a1: U.S. municipal leaders' attitude toward using EBMgt differs within the generation variable.

H_o2: U.S. municipal leaders' attitude toward using EBMgt does not differ within the education variable.

H_a2: U.S. municipal leaders' attitude toward using EBMgt differs within the education variable.

H_o3: U.S. municipal leaders' attitude toward using EBMgt does not differ with the years of public administration experience variable.

H_a3: U.S. municipal leaders' attitude toward using EBMgt differs within the years of public administration experience variable.

H_o4: U.S. municipal leaders' attitude toward using EBMgt does not differ within the municipality size variable.

H_a4: U.S. municipal leaders' attitude toward using EBMgt differs within the municipality size variable.

I hypothesized that U.S. municipal leaders' attitude toward using EBMgt would differ for four select demographic variables. Table 15 shows that the hypothesis tests yielded *p*-values greater than .05 for all four of these variables. Therefore, I failed to reject the null hypothesis for each of the four hypotheses. However, the *p*-value for the variable public administration experience was .069. Thus, years of public administration experience appeared to be a demographic variable having a weak relationship with municipal leaders' attitude toward using EBMgt.

Table 15 shows that the demographic group with the least positive median attitude toward using EBMgt comprised those municipal leaders whose highest level of education was a bachelor's degree. The demographic groups with the most positive median attitude toward using EBMgt were the respondents in the following demographic groups: doctorate degree, 9 years or less public administration experience, and municipality size over 250,001 people.

The box plots in Appendix G graphically depict the data in Table 15. In this study, the demographic group for municipality size under 10,000 people had the largest inter-quartile range

(1.50), that is, the largest dispersion of its middle 50% of the measures on attitude toward using EBMgt. In contrast, the demographic group for municipality size over 250,001 people had the smallest inter-quartile range (0.38) for attitude toward using EBMgt compared to all the demographic groups across all the demographic variables. Thus, municipal leaders from the largest cities appeared to share the most likeminded attitude toward using EBMgt while municipal leaders from the smallest cities appeared to have the most diverse attitude toward using EBMgt.

Table 15

Attitude Toward Using EBMgt Across Four Demographic Categories

Demographic Category and *p*-value	n	Mean rank	Median	Min.	Max.	Lower quartile	Upper quartile	Inter-quartile range
Generation (*p*=.438)								
Baby boomers	9	108.02	4.50	2.00	5.00	3.75	5.00	1.25
Generation X	1	119.22	4.63	2.50	5.00	4.00	5.00	1.00
Millennials and Gen Z	3	118.45	4.63	2.50	5.00	4.00	5.00	1.00
Education (*p*=.113)								
Doctorate degree	2	128.25	5.00	2.50	5.00	3.93	5.00	1.07
Master's degree	1	119.86	4.75	2.50	5.00	4.00	5.00	1.00
Bachelor's degree	5	94.78	4.00	2.75	5.00	3.56	5.00	1.44
Associate degree	9	111.33	4.25	3.50	5.00	4.00	5.00	1.00
High school diploma or equivalent	1	122.86	4.50	3.50	5.00	4.38	5.00	0.63
Public administration experience (*p*=.069)								
9 years or less	5	129.48	5.00	3.00	5.00	4.06	5.00	0.94
10-15	3	105.72	4.75	3.24	5.00	4.25	5.00	0.75
16-20	5	126.26	4.50	2,50	5.00	3.75	5.00	1.25
21-25	2	92.75	4.13	2.75	5.00	3.75	4.80	1.05
26 years or more	5	111.14	4.50	2.50	5.00	4.00	5.00	1.00
Municipality size (*p*=.193)								
Under 10,000	6	105.41	4.50	2.75	5.00	3.50	5.00	1.50
10,001-100,000	1	118.24	4.50	2.50	5.00	4.00	5.00	1.00
100,001-250,000	2	105.76	4.25	2.00	5.00	3.75	5.00	1.25
Over 250,001	1	143,67	5.00	4.25	5.00	4.63	5.00	0.38

Note. N = 228. *Statistically significant. No *p*-values were statistically significant.

Research Question 5

The fifth research question and hypotheses were:

RQ 5: To what extent does U.S. municipal leaders' intention to use EBMgt differ within select demographic variables (i.e., generation, education, public administration experience, and municipality size)?

H_o1: U.S. municipal leaders' intention to use EBMgt does not differ within the generation variable.

H_a1: U.S. municipal leaders' intention to use EBMgt differs within the generation variable.

H_o2: U.S. municipal leaders' intention to use EBMgt does not differ within the education variable.

H_a2: U.S. municipal leaders' intention to use EBMgt differs within the education variable.

H_o3: U.S. municipal leaders' intention to use EBMgt does not differ within the public administration experience variable.

H_a3: U.S. municipal leaders' intention to use EBMgt differs within the public administration experience variable.

H_o4: U.S. municipal leaders' intention to use EBMgt does not differ within the municipality size variable.

H_a4: U.S. municipal leaders' intention to use EBMgt differs within the municipality size variable.

I hypothesized that U.S. municipal leaders' intention to use EBMgt would differ for four demographic variables. Table 16 shows the hypothesis tests yielded *p*-values greater than .05 for the following variables: generation ($p = .990$), education ($p = .095$), and municipality size ($p = .184$); therefore, I failed to reject the null hypothesis for H_o1, H_o2, and H_o4. The hypothesis test yielded a *p*-value of .022 for the public administration experience variable; therefore, I rejected the null hypothesis for H_o3. The data indicate that the U.S. municipal leaders' intention to use EBMgt does differ between two or more public administration experience groups.

Table 16 shows that, for all the categorical groups across all the demographic variables, the measures of median intention to use EBMgt extended from 3.84 to 4.67 with the lowest and highest medians being from two public administration experience groups: 21–25 years and 9 years or less, respectively. This finding coincides with the results of the Kruskal-Wallis test indicating some differences in intention to use EBMgt between public administration experience groups.

The box plots provided in Appendix H present the information in Table 16 in a graphical format. The demographic groups for respondents with doctorate degrees and respondents whose highest education level was a bachelor's degree had the largest interquartile range (2.00) for intention to use EBMgt compared to all the other demographic groups across all the demographic variables. At the other end of the spectrum, the demographic group for respondents with only a high school diploma or equivalent had the smallest interquartile range (0.67) for intention to use EBMgt compared to all the demographic groups across all the demographic variables. Thus, municipal leaders in the education group with the least amount of education appeared to share the most like-minded intention to use EBMgt compared to all other demographic groups.

Respondents with a doctoral degree or a bachelor's degree as their highest level of education seemed to have the most diversity with regard to their intention to use EBMgt.

Table 16

Intention to Use EBMgt Across Four Demographic Categories

Demographic category and *p*-value	n	Mean Rank	Median	Min.	Max.	Lower quartile	Upper quartile	Inter-quartile range
Generation (p = .990)								
Baby boomers	94	113.99	4.33	1.00	5.00	3.33	5.00	1.67
Generation X	104	115.15	4.33	2.00	5.00	3.59	5.00	1.41
Millennials and Gen Z	30	113.85	4.33	1.00	5.00	3.67	5.00	1.33
Education (p = .095)								
Doctorate degree	24	115.67	4.33	1.00	5.00	3.00	5.00	2.00
Master's degree	129	120.86	4.33	2.00	5.00	3.67	5.00	1.33
Bachelor's degree	55	93.83	4.00	1.00	5.00	3.00	5.00	2.00
Associate degree	9	124.11	4.33	2.67	5.00	3.67	5.00	1.33
High school diploma or equivalent	11	132.91	4.33	4.33	5.00	4.33	5.00	0.67
Public administration experience (p = .022)*								
9 years or less	58	132.97	4.67	2.67	5.00	4.00	5.00	1.00
10-15	33	111.14	4.00	1.00	5.00	3.33	5.00	1.67
16-20	52	120.94	4.33	2.67	5.00	3.67	5.00	1.33
21-25	28	84.46	3.84	2.00	5.00	3.25	5.00	1.75
26 years or more	57	109.79	4.33	1.00	5.00	3.33	5.00	1.67
Municipality size (p = .184)								
Under 10,000	64	103.83	4.00	1.00	5.00	3.00	4.76	1.76
10,001-100,000	125	120.62	4.33	2.00	5.00	3.67	5.00	1.33
100,001-250,000	27	102.69	4.00	1.67	5.00	3.33	4.84	1.51
Over 250,001	12	134.21	4.33	2.00	5.00	4.00	5.00	1.00

Note. N = 228. *Statistically significant.

The Kruskal-Wallis test findings revealed that there were some differences between public administration experience groups; therefore, the Dunn-Bonferroni post hoc test was used to compare these groups in pairs to determine which were significantly different. The Dunn-Bonferroni test results, shown in Table 17, found that the pairwise group comparison of the respondents with 21–25 years' experience versus the respondents with 9 years or less experience has an adjusted *p*-value of less than 0.05. Thus, based on the available data in this study, these two groups were significantly different.

Table 17

Pairwise Group Comparison for Public Administration Experience

Public administration experience	Test statistic	Std. error	Std. test statistic	*p*	Adj. *p*
9 years or less vs. 10 – 15 years	21.83	12.40	1.76	.078	.782
9 years or less vs. 16 – 20 years	12.03	14.15	0.85	.395	1.00
9 years or less vs. 21 – 25 years	48.51	14.94	3.25	.001	.012
9 years or less vs. 26 years or more	23.18	12.11	1.92	.055	.555
10 - 15 years vs. 16 – 20 years	-9.8	14.45	-0.68	.498	1.00
10 - 15 years vs. 21 – 25 years	26.68	15.21	1.75	.080	.795
10 - 15 years vs. 26 years or more	1.35	12.45	0.11	.913	1.00
16 - 20 years vs. 21 – 25 years	36.48	16.68	2.19	.029	.287
16 - 20 years vs. 26 years or more	11.15	14.2	0.79	.432	1.00
21 - 25 years vs. 26 years or more	-25.33	14.98	-1.69	.091	.909

Note. Adj. *p*: Values adjusted with Bonferroni correction.

Summary of Results

This study included five research questions. To summarize, Research Question 1 indicated that all the attitudes regarding EBMgt were significantly correlated to the intention to use EBMgt; therefore, the four null hypotheses were rejected. Research Question 2 indicated that three barriers, namely, a lack of interest, a lack of skills in searching the literature, and a lack of training opportunities, were significantly correlated to the intention to use EBMgt; therefore, I rejected the null hypothesis for these three hypotheses. I rejected each of the five null hypotheses for Research Question 3 since each facilitator was significantly correlated to attitude. When I conducted the Kruskal-Wallis test on Research Question 4, the null hypothesis was not rejected for the four hypotheses as none of the demographic variables had statistically significant differences among the groups for attitude toward using EBMgt. However, public administration experience had a *p*-value close to .05. For Research Question 5, the null hypothesis was not rejected for *Ho1*, *Ho2*, and *Ho4* but was rejected for *Ho3,* where the independent variable was public administration experience. The next section concludes the chapter with the synthesis of the results.

Synthesis of Results

The results of this study suggest that an overwhelming majority of U.S. municipal leaders held a positive attitude toward using EBMgt. The respondents were in 95% agreement with the statement: It is important to integrate the best available evidence into the municipal management decision-making process. To a lesser extent, 83% of the respondents agreed that EBMgt would increase the quality of management decisions. There also existed a highly positive statistically significant correlation between each of the four attitudes and the intention to use EBMgt. There was a very high positive correlation ($0.7 < rs < 1.0$) between attitude toward using EBMgt with

the intention to use EBMgt. Consistent with this correlation, the study showed that the majority of U.S. municipal leaders responded positively about the intention to use EBMgt although the intention measures were not quite as high as the results for attitude toward EBMgt. On average, 77% of the U.S. municipal leaders agreed or somewhat agreed with the statements that they plan to use EBMgt in management decision-making within the next six months and to adopt it in their organization in the near future. Sixty percent had the intention to adopt EBMgt in their organization soon. Those individuals with the highest attitude toward using EBMgt were generally also those with the highest intention to use EBMgt. For instance, participants with nine years or less of public administration experience indicated a higher consensus in their agreement as indicated by having the highest median score (5.00) for attitude toward using EBMgt as well as the highest median score (4.67) for intention to use EBMgt.

Seven perceived barriers were included in this survey. Most of the U.S. municipal leaders agreed or somewhat agreed that the lack of time (75%) was a perceived barrier to using EBMgt. These barriers were followed by unfamiliarity with EBMgt (67%) and a lack of training opportunities (64%). However, amongst the three most agreed upon perceived barriers, only the lack of training opportunities had a negative statistically significant correlation with the intention to use EBMgt. In fact, a lack of training opportunities had the strongest correlation coefficient (-.354) of the seven barriers that were analyzed. Thus, municipalities should focus on providing training opportunities in EBMgt to U.S. municipal leaders. In fact, Rousseau (2020) advocated that EBMgt be taught to graduate students in business schools. Auger et al., (2018) found that graduate students taught EBMgt improved critical thinking skills. It logically follows that providing training opportunities in EBMgt could lessen the other perceived barriers. For example, those taught EBMgt practices would become familiar with EBMgt, learn how to

appraise the quality of evidence, improve skills in searching the literature, and better understand the evidence that supports EBMgt. It is also notable that only 43% of the respondents agreed that lack of interest was a perceived barrier to the intention to use EBMgt although lack of interest was found to have a statistically significant relationship with intention to use EBMgt. This suggests that focusing on lack of interest as a barrier would not be as impactful as concentrating on lack of training to increase EBMgt use among municipal leaders.

Sixty-nine percent of U.S. municipal leaders either agreed or strongly agreed that creating a culture of practicing EBMgt and the availability of EBMgt training programs were the two most important facilitators of using EBMgt. Availability of organizational support was a close third, with 67% agreement among U.S. municipal leaders. All facilitators had a positive statistically significant medium correlation with the intention to use EBMgt. However, it is notable that in addition to being the facilitator tied for the highest level of agreement, creating a culture of practicing EBMgt had the strongest correlation—almost putting it into the strong correlation category (.493). Therefore, municipalities should create a culture of practicing EBMgt by providing training opportunities in EBMgt. This practice may lessen one of the most important barriers to the intention to use EBMgt while also providing the major facilitator to the intention to use EBMgt. In summary, municipalities can take actions to create a culture of practicing EBMgt by providing training opportunities and access to journals and databases. These actions are likely to signal organization support for EBMgt. The next chapter presents the conclusions and recommendations of the study.

Chapter 5. Conclusions and Recommendations

Denise Rousseau coined the term *evidence-based management* at the Academy of Management, suggesting that "an evidence orientation indicates that decision quality is a direct function of available facts, creating a demand for reliable and valid information when making managerial and organization decisions" (Rousseau, 2006, p. 260). By 2014, EBMgt was considered a framework that applies a systematic methodology, scientific knowledge, and explicit logical thought to inform organizational and public policy decision-making (Barends et al., 2014). However, Jepsen and Rousseau (2016) contended that the promise of EBMgt to improve decision-making or outcomes in organizations had not yet produced empirical evidence.

The Federal government urged decision-makers to use facts determined through rigorous and systematic analysis and governed by principles of scientific integrity to meet complex issues and challenges (OMB, 2021). However, during the COVID-19 outbreak, many argued that municipal leaders may have based their decisions on politics, tradition, intuition, and unsystematic experience rather than firmly grounded scientific research (Bundgaard et al., 2021; Herby et al., 2022; Kuchenmüller et al., 2021; Silva et al., 2020). This research expands on studies of state governors harnessing evidence and administrative data to make better-informed policy decisions and who are called upon to support cities and counties in their efforts to adopt an evidence-based policymaking approach (Reynolds & Ramakrishnan, 2018).

Criado-Perez et al. (2024) observed that up to now, research on EBMgt focused on conceptual papers and advocacy articles that promote EBMgt in education. Hence, an examination of variables that surround municipal leaders' use of evidence in decision-making could be of interest to those who challenged the decisions of municipal leaders during the pandemic. An Internet survey was used in this cross-sectional, non-experimental study to

determine which attitudes, barriers, and facilitators impact U.S. municipal leaders' intention to use EBMgt. The study also examined whether U.S. municipal leaders' attitudes and intention to use EBMgt differ within select demographic variables, such as generation, education, public administration experience, and municipality size. This study is relevant to professional practice as well as theory. The results of this research could help municipalities increase their leaders' use of EBMgt in decision-making. Chapter 5 discusses the results of this study, the implications of the research for professional practice as well as theory, and recommendations for practitioners and researchers.

Summary of Results

Research Question Results

This study included five research questions.

Research Question 1: Which attitudes have a statistically significant effect on U.S. municipal leaders' intention to use EBMgt?

Research Question 2: Which barriers have a statistically significant effect on U.S. municipal leaders' intention to use EBMgt?

Research Question 3: Which facilitators have a statistically significant effect on U.S. municipal leaders' intention to use EBMgt?

Research Question 4: To what extent does U.S. municipal leaders' attitude toward using EBMgt differ within select demographic variables (i.e., generation, education, public administration experience, and municipality size)?

Research Question 5: To what extent does U.S. municipal leaders' intention to use EBMgt differ within select demographic variables (i.e., generation, education, public administration experience, and municipality size)?

Research Questions 1, 2, and 3 examined the relationship between municipal leaders' intention to use EBMgt and three different types of variables: attitudes, barriers, and facilitators. The study's findings for RQ 1 indicated that each of the four attitudes toward the use of EBMgt affected the intention to use EBMgt. These attitudes were the following: (a) integrating the best available evidence into the managerial decision-making process is important; (b) using EBMgt increases the quality of management decisions; (c) I support the adoption of EBMgt in my organization; and (d) using EBMgt in my decision-making will likely improve organizational performance. The study showed that for RQ 2, only three of the seven perceived barriers, namely, (a) a lack of interest, (b) a lack of skills in searching the literature, and (c) a lack of training opportunities, affected the intention to use EBMgt. For RQ 3, the study indicated that each of the five facilitators to using EBMgt affected the intention to use EBMgt. These facilitators were the following: (a) access to EBMgt journals and databases, (b) availability of EBMgt training programs, (c) organizational support, (d) a culture of practicing EBMgt, and (e) EBMgt promotion by professional associations.

Research Questions 4 and 5 determined whether there were significant differences in attitude toward using EBMgt and intention to use EBMgt across several demographic variables. The attitude toward using EBMgt did not significantly differ depending on the U.S. municipal leader's generation, education, years of public administration experience, or the municipality size. However, years of public administration experience came very close to showing statistically significant differences in attitude. The study's results for RQ 5 indicated that there were statistically significant differences among U.S. municipal leaders in their intention to use EBMgt based on their years of public administration experience. Specifically, the municipal leaders with less than nine years of public administration experience had a significantly higher intention to

use EBMgt compared to the leaders with 21-25 years of public administration experience. Public administration was the only demographic variable that showed any significant differences in intention to use EBMgt.

Additional Results

In addition to the variables analyzed in response to the research questions, data concerning two different aspects of EBMgt usage were collected. These variables concerned the percentage of decisions municipal leaders make using EBMgt and the information sources they use to make decisions.

Percentage of Decisions Made Using EBMgt

In the survey, participants were presented with the following definition of EBMgt from the Center for Evidence Based Management (Center for Evidence Based Management, 2024).

> Evidence-based management (EBMgt) means making decisions about the management of employees, teams, or organizations through the conscientious, explicit, and judicious use of the four sources of information: the best available scientific evidence (e.g., management research findings); organizational evidence (e.g., municipal records or data); experiential evidence (e.g., expert opinions); stakeholders' values and concerns (e.g., community preferences).
>
> Using an EBMgt approach for management decision-making means taking the following steps:
>
> - Asking: Translating a practical issue or problem into an answerable question;
> - Acquiring: Systematically searching for and retrieving the evidence;
> - Appraising: Critically judging the trustworthiness and relevance of the evidence;
> - Aggregating: Weighing and pulling together the evidence;
> - Applying: Incorporating the evidence into the decision-making process; and,

- Assessing: Evaluating the outcome of the decision taken to increase the likelihood of a favorable outcome.

Participants were then asked to indicate what percentage of their major management decisions had been made using the above EBMgt approach in the past six months. Table 18 shows that nearly 53% reported using EBMgt for over one-half of their major managerial decisions in the past 6 months.

Table 18

Major Managerial Decisions Made Using EBMgt Within the Past Six Months

Percentage Range	n	%
0	25	11.0
1 – 25%	31	13.6
26 – 50%	52	22.8
51 – 75%	90	39.5
76 – 100%	30	13.2

Note. N = 228. Percents do not sum to 100.0% due to rounding.

Information Sources Used for Decision-Making

Participants were then asked to indicate the frequency (i.e., daily, weekly, monthly, less than once a month, or never) that they used various information sources for decision-making. The survey included 11 types of information sources from which participants could choose. The study results shown in Table 19 indicate that personal experiences, stakeholders' values and concerns, organizational data, and peer/expert opinions were the top four information sources used daily and weekly for decision-making among participants. The four information sources used least frequently (e.g., less than once per month or never) were randomized controlled trial studies, scientific research, case studies, and systematic reviews/meta-analyses.

Table 19

Frequency of Using Various Types of Evidence for Decision-Making

Sources of evidence	Daily	Weekly	Monthly	Less than once a month	Never
Case study	7	24	59	111	27
Organizational data	70	94	43	19	2
Peer/expert opinions	51	88	64	22	3
Personal experiences	162	47	14	4	1
Qualitative research	20	73	73	50	12
Quantitative research	20	71	78	49	10
Randomized controlled trial studies	1	3	11	82	131
Scientific research findings	4	17	60	99	48
Stakeholders' values and concerns	90	82	37	13	6
Systematic reviews/meta-analysis	10	45	63	75	35
Program evaluations	14	44	80	76	14

Note. N = 228.

Discussion of Results

Contribution to EBMgt Body of Knowledge

Although Lugo-Gil et al. (2019) conducted a literature review and interviews about the use of evidence to drive decision-making in government that focused on the U.S. Department of Health and Human Services, I could not find any studies outside of the healthcare sector of government managers examining the attitudes, perceived barriers, and facilitators to using EBMgt. To fill the gap in the literature regarding the use of EBMgt, I examined U.S. municipal

leaders' attitudes, perceived barriers, and facilitators toward the use of EBMgt. By selecting and administering a questionnaire like the data collection instrument used in Guo's (2015) research on healthcare administrators, some comparisons can be made between the two populations. Also, this research builds on the only known study outside of the healthcare profession, which was conducted on international HR managers' attitudes, perceived barriers, and facilitators to using EBMgt (Barends et al., 2017). The trends in the attitudes, perceived barriers, and facilitators among this study and those mentioned above contribute to the EBMgt body of knowledge.

Comparison Between U.S. Municipal Leaders and International HR Managers

Barends et al. (2017) found that 94% of international HR managers based their daily decisions on personal experience, 71% on knowledge acquired through formal education, and 64% on advice from colleagues. In this study of U.S. municipal leaders, 92% of the respondents used intuition or personal experience daily or weekly, and 61% used advice from peers daily or weekly as sources of information for decision-making. Thus, this study aligns with the findings of international HR managers regarding the usage of various types of evidence in decision-making.

U.S. municipal leaders in this research seem to also share some similar attitudes and perceived barriers regarding EBMgt with the international HR managers previously studied (Barends et al., 2017). Barends et al. (2017) found that 58% of the respondents strongly agreed or somewhat agreed that lack of time was a perceived barrier to reading research articles. That perceived barrier was followed by 51% of the respondents who strongly agreed or somewhat agreed that HR managers had little understanding of scientific research. Moreover, 37% strongly agreed or somewhat agreed that the research articles were unreadable (Barends et al., 2017). Lack of time was also an issue for municipal leaders; it emerged as the top perceived barrier to

municipal leaders' usage of EBMgt with 75% of the respondents in agreement. Likewise, the municipal leaders appeared not to favor the use of scientific research in decision-making as 64% of the respondents reported using this type of evidence less than once a month or never. However, this study did not determine the reason that municipal leaders do not frequently leverage scientific research when making decisions.

Like the study on municipal leaders, Barends et al. (2017) questioned if managers' attitudes toward EBP were related to demographic variables, such as their age, education, or experience. They found that attitudes towards EBP were not particularly associated with age or experience. Attitudes were associated with the attention paid to science in the manager's formal education and that its impact was small to moderate. Attitudes towards EBP were also associated with managers' experience conducting research, with its impact being small to moderate (Barends et al., 2017). In the study of municipal leaders, years of experience in public administration was the only demographic variable that came close to having statistically significant differences in attitude toward using EBMgt among groups with varying amounts of experience. This study examined the municipal leaders' highest level of educational attainment with no statistically significant differences discovered. I did not collect data on the attention paid to science in the respondents' formal education or experience conducting research.

Comparison Between U.S. Municipal Leaders and Healthcare Administrators

The questionnaire used in my survey was slightly modified from Guo's (2015) study on healthcare administrators to make it appropriate for municipal leaders. Table 20 shows the survey questions on attitudes and the responses from this study and those of Guo's (2015) study. It is noteworthy that in three out of four instances, the attitudes fall in the same descending order.

Also, there is a slight difference between supporting the adoption of EBMgt in my organization and supporting the adoption of EBMgt in healthcare management.

Table 20

Comparison Between Attitudes

Municipal leaders (N = 228) and percent		Healthcare administrators (N = 152) and percent	
It is important to integrate the best available evidence into the municipal management decision-making process.	95	It is important to integrate the best available evidence into the healthcare management decision-making process.	89
Using EBMgt increases the quality of management decisions.	83	Using EBMgt increases the quality of management decisions.	81
I support the adoption of EBMgt in my organization.	70	I support the adoption of EBMgt in healthcare management.	80
Adopting EBMgt in my decision-making will improve organizational performance.	77	Adopting EBMgt in my decision-making will likely improve organizational performance.	69

Note. A positive response is one where respondents answered agree/somewhat agree or important/somewhat important or likely/somewhat likely in the U.S. municipal leader's survey on a 5-point Likert scale and participants who agreed and strongly agreed in Guo's (2015) healthcare administrators' survey on a 7-point Likert scale.

Comparing the percent of major decisions made using EBMgt, municipal leaders responded that nearly 53% used EBMgt more than 50% of the time as shown in Table 18. In contrast, about 37% of healthcare administrators reported using EBMgt more than 50% of the time (Guo, 2015). Table 21 shows additional comparisons between U.S. municipal leaders and U.S. healthcare administrators who answered nearly identical survey questions. The percentages shown are slightly different for municipal leaders and healthcare administrators, but the comparison indicates the same top four information sources used in decision-making.

Table 21

Comparisons Between the Most Used Information Sources

Information source used in decision-making	U.S. municipal leaders who used evidence on a daily or weekly basis (N = 228)	U.S. healthcare administrators (Guo, 2015) who used evidence on a daily or weekly basis (N = 154)
Personal experiences	92%	87%
Stakeholders' values and concerns	75%	64%
Organizational data	72%	84%
Peer/expert opinions	61%	50%

Table 22 shows that the top four information sources used least often in decision-making were identical between U.S. municipal leaders and healthcare administrators. The similarities in the data between these two populations have implications for practice and theory since the steps recommended in reducing the perceived barriers and increasing facilitators that are recommended in Guo's study may also apply to U.S. municipal leaders. The hierarchical order for evidence characterizes randomized controlled trials as the 'gold standard' followed by non-randomized controlled trials. Surveys and case studies are subject to bias and fall on the lower level of the hierarchical order. At the bottom of the hierarchical order are claims based solely on experts' personal experiences (Rousseau, 2012b). Based on this characterization of evidence, U.S. municipal leaders, HR managers, and U.S. healthcare administrators are using the least rigorous types of evidence more frequently and the most rigorous types of evidence least.

Table 22

Comparison of the Least Used Information Sources in Decision-Making

Least used information sources in decision-making	Percentage of U.S. municipal leaders who used evidence less than once a month or never (N = 228)	Percentage of U.S. healthcare administrators (Guo, 2015) who used evidence less than once a month or never (N = 154)
Randomized controlled trial studies	93%	79%
Scientific research findings	64%	52%
Case studies	61%	64%
Systematic reviews/meta-analysis	52%	52%

Table 23 shows that U.S. healthcare administrators and U.S. municipal leaders indicated the same top three perceived barriers of the lack of time, lack of training opportunities, and unfamiliarity with EBMgt. Both studies revealing that the lack of time was the top barrier to using EBMgt.

Table 23

Comparison of the Barriers to the Use of EBMgt in Participants

Perceived barrier	Percentage of U.S. municipal leaders who agreed and somewhat agreed (N = 228)	Percentage of U.S. healthcare administrators (Guo, 2015) who strongly agreed and agreed (N = 151 or 152)
Lack of interest	43%	31%
Lack of skills in appraising the quality of evidence	52%	50%
Lack of skills in searching literature	47%	40%
Lack of strong research evidence to support the use of EBMgt	47%	38%
Lack of time	75%	69%
Lack of training opportunities	64%	59%
Unfamiliarity with EBMgt	67%	52%

Note. U.S. municipal leaders answered agree/somewhat agree on a 5-point Likert scale. Healthcare administrators (Guo, 2015) answered strongly agree/agree on a 7-point Likert scale.

Similarities and slight differences can be observed in the data presented in Table 24, showing the comparison of the facilitators for using EBMgt between U.S. municipal leaders and U.S. healthcare administrators. The top two facilitators for U.S. healthcare administrators were the availability of access to EBMgt information resources and the creation of a culture that embraces EBMgt. For U.S. municipal leaders, creating a culture that embraces EBMgt was just as important to them as the availability of EBMgt training opportunities.

Table 24

Comparison of the Facilitators for Using EBMgt

Facilitator	Percentage of U.S. municipal leaders who agreed and somewhat agreed (N = 228)	Percentage of U.S. healthcare administrators (Guo, 2015) who strongly agreed and agreed (N = 152)
Availability of access to EBMgt information resources	62%	83%
Availability of EBMgt training opportunities	69%	69%
Availability of organization support	67%	72%
Creating a culture that embraces EBMgt	69%	80%
EBMgt practice promoted by professional associations	59%	65%

Note. U.S. municipal leaders answered agree/somewhat agree on a 5-point Likert scale. Healthcare administrators (Guo, 2015) answered strongly agree/agree on a 7-point Likert scale.

Implications for Practice

This study showed a highly positive correlation between attitudes toward using EBMgt and intention to use EBMgt among U.S. municipal leaders. Ninety-five percent of U.S. municipal leaders (N = 228) responded that it was important to integrate the best available evidence into the municipal management decision-making process. However, leaders mostly leverage less rigorous types of evidence when using EBMgt to make decisions. For example, 98% of the respondents in this study use personal experiences as a source of evidence for municipal management decision-making daily or weekly versus 36% who use scientific research findings at the same frequency. These same patterns were reflected in the results of Guo's (2015)

study of healthcare administrators. Barends et al.'s (2017) study also showed that international HR managers were not using scientific research findings to inform decisions very often.

Lack of time, unfamiliarity with EBMgt, and lack of training opportunities were the top three perceived barriers to using EBMgt in this study of municipal leaders. These variables were also the most agreed upon barriers revealed in Guo's (2015) study of healthcare administrators. Additionally, Barends et al.'s (2017) study of international HR managers identified lack of time as the top barrier to reading research studies, which is one of the more rigorous forms of evidence for decision-making advocated by EBMgt experts (Rousseau, 2012b). All three studies suggested that lack of time is a barrier deserving attention if leaders across diverse industries are to increase their practice of EBMgt. However, among the municipal leaders' top three barriers, lack of training opportunities was the only barrier showing a negative statistically significant relationship with intention to use EBMgt. In fact, the lack of training opportunities had the strongest correlation coefficient of the seven barriers that were analyzed in this study of municipal leaders. These conclusions suggest that overcoming the lack of training opportunities might be the most impactful focus area to increase EBMgt usage among U.S. municipal leaders.

In this research on municipal leaders, the top three facilitators to using EBMgt were the availability of EBMgt training programs, creating a culture of practicing EBMgt, and the availability of organizational support. These variables were also the most agreed-upon facilitators revealed in Guo's (2015) study of healthcare administrators. Additionally, this study and Guo's study indicated that all the analyzed facilitators had a positive statistically significant relationship with the intention to use EBMgt. For municipal leaders and healthcare administrators, creating a culture of practicing EBMgt had the strongest correlation. Providing facilitators, such as training opportunities and access to journals and databases, may begin the

campaign to create a culture of practicing EBMgt and signal organizational support for EBMgt. This strategy also supports the research conducted by Villanueva (2019) who revealed the importance of understanding and leveraging the entire organizational system (e.g., training and culture) to support evidence-based practices among individual practitioners best (Villanueva, 2019).

Implications for Research

This research on U.S. municipal leaders is the third study across different industries that has focused on identifying the most critical barriers and facilitators affecting the use of EBMgt. Across these studies, several patterns emerged. For instance, the majority of leaders seem to have a positive attitude toward using EBMgt. However, these studies suggest EBMgt training and developing a culture to cultivate EBMgt usage are needed. Further investigation is necessary to determine if these trends are prevalent across other industries.

Due to the current perceived barriers that this study has uncovered, namely, a lack of time, unfamiliarity with EBMgt, and lack of training opportunities, it will be challenging for U.S. municipal leaders to undertake the six-step process of EBMgt and conduct the research needed to solve managerial issues. Some municipalities contract consultant services (Sturdy, 2021) and municipal leaders should build relationships with researchers who are trained in research. Municipal leaders can also partner with organizations that use evidence that is higher on the reliability scale. Lugo-Gill et al. (2019) suggest improving relationships between evidence producers and decision-makers as a strategy to break down barriers to using evidence. Municipal leaders can create a culture encouraging EBMgt by applying evidence in all areas of decision-making.

While municipal leaders may not have time for traditional research endeavors and publication ventures, they might document their efforts to follow some of the principles of EBMgt as they investigate problems, make decisions based on evidence, and observe the results. Municipal leaders could partner with EBMgt research centers, such as Arnold Ventures, Campbell Collaboration, and the Pew-MacArthur Results First Initiative (PMRFI) that could publish the outcomes of these action research experiences undertaken within municipalities. This research could include efforts to enhance EBMgt facilitators, decrease barriers to using EBMgt, or implement a new public policy following EBMgt practice.

Contribution to Quality Management Systems Body of Knowledge

Tort-Martorell et al. (2011) suggest that intuition or personal experience may, at best, complement the most accurate and relevant information available to decision-makers. However, even the most relevant and available information falls short of providing the information to make a business decision with total certainty. Thus, making decisions based on facts has always been one of the principal hallmarks of quality management systems (Tort-Martorell et al., (2011). Quality management systems or quality initiatives rely on managers who can formulate a business problem into a question; access the best information available to them, whether that be program evaluations, internal organizational information, or stakeholder values; and then assess the quality of that information. These duties that a manager must be able to perform are steps of the EBMgt structured process.

Fact-based decision-making, evidence-informed decision-making, evidence-based practices, management by fact, evidence-based decision-making, and evidence-based management are central components of the three most prominent quality management systems. For instance, the principles of customer focus, leadership, engagement of people, process

approach, improvement, evidence-based decision-making, and relationship management represent the seven principles of ISO 9001:2015 (International Organization for Standardization, 2019). The European Foundation for Quality Management (EFQM) recognizes the need to collect and analyze feedback to improve or change products, services, or solutions (EFQM, 2021). The Malcolm Baldridge model considers management by fact as a core concept to measure and analyze an organization's performance internally and in the competitive environment (NIST, 2021). This study has built on current research and international quality standards that prioritize data, information, and scientific research both internal to the organization and exterior to the organization to improve quality management systems (European Foundation for Quality Management, 2021; International Organization for Standardization, 2019).

This study highlighted a relatively new decision-making tool using a six-step process known as EBMgt to make higher quality decisions based on the best available evidence by reducing bias and increasing objectivity. For the municipal leader, using EBMgt in decision-making may also lead to greater transparency in the decisions made over the use of public resources, thus better serving municipality residents and business owners, who are the municipality leaders' customers. The impact may extend to ISO certification auditors. An ISO 9001:2015 internal auditor may bolster their internal certification reviews by learning to judge the evidence's trustworthiness and relevance critically. The internal quality auditor may learn to assemble the evidence in assessing a specific process.

U.S. municipal leaders who wish to implement EBMgt in their management practices may face similar challenges as organizations who have attempted to implement benchmarking, ISO 9001 management standards, or other quality management systems. This is likely because

the barriers to using EBMgt revealed by this study are very similar to the obstacles revealed to the implementation of benchmarking (Williams et al., 2012) and ISO 9001 management standards. For instance, lack of time, unfamiliarity with the new quality initiative to be adopted, lack of a culture that embraces the new quality management system, and lack of training opportunities explaining and using the new quality system have been found to plague organizations that implement ISO 9001 management standards. Sfakianaki and Kakouris (2020) observed insufficient commitment by senior management, insufficient training for quality, and lack of financial resources as obstacles to ISO 9001 management standards by small-to-medium enterprises in the Greek food and beverage industry (Sfakianaki & Kakouris, 2020).

Similarities exist between implementation challenges between EBMgt and benchmarking. According to Criado-Perez et al. (2024), EBMgt research was focused on conceptual papers and advocacy articles, leaving some to question if EBMgt has actually resulted in organizational improvement. In a systematic literature review of 30 authoritative works, Williams et al., (2012) found that some top managers also believe benchmarking has little rigorous research backing the methodology. Their research revealed that concerns exist among management that the internal capacity about finances, time, expertise, data, and organizational hierarchy may contribute to benchmarking reluctance. They further cite that organizational cultures can be resistant to change of any kind due to fear of the unknown. Lack of leadership enthusiasm for benchmarking was also a recurring theme in their research (William, et al., 2012). Thus, like EBMgt, implementation of any new or unfamiliar quality management systems has a certain degree of resistance among employees.

Theoretical Implications

The Theory of Planned Behavior (TPB) was the chosen theoretical framework to evaluate the relationship between attitudes, social norms, and perceived barriers to using EBMgt for this study. Ajzen (1991) contended that TPB could predict an individual's intention to perform a particular behavior by examining attitude, social norms, and perceived behavioral control. The theory was also flexible to include additional predictors that can capture a significant proportion of the variance in intention, which may include personal factors such as age, education, or years of experience. TPB has been effective at predicting intention in international managerial attitudes and perceived barriers regarding evidence-based practice (Barends et al., 2017). Also, Guo et al. (2017) investigated what influences the behavior of US healthcare administrators, revealing that attitude was the strongest predictor of their intention to use evidence-based management (Guo et al., 2017). This study's results support the TPB theoretical framework as they showed a strong correlation between municipal leaders' attitude toward using EBMgt and their intention to use EBMgt. Furthermore, one additional variable, namely, the years of public administration experience, was shown to affect the intention to use EBMgt among municipal leaders.

Strengths

A strength of the research design for this study was the appropriateness of a survey as the quantitative approach to measure a population's trends, attitudes, or opinions (Creswell, 2014). Using a survey instrument very similar to one that was already tested for reliability was another strength. The Cronbach's alpha measure showed that my slightly modified questionnaire was equally robust. A comparison of this study's results to those of two other EBMgt studies was possible because I was able to secure permission to use questions from an existing questionnaire. Another strength of this research effort was my attempt to obtain a large sample by using a

sizeable, reliable database of 16,500 municipal leaders representing all 50 states. Finally, nearly half of the municipal leaders who engaged in the survey were unfamiliar with the six-step process of EBMgt. Therefore, this study presented a new decision-making framework for them to explore.

Limitations

Several limitations were identified before and during the study. These five limitations are discussed below and include: a) perceptions limited to those who participated, b) reliability of self-reported data, c) decreased number of respondents due to an email invitation sent from an unknown source versus an email from a more established trusted source such as GovSearch, d) use of convenience sample without developing a sampling plan, and e) use of less robust nonparametric statistical methods.

The limitations of this study included those inherent in survey research (Creswell, 2014). Findings may have been limited to the perceptions of municipal leaders who responded out of a particular bias, either positive or negative, toward the use of EBMgt in managerial decision-making. Thus, the first limitation was that a response bias may have occurred due to self-reporting by the participants.

A second assumption was that each participant was working as a mayor, city manager, or city administrator when the survey was administered. Participants are expected to self-report and respond truthfully, which is reasonable because their participation was anonymous, without any perceived benefits or risks associated with their responses.

The third limitation might have been diminished if more pilot testing had been conducted to determine if more U.S. municipal leaders might have opened the survey invitation if the email had come from a trusted source such as GovSearch. While it was encouraging that over 800

municipal leaders started the survey, which likely would have resulted in a response rate that is more statistically significant for generalization, I removed participant responses who left any question unanswered. Therefore, after data screening, having a sample of only 228 participants limited the use of more robust parametric statistical testing methods.

The fourth limitation resulted from the sampling methodology. For its ease and accessibility of participants, a non-probability sampling technique was utilized known as a convenience sample (Vogt et al., 2017). However, a convenience sample is, in many cases, deemed a limitation of a research study. Lacking a sampling plan, it was unknown if the sample was or was not representative of the population across key demographic variables. Using Slovin's (Ellen, 2004) formula for computing sample size, I needed a sample of 392, which represents 2.0% of the total number of local governments in the United States of America based on Census Bureau data (Statista, 2024) to obtain a more representative sample. Since I had access to more than 16,500 municipal leaders from the GovSearch API™ database, representing municipal leaders in every region of the country, the convenience sample seemed to be the most appropriate sample methodology. Although 832 municipal leaders started the survey, only 228 individuals were included in the analysis, but responses from U.S. municipal leaders from every geographical region were represented in the survey.

Finally, the sample size of 228 participants also limited the robustness of the statistical tools that could be employed to answer the research questions. Additionally, to meet some of the assumptions of the Kruskal-Wallis test, a nonparametric test, each demographic group had to have at least five observations for a sufficient sample size (McClenaghan, 2023). Therefore, I had to combine the generation category of Generation Z (n = 1) with millennials (n = 29) to create a new group (e.g., millennials and Gen Z). Similarly, in the case of the municipality size

category, the groups of 250,001 – 500,00 (n = 4), 500,001- 750,000 (n = 3), and over 750,001 (n = 5) were combined into one group of over 250,001 (n = 12).

Recommendations for Future Research

Based on the results of this study on municipal leaders, I recommend the following research to further the EBMgt body of knowledge:

- Study the effectiveness of providing EBMgt training to municipal leaders.
- Study the attitudes, perceived barriers, and facilitators to using EBMgt of managers in industries that have not yet been researched.
- Study the attitudes, perceived barriers, and facilitators to using EBMgt of federal government leaders.

Researchers have suggested that longitudinal follow-ups of managers who had received evidence-based practices training must determine how many of them implemented evidence-based practices and to what extent it has been implemented. Also, it needs to be determined what the measurable outcomes have been (Rynes & Bartunek, 2017). There remains a void in research on the attitudes, perceived barriers, and facilitators to using EBMgt among business managers, but especially among federal policymakers who are mandated by the Evidence Act of 2018 to use evidence as their principal source of information in their decision-making.

Recommendations for Practice

Based on the results of this study on municipal leaders, I recommend that municipalities consider adopting the following practices:

- Partner with local organizations to gain access to databases with journal articles containing research findings.

- Provide EBMgt learning opportunities to municipal leaders and their staff.
- Contract with business consultants to aid municipal leaders in implementing EBMgt.
- Integrate training and cultural development for EBMgt and QMS.

Sixty-seven percent of the respondents in my U.S. municipal leader research sample were highly educated with a graduate degree. These leaders can benefit from opportunities to learn about EBMgt and to access reliable sources of information that can aid them in their decision-making. While municipalities may not want to subscribe to databases with journal articles for their staff to access, municipal leaders may be able to coordinate access to journals through databases to which their local library, public university, or community college subscribe.

U.S. municipal leaders should avail themselves of adult learning opportunities at organizations and universities that teach EBMgt. Rousseau (2020) advocated that graduate students in business schools be taught EBMgt. Auger et al. (2018) found that graduate students who were taught EBMgt improved critical thinking skills. Barends et al. (2021) wrote about the Campbell Collaboration that promotes the development, use, and training in systematic reviews for management and organizational research. The Campbell Collaboration's focus was to combat the view that unfamiliarity with systematic review methods and insufficient training were pervasive in business and management (Barends et al., 2021). Inexpensive courses offered by the Center for Evidence Based Management or at Carnegie Mellon University would enable municipal leaders to become familiar with EBMgt, learn how to appraise the quality of evidence and improve skills in searching the literature. Municipal leaders may use their new skills to improve decision-making and to increase transparency in how decisions are made.

Based on the findings of this study, I would recommend that U.S. municipal leaders consider adopting EBMgt by contracting with firms such as Arnold Ventures, Campbell

Collaboration, and the Pew-MacArthur Results First Initiative. These business consultants are known for applying randomized controlled trial studies, scientific research findings, systematic reviews, and meta-analyses to aid policymakers in determining what works and why in public initiatives. These sources of information are precisely the least used by U.S. municipal leaders, as demonstrated by this research.

This study on municipal leaders showed that the barriers to adopting EBMgt are many of the same barriers encountered when implementing quality management systems and tools. Municipalities may leverage EBMgt in their practice of quality management by incorporating training and cultural development for EBMgt into training and cultivation of a culture to support their quality management system.

Conclusion

Congress has passed at least five laws to strengthen federal evidence-building (GAO, 2021). Most recently, the Office of Management and Budget (OMB, 2021) declared that decision-makers must use facts through rigorous and systematic analysis governed by principles of scientific integrity. The trend to improve decision-making in the public and private sectors relying on academic research is a positive step towards understanding why certain programs achieve their objectives while others fall short.

Senior public administrators are tasked to collect evidence from various sources. They are encouraged by the Federal government to conduct systematic reviews of scientific research. However, this study showed that U.S. municipal leaders seldom use scientific research and acknowledge that lack of time, lack of a culture that supports EBMgt, and a lack of training opportunities are significant barriers to using EBMgt. Training and educational opportunities from the Center for Evidence Based Management in connection with Carnegie Mellon

University are available to improve the skills necessary to conduct EBMgt. In availing themselves of the work of these two organizations, U.S. municipal leaders could move one step closer to understanding what works and why to solve society's problems.

References

Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes, 50*(2), 179-211. https://doi/10.1016/0749-5978(91)90020-T

Ajzen, I., & Madden, T. J. (1986). Prediction of goal-directed behavior: Attitudes, intentions and perceived behavioral control. *Journal of Experimental Social Psychology*, *22*(5), 453-474. http://dx.doi.org/10.1016/0022-1031(86)90045-4

Arnold Ventures. (2023, December 14). *23 Stories of transformative policymaking from 2023*. https://www.arnoldventures.org/stories/23-stories-of-transformative-policymaking-from-2023

Auger, P., Mirvis, P., & Woodman, R. (2018). Getting lost to find direction: Grounded theorizing and consciousness-raising in management education. *Management Learning*, *49*(4), 453–470. https://doi.org/10.1177/1350507618776595

Barends, E., Janssen, B., ten Have, W., & ten Have, S. (2013). Effects of change interventions: What kind of evidence do we really have? *The Journal of Applied Behavioral Science*, *50*(1), 5-27. https://doi.org/10.1177/0021886312473152

Barends, E., Littell, J. H., & Rousseau, D. M. (2021). Priming the pump at the Campbell Business and Management Coordinating Group. *Campbell Systematic Reviews*, *17*(1). https://doi.org/10.1002/cl2.1147

Barends, E., & Rousseau, D. M. (2018). *Evidence-based management: How to use evidence to make better organizational decisions* (1st ed.). Kogan Page Limited.

Barends, E., Rousseau, D. M., & Briner, R. B. (2014). *Evidence-based management: The basic principles*. Center for Evidence Based Management. https://doi.org/10.1007/978-3-030-76606-1_50

Barends, E., Villanueva, J., Rousseau, D. M., Briner, R. B., Jepsen, D. M., Houghton, E., & ten Have, S. (2017). Managerial attitudes and perceived barriers regarding evidence-based practice: An international survey. *PloS ONE, 12*(10), Article e0184594. https://doi.org/10.1371/journal.pone.0184594

Bezzina, F., Cassar, V., Tracz-Krupa, K., Przytula, S., & Tipurić, D. (2017). Evidence-based human resource management practices in three E.U. developing member states: Can managers tell truth from fallacy? *European Management Journal, 35*(5)*,* 688-700. https://doi.org/10.1016/j.emj/2017.02.010

Black, T. R. (2005). *Doing quantitative research in the social sciences: An integrated approach to research design, measurement and statistics.* Sage. https://doi.org/10.1017/S0021932001236232

Bond, G. R. (2018). Evidence-based policy strategies: A typology. *Clinical Psychology Science and Practice, 25*(4), 1-14. https://doi.org/10.111/cpsp.12267

Bosnjak, M., Ajzen, I., & Schmidt, P. (2020). The theory of planned behavior: Selected recent advances and applications. *Europe's Journal of Psychology*, *16*(3), 352–356. https://doi.org/10.5964/ejop.v16i3.3107

Briner, R. B., Denyer, D., & Rousseau, D. M. (2009). Evidence-based management: Construct clean-up time? *Academy of Management Perspectives, 23*(4), 19-32. https://doi.org/10.5465/AMP.2009.45590138

Briner, R. B., & Rousseau, D. M. (2011). Evidence-based I–O psychology: Not there yet. *Industrial and Organizational Psychology*, *4*(1), 3-22. https://doi.org/10.1111/j.1754-9434.2010.01287.x

Brink, K. E., Palmer, T. B., & Costigan, R. D. (2018). Business school learning goals: Alignment with evidence-based models and accreditation standards. *Journal of Management and Organization*, *24*(4), 474–491. https://doi.org/10.1017/jmo.2017.35

Brown, M., & Hale, K. (2014). *Applied research methods in public & nonprofit organizations* (1st ed.). Jossey-Bass.

Bundgaard, H., Bundgaard, J. S., Raaschou-Pedersen, D., von Buchwald, C., Todsen, T., Norsk, J. B., Pries-Heje, M. M., Vissing, C. R., Nielsen, P. B., Winsløw, U. C., Fogh, K., Hasselbalch, R., Kristensen, J. H., Ringgaard, A., Porsborg Andersen, M., Goecke, N. B., Trebbien, R., Skovgaard, K., Benfield, T., & Iversen, K. (2021). Effectiveness of adding a mask recommendation to other public health measures to prevent SARS-CoV-2 infection in Danish mask wearers: A randomized controlled trial. *Annals of Internal Medicine*, *174*(3), 335–343. https://doi.org/10.7326/M20-6817

Camp, R. C. (1993). Benchmarking—a conversation with Robert Camp. The source. Interview by Joe Flower. *The Healthcare Forum Journal, 36*(1), 30-36. https://pubmed.ncbi.nlm.nih.gov/10122946/

Caruso, C. (2018). *Evidence and decision-making by executive budget analysts: Case studies from four states* (Publication No. 10809575) [Doctoral dissertation, University of Delaware]. ProQuest Dissertations and Theses Global.

Cassar, V., Tracz-Krupa, K., Bezzina, F., & Przytuła, S. (2018). “The times they are-a-changin”: Reconstructing the new role of the strategic HR manager. *Management Sciences*, *23*(3), 3–11. https://doi.org/10.15611/ms.2018.3.01

Center for Evidence Based Management (2024). *Resources.* CEBMa.org. https://cebma.org

Cheema, J. R. (2014). A review of missing data handling methods in education research. *Review of Educational Research, 84*(4), 487-508. https://doi.org/10.3102/0034654314532697

Chester, D. S. & Lasko, E. N. (2020). Construct validation of experimental manipulations in social psychology: Current practices and recommendations for the future. *Perspectives on Psychological Science 16*(2), 377-395. https://doi.org/10.1177/1745691620950684

Christie, C. A., & Alkin, M. C. (2008). Evaluation theory tree re-examined. *Studies in Educational Evaluation, 34*(3), 131-135. https://doi.org/10.1016/j.stueduc.2008.07.001

Chrobot-Mason, D., Hoobler, J. M., & Bruno, J. (2019). Lean in versus the literature: An evidence-based examination. *Academy of Management Perspectives, 33*(1), 110–130. https://doi.org/10.5465/amp.2016.0156

Cochran, C. (2015). *ISO 9001:2015 in plain English*. Paton Professional.

Collins, J. (2001). *Good to great: Why some companies make the leap...and others don't.* HarperCollins Publishers. https://doi.org/10.1016/j.jacr.2004.02.006

Collins, J., & Porras, J. I. (1994). *Built to last: Successful habits of visionary companies.* HarperCollins Publishers.

Commission on Evidence-Based Policymaking. (2016). *The promise of evidence-based policymaking* [Report]. https://bipartisanpolicy.org/download/?file=/wp-content/uploads/2019/03/Full-Report-The-Promise-of-Evidence-Based-Policymaking-Report-of-the-Comission-on-Evidence-based-Policymaking.pdf

Cook, D. J., Mulrow, C. D., & Haynes, R. B. (1997). Systematic reviews: Synthesis of best evidence for clinical decisions. *Annals of Internal Medicine, 126*(5), 376-380. https://www.researchgate.net/publication/14157764_Systematic_Reviews_Synthesis_of_Best_Evidence_for_Clinical_Decisions

Creswell, J. (2014). *Research design: Qualitative, quantitative, mixed methods approaches* (3rd ed.). SAGE Publishing. https://www.ucg.ac.me/skladiste/blog_609332/objava_105202/fajlovi/Creswell.pdf

Criado-Perez, C., Collins, C. G., & Jackson, C. (2020a). Enablers of evidence-based management: Clues from the absorptive capacity literature. *Australian Journal of Management*, *45*(3), 468–487. https://doi.org/10.1177/0312896220919784

Criado-Perez, C., Collins, C. G., Jackson, C. J., Oldfield, P., Pollard, B., & Sanders, K. (2020b). Beyond an 'informed opinion': Evidence-based practice in the built environment. *Architectural Engineering and Design Management*, *16*(1), 23–40. https://doi.org/10.1080/17452007.2019.1617670

Criado-Perez, C., Jackson, C., Minbashian, A., & Collins, C. G. (2024). Cognitive reflection and decision-making accuracy: Examining their relation and boundary conditions in the context of evidence-based management. *Journal of Business and Psychology, 39,* 249-273. https://doi.org/10.1007/s10869-023-09883-x

Cruz, J. C. (2022). *The underexploited frontier of business intelligence: Leveraging academic research evidence for management decision-making* (Publication No. 28264759) [Doctoral dissertation, University of Maryland University College]. ProQuest Dissertations and Theses Global.

Daly, J. (2005). *Evidence-based medicine and the search for a science of clinical care.* University of California Press.

Daouk-Öyry, L., Sahakian, T., & van de Vijver, F. (2021). Evidence-based management competency model for managers in hospital settings. *British Journal of Management, 32*(4), 1-20. https://onlinelibrary.wiley.com/doi/full/10.1111/1467-8551.12434

Davis, E., Shaw, T., Hart, N., & Hoagland, G. W. (2018). *Evidence use in Congress: Options for charting a new direction* (Vol. 2). Bipartisan Policy Center. https://bipartisanpolicy.org/report/evidence-in-congress-volume-2/

Dawes, M., Summerskill, W., Glasziou, P., Cartabellotta, A., Martin, J., Hopayian, K., Porzsolt, F., Burls, A., & Osborne, J. (2005). Sicily statement on evidence-based practice. *BMC Medical Education, 5*(1), 1-7. https://doi.org/10.1186/1472-6920-5-1

de Graaf, F. J. (2019). Ethics and behavioural theory: How do professionals assess their mental models? *Journal of Business Ethics*, *157*(4), 933–947. https://doi.org/10.1007/s10551-018-3955-6

de Man, A. P., Luvison, D., & de Leeuw, T. (2022). A temporal view on the academic-practitioner gap. *Journal of Management Inquiry, 31*(2), 181-196.

de Waal, A., & de Haas, J. (2018). Longitudinal research into the effects of the high performance organization framework: The case of NEH Philippines. *International Journal of Productivity and Performance Management*, *67*(6), 985–999. https://doi.org/10.1108/IJPPM-08-2017-0183

Doll, J., & Ajzen, I. (1992). Accessibility and stability of predictors in the theory of planned behavior. *Journal of Personal Social Psychology, 63*(5)*,* 754-765. https://doi.org/10.1037/0022-3514.63.5.754

Edwards, J. R. (2008). To prosper, organizational psychology should….overcome methodological barriers to progress. *Journal of Organizational Behavior, 29*(4), 469-491. https://doi.org/10.1002/job.529

Ellen, S. (2024, June 1). *Slovin's Formula sampling techniques*. Sciencing.com. https://sciencing.com/slovins-formula-sampling-techniques-5475547.html

Evans, J. R., & Dean, J. W. (2000). *Total quality: Management, organization, and strategy* (2nd ed.). South-Western Publishing.

Evidence-Based Medicine Working Group. (1992). Evidence-based medicine: A new approach to teaching the practice of medicine. *Journal of the American Medical Association, 268*(17), 2420-2425. https://doi.org/10/1001/jama.1992.03490170092032

Feinstein, A. R., & Horwitz, R. I. (1997). Problems in the "evidence" of "evidence-based medicine." *The American Journal of Medicine*, *103*(6), 529–535. https://doi.org/10.1016/s0002-9343(97)00244-1

Fishbein, M., & Ajzen, I. (2009). *Predicting and changing behavior: The reasoned action approach* (1st ed.). Psychology Press. https://doi.org/10.4324/9780203838020

Foreign Aid Transparency and Accountability Act of 2016 22 USC § 2151. (2016).

Foundations for Evidence-Based Policymaking Act of 2018, Pub. L. No. 115-435, 132 § 5529. (2019).

George, D., & Mallery, P. (2016). *IBM SPSS for Windows step by step: A simple guide and reference* (14th ed.). Routledge. https://doi.org/10.4324/9781315545899

Government Accountability Office. (2019a). *Evidence-based policymaking* (GAO Publication No. 20-119). U.S. Government Printing Office. https://www.gao.gov/assets/710/702997.pdf

Government Accountability Office. (2019b). *Foreign assistance: Federal monitoring and evaluation guidelines incorporate most but not all leading practices* (GAO Publication No. 19-466). U.S. Government Printing Office. https://www.gao.gov/products/gao-19-466

Government Accountability Office. (2019c). *Improving program management: Key actions taken, but further efforts needed to strengthen standards, expand reviews, and address high-risk areas* (GAO Publication No. 20-44). U.S. Government Printing Office. https://www.gao.gov/assets/710/703235.pdf

Government Accountability Office. (2023). *Evidence-based policymaking: Practices to help manage and assess the results of federal efforts* (GAO Publication No. 23-105460). https://www.gao.gov/products/gao-23-105460

GPRA Modernization Act, 124 § 3866. (2011). https://www.congress.gov/111/plaws/publ352/PLAW-111publ352.pdf

Greasley, K., & Thomas, P. (2020). HR analytics: The onto-epistemology and politics of metricized HRM. *Human Resource Management Journal*, *30*(4), 494–507. https://doi.org/10.1111/1748-8583.12283

Greenhalgh, T., & Russell, J. (2009). Evidence-based policymaking: A critique. *Perspectives in Biology and Medicine, 52*(2), 304-18. https://doi.org10.1353/pbm.0.0085

Gubbins, C., Harney, B., van der Werff, L., & Rousseau, D. M. (2018). Enhancing the trustworthiness and credibility of human resource development: Evidence-based management to the rescue? *Human Resource Development Quarterly*, *29*(3), 193–202. https://doi.org/10.1002/hrdq.21313

Guo, R. (2015). *Prediction of intention to use evidence-based management among healthcare administrators in the United States* (Publication No. 3688359) [Doctoral dissertation, Central Michigan University]. ProQuest Dissertations and Theses Global.

Guo, R., Berkshire, S. D., Fulton, L. V., & Hermanson, P. M. (2016). Use of evidence-based management in healthcare administration decision-making. *Leadership in Health Services, 30*(3), 330-342. https://doi.org/10.1108/LHS-07-2016-0033

Guo, R., Berkshire, S. D., Fulton, L. V., & Hermanson, P. M. (2018). Factors affecting the adoption of evidence-based management among U.S. healthcare administrators. *American Journal of Management, 18*(1), 36-47. https://doi.org/10.33423/ajm.v18i1.303

Hagger, M. S., Cheung, M. W. L., Ajzen, I., & Hamilton, K. (2022). Perceived behavioral control moderating effects in the theory of planned behavior: A meta-analysis. *Health Psychology,41*(2), 155-167. https://doi.org/10.1037/hea0001153

Hahn, R. (2019). Building upon foundations for evidence-based policy. *Science, 364*(6440), 534-535. https://doi.org/10.1126/science.aaw9446

Hak, F. R., & Sanders, K. (2018). Principled negotiation: An evidence-based perspective. *Evidence-Based HRM*, *6*(1), 66–76. https://doi.org/10.1108/EBHRM-03-2017-0014

Hale, S., Dunn, L., Filby, N., Rice, J., & Van Houten, L. (2017). *Evidence-based improvement: A guide for states to strengthen their frameworks and supports aligned to the evidence requirements of ESSA.* WestEd. https://www.wested.org/resources/evidence-based-improvement-essa-guide-for-states/

Hall, J. L., & Van Ryzin, G. G. (2018). A norm of evidence and research in decision-making (NERD): Scale development, reliability, and validity. *Public Administration Review*, *79*(3), 321–329. https://doi.org/10.1111/puar.12995

Hart, N., Davis, E., & Shaw, T. (2018). *Evidence use in Congress: Challenges for evidence-based policymaking* (Vol. 1). Bipartisan Policy Center. https://bipartisanpolicy.org/report/evidence-in-congress-volume-1/

Head, B. W. (2015). Toward more "evidence-informed" policy making? *Public Administration Review, 76*(3), 472-484. https://doi.org/10.1111/puar.12475

Herby, J., Jonung, L., & Hanke, S. H. (2022). A literature review and meta-analysis of the effects of lockdowns on COVID-19 mortality. *Studies in Applied Economics*, 200. https://sites.krieger.jhu.edu/iae/files/2022/01/A-Literature-Review-and-Meta-Analysis-of-the-Effects-of-Lockdowns-on-COVID-19-Mortality.pdf

Hugh, M. L., Johnson, L. D., & Cook, C. (2022). Preschool teachers' selection of social communication interventions for children with autism: An application of the theory of planned behavior. *Autism: The International Journal of Research & Practice, 26*(1), 188-200. https://doi.org/10.1177/13623613211024795

Hulpke, J. F., & Fronmueller, M. P. (2020). [Review of book *Evidence-based management: How to make better organizational decisions,* by E. Barends and D. Rousseau]. *Journal of Business Ethics, 164*(2), 417–419. https://doi.org/10.1007/S10551-020-04488-3

Hulpke, J. F., & Fronmueller, M. P. (2021). What's not to like about evidence-based management: A hyper-rational fad? *International Journal of Organizational Analysis 30*(7)*,* 95-123. https://doi.org/10.1108/IJOA-06-2020-2278

International Organization for Standardization. (2015). *ISO 9000:2015. Quality management systems – Fundamentals and vocabulary* (4th ed.). https://www.iso.org/standard/45481.html

International Organization for Standardization. (2019). *ISO 18091:2019 Quality management systems – Guidelines for the application of ISO 9001 in local government* (2nd ed.). https://www.iso.org/standard/72808.html

Ioannidis J. P. A. (2005). Why most published research findings are false. *Public Library of Science (PLoS) Medicine, 2*(8), Article e124. https://doi.org/10.1371/journal.pmed.0020124

Jackson, N. C., & Leung, O. M. C. (2018). Evidence-based management for today's "ambidextrous" organizations. *Strategy and Leadership*, *46*(4), 28–36. https://doi.org/10.1108/SL-03-2018-0027/FULL/XML

Jepsen, D. M., & Rousseau, D. M. (2016, February 20-22). *Uncovering the role of managerial evidence use in the employee experience of leadership and learning.* [Conference session]. Academy of Management HR International Conference, Sydney, Australia. https://researchers.mq.edu.au/en/publications/uncovering-the-role-of-managerial-evidence-use-in-the-employee-ex

Jepsen, D. M., & Rousseau, D. M. (2019, May 29-June 1). *How managerial evidence use relates to employee perceptions of leadership* [Paper presentation]. 19th European Association of Work and Organizational Psychology Congress, Turin, Italy.

Jesussek, M., & Volk-Jesussek, H. (2023). *Statistics made easy: An understandable introduction* (1st ed.). DataTab e.U. Statistics-made-easy.pdf

John, P. K., Lear, E., L'Espoir Decosta, P., Gregor, S., Dann, S., & Sun, R. (2020). Designing a visual tool for teaching and learning front-end innovation. *Technology Innovation Management Review*, *10*(9), 16–26. https://doi.org/10.22215/TIMREVIEW/1386

Juran, J. M. & Godfrey, A. B. (1951). *Juran's quality handbook.* (5th ed.). McGraw-Hill. https://gmpua.com/QM/Book/quality%20handbook.pdf

Kaushal, N. (2018). Relevance of evidence based decision making: Cases in ancient and current scenarios. *Management Dynamics*, *18*(2), 9-18. https://doi.org/10.57198/2583-4932.1032

Kovner, A. R., Elton, J. J., & Billings, J. (2000). Evidence-based management. *Frontiers of Health Services Management*, *16*(4), 3–24. https://pubmed.ncbi.nlm.nih.gov/11183283/

Kuchenmüller, T., Reeder, J. C., Reveiz, L., Tomson, G., El-Jardali, F., Lavis, J. N., Rashidian, A., Reinap, M., Grove, J. T., & Swaminathan, S. (2021). COVID-19: Investing in-country capacity to bridge science, policy, and action. *British Medical Journal Global Health, 6*(2), 1-3.https://doi.org/10.1136/bmjgh-2021-005012

Kuckartz, U., Rädiker, S., Thomas, E. & Schehl, J. (2013). *Statistik: Eine verständliche einführung* (2nd ed.). Springer.

Kuhn, T. S., & Hacking, I. (2012). *The structure of scientific revolutions: 50th anniversary edition.* University of Chicago Press.

Kulikowski, K. (2021). The model of evidence-based benchmarking: A more robust approach to benchmarking. *Benchmarking*, *28*(2), 721–736. https://doi.org/10.1108/BIJ-04-2020-0175

Laerd Statistics. (2018a). *Ordinal regression using SPSS statistics*. https://statistics.laerd.com/spss-tutorials/ordinal-regression-using-spss-statistics.php

Laerd Statistics. (2018b). *Pearson's product-moment correlation using SPSS statistics*. https://statistics.laerd.com/spss-tutorials/pearsons-product-moment-correlation-using-spss-statistics.php

Laerd Statistics. (2018c). *Spearman's rank order correlation using SPSS statistics*. https://statistics.laerd.com/spss-tutorials/spearmans-rank-order-correlation-using-spss-statistics

Lake, C. J., Carlson, J., Rose, A., & Chlevin-Thieles, C. (2019). Trust in name brand assessments: The case of the Myers-Briggs type indicator. *Psychologist-Manager Journal*, *22*(2), 91–107. https://doi.org/10.1037/mgr0000086

Lemire, S., Fierro, L. A., Kinarsky, A. R., Fujita-Conrads, E., & Christie, C. A. (2018). The US federal evaluation market. *New Directions for Evaluation*, *2018*(160), 63-80. https://doi.org/https://doi.org/10.1002/ev.20343

Leroy, H. L., Anisman-Razin, M., Avolio, B. J., Bresman, H., Stuart Bunderson, J., Burris, E. R., Claeys, J., Detert, J. R., Dragoni, L., Giessner, S. R., Kniffin, K. M., Kolditz, T., Petriglieri, G., Pettit, N. C., Sitkin, S. B., Van Quaquebeke, N., & Vongswasdi, P. (2022). Walking our evidence-based talk: The case of leadership development in business schools. *Journal of Leadership and Organizational Studies*, *29*(1), 5–32. https://doi.org/10.1177/15480518211062563

Lopes De Leao Laguna, L., Poell, R., & Meerman, M. (2018). Practitioner research for the professionalization of human resources practice: Empirical data from the Netherlands. *Human Resource Development International*, *22*(1), 68–90. https://doi.org/10.1080/13678868.2018.1483150

Lugo-Gil, J., Jean-Baptiste, D., & Jaramillo, L. F. (2019). Use of evidence to drive decision-making in government. *Mathematica Policy Research.* https://mathmatica.org/publications/use-of-evidence-to-drive-decision-making-in-government

Lupova-Henry, E., Blili, S., & Dal Zotto, C. (2021). Innovation-centric cluster business model: Findings from a design-oriented literature review. *Triple Helix*, *84*(2), 1–48. https://doi.org/10.1163/21971927-BJA10012

Marin-Garcia, J. A. (2021). Three-stage publishing to support evidence-based management practice. *WPOM-Working Papers on Operations Management,12*(2), 56-95. https://doi.org/10.4995/wpom.11755

Martelli, P. F., & Hayirli, T. C. (2018). Three perspectives on evidence-based management: Rank, fit, variety. *Management Decision*, *56*(10), 2085–2100. https://doi.org/10.1108/MD-09-2017-0920/FULL/XML

McCartney, S., & Fu, N. (2022). Bridging the gap: Why, how, and when HR analytics can impact organizational performance. *Management Decision*, *60*(13), 25–47. https://doi.org/10.1108/MD-12-2020-1581

McClenaghan, E. (2023, February). The Kruskal-Wallis test. *Technology Networks.* https://www.technologynetworks.com/tn/articles/the-kruskal-wallis-test-370025

McClenaghan, E. (2024, April 22). Spearman rank correlation. *Technology Networks.* https://www.technologynetworks.com/tn/articles/spearman-rank-correlation-385744

McCune, D. (2021). *Quantitative study of perinatal nurses' attitudes toward evidence-based practices* (Publication No. 28772106) [Doctoral dissertation, University of Phoenix]. ProQuest Dissertations and Theses Global.

McKee, M., Gugushvili, A., Koltai, J., & Stuckler, D. (2021). Are populist leaders creating the conditions for the spread of COVID-19? Comment on "A scoping review of populist radical right parties' influence on welfare policy and its implications for population health in Europe." *International Journal of Health Policy and Management, 10*(8), 511-515. https://doi.org/10.34172/IJHPM.2020.124

Melissen, J., & Jochems, P. (2020). Increasing control of operations and improving financial performance at regional airports: A case study of Viggo Eindhoven Airport. *Journal of*

Airport Management, *14*(2), 141–152. https://hstalks.com/article/5521/increasing-control-of-operations-and-improving-fin/

Morrell, K., & Learmonth, M. (2015). Against evidence-based management for management learning. *Academy of Management Learning & Education*, *14*(4), 520-533. https://doi.org/10.5465/amle.2014.0346

Mosley, J. E., & Gibson, K. (2017). Strategic use of evidence in state-level policymaking: Matching evidence type to legislative stage. *Policy Sciences,* 50(4), 1-23. https://ideas.repec.org/a/kap/policy/v50y2017i4d10.1007_s11077-017-9289-x.html

National Commission for the Protection of Human Subjects of Biomedical and Behavioural Research. (1978). *The Belmont report: Ethical principles and guidelines for the protection of human subjects of research* (DHEW Publication OS 78-0012). https://www.hhs.gov/ohrp/regulations-and-policy/belmont-report/index.html

Nilsen, P., Sundemo, D., Heintz, F., Neher, M., Nygren, J., Svedberg, P., & Petersson, L. (2024). Towards evidence-based practice 2.0: Leveraging artificial intelligence in healthcare. *Frontiers in Health Services, 4* https://doi.org/10.3389/frhs.2024.1368030

Office of Management and Budget. (2017, April 12). *Comprehensive plan for reforming the federal government and reducing the federal civilian workforce* (Memorandum M-17-22). https://www.whitehouse.gov/wp-content/uploads/legacy_drupal_files/omb/memoranda/2017/M-17-22.pdf

Office of Management and Budget. (2019). *Phase 1 Implementation of the Foundations for Evidence-Based Policymaking Act of 2018: Learning agendas, personnel, and planning guidance* (Memorandum M-19-23). https://www.whitehouse.gov/wp-content/uploads/2019/07/M-19-23.pdf

Office of Management and Budget. (2021, June 30). *Evidence-based policymaking: Learning agendas and annual evaluation plans* (Memorandum M-21-27). https://www.whitehouse.gov/wp-content/uploads/2021/06/M-21-27.pdf

Office of Management and Budget. (2024). *Budget of the U.S. Government - Fiscal year 2025*. https://www.whitehouse.gov/wp-content/uploads/2024/03/budget_fy2025.pdf

Onwujekwe, O., Etiaba, E., Mbachu, C., Arize, I., Nwankwor, C., Ezenwaka, U., Okeke, C., Ezumah, N., & Uzochukwu, B. (2020). Does improving the skills of researchers and decision-makers in health policy and systems research lead to enhanced evidence-based decision-making in Nigeria? A short-term evaluation. *PLoS ONE, 15*(9), Article e0238365. https://doi.org/10.1371/journal.pone.0238365

Pampaka, M., Hutcheson, G., & Williams, J. (2014). Handling missing data: Analysis of a challenging data set using multiple imputation. *International Journal of Research & Method in Education, 39*(1), 19-37. https://doi.org/10.1080/1743727X.2014.979146

Paterek, P. (2019, April 25-26). Agile Transformation Changes. *8th International Scientific Conference on Project Management in the Baltic Countries*, Riga, Latvia. 62–174. https://www.researchgate.net/publication/332755326_Agile_Transformation_Changes_From_The_Perspective_Of_Project_Team_Values

Paterson, T. A., Harms, P. D., & Tuggle, C. S. (2018). Revisiting the rigor–relevance relationship: An institutional logics perspective. *Human Resource Management*, *57*(6), 1371–1383. https://doi.org/10.1002/hrm.21911

Peña, V., & Behrens, J. R. (2019). *Evidence-based approaches for improving federal programs and informing funding decisions* [Policy brief]. IDA Science & Technology Policy Institute. https://www.ida.org/-/media/feature/publications/e/ev/evidence-based-

approaches-for-improving-federal-programs-and-informing-funding-decisions/d10703final.ashx

Pesta, G. B., Ramos, J., Ranson, A., Singer, A., & Blomberg, T. G. (2017). *Translational criminology – Research and public policy: Final summary report* (Project No. 2014-IJ-CX-0035). Florida State University. https://ncjrs.gov/pdffiles1/nij/grants/250597.pdf

Peters, T., & Waterman, R. H. Jr. (1982). *In search of excellence: Lessons from America's best-run companies.* Harper & Row.

Pew-MacArthur Results First Initiative. (2018). *How counties can use evidence-based policymaking to achieve better outcomes*. Pew Charitable Trusts. https://www.pewtrusts.org/en/research-and-analysis/reports/2018/12/10/how-counties-can-use-evidence-based-policymaking-to-achieve-better-outcomes

Pfeffer, J. (1993). Barriers to the advance of organizational science: Paradigm development as a dependent variable. *Academy of Management Review, 18*(4), 599-620. https://doi.org/10.5465/amr.1993.9402210152

Pfeffer, J., & Sutton, R. I. (2006a). Evidence-based management. *Harvard Business Review, 84*(1), 62-74. https://hbr.org/2006/01/evidence-based-management

Pfeffer, J., & Sutton, R. I. (2006b). *Hard facts, dangerous half-truths, and total nonsense: Profiting from evidence-based management* (1st ed.). Harvard Business School Press.

Pradhan, S., & Jackson, N. (2021). Ambidexterity continuity and shift in evidence-based management as a change response: Cases from major league baseball. *Change Management: An International Journal*, *21*(2), 79–102. https://doi.org/10.18848/2327-798x/cgp/v21i02/79-102

Priem, R. L. (2018). Toward becoming a complete teacher of strategic management. *Academy of Management Learning & Education*, *17*(3), 374–388. https://doi.org/10.5465/amle.2017.0237

Program Management Improvement Accountability Act of 2016, Pub. L. No. 114-264, 130 § 1371. (2016). https://www.congress.gov/114/plaws/publ264/PLAW-114publ264.pdf

Putansu, S. (2020). *Politics and policy knowledge in federal education: Confronting the evidence-based proverb.* Palgrave Macmillan.

Rademaker, M. M., Smit, A. L., Kortekaas, M. F., van Benthem, P. P. G., & Stegeman, I. (2019). Attitude and behaviour of Dutch Otorhinolaryngologists to evidence based medicine. *PLOS ONE, 14*(12), Article e0226743. https://doi.org/10.1371/journal.pone.0226743

Ramis, M. A., Chang, A., Conway, A., Lim, D., Munday, J., & Nissen, L. (2019). Theory-based strategies for teaching evidence-based practice to undergraduate health students: A systematic review. *BMC Medical Education, 19*(1), Article 267. https://doi.org/10.1186/s12909-019-1698-4.

Reynolds, K., & Ramakrishnan, K. (2018). *Evidence-based policymaking at the state level* [Policy brief]. Urban Institute. https://www.urban.org/research/publication/evidence-based-policymaking-state-level

Ribeiro, S. S., Rezende, D. A., & Yao, J. (2019). Toward a model of the municipal evidence-based decision process in the strategic digital city context. *Information Policy*, *24*(3), 305–324. https://doi.org/10.3233/IP-190129

Rickinson, M., & McKenzie, M. (2021). Understanding the research-policy relationship in ESE: Insights from the critical policy and evidence use literatures. *Environmental Education Research, 27*(24), 480-497. https://doi.org/10.1080/13504622.2020.1804531

Roberts, C. M. (2010). *The dissertation journey: A practical and comprehensive guide to planning, writing, and defending your dissertation.* SAGE Publishing.

Robinson, K. A., Brunnhuber, K., Cilska, D., Juhl, C. B., Christensen, R., & Lund, H. (2021). Evidence-based research series-paper 1: What is evidence-based research, and why is it important? *Journal of Clinical Epidemiology, 129,* 151-157. https://doi.org/10.1016/j.jclinepi.2020.07.020

Rojon, C., Okupe, A., & McDowall, A. (2021). Utilization and development of systematic reviews in management research: What do we know and where do we go from here? *International Journal of Management Reviews*, *23*(2), 191–223. https://doi.org/10.1111/ijmr.12245

Ross, C., Nichol, L., Elliott, C., Sambrook, S., & Stewart, J. (2020). The role of HRD in bridging the research-practice gap: The case of learning and development. *Human Resource Development International*, *23*(2), 108–124. https://doi.org/10.1080/13678868.2019.1667691

Rousseau, D. M. (2006). Is there such a thing as "evidence-based management"? *The Academy of Management Review, 31*(2), 256-269. https://cebma.org/assets/Uploads/Rousseau-Is-there-such-thing-as-evidence-based-management-v2.pdf

Rousseau, D. M. (2012a). Designing a better business school: Channeling Herbert Simon, addressing the critics, and developing actionable knowledge for professionalizing managers. *Journal of Management Studies*, *49*(3), 600-618. https://doi.org/10.1111/j.1467-6486.2011.01041.x

Rousseau, D. M. (Ed.). (2012b). *The Oxford handbook of evidence-based management*. Oxford University Press.

Rousseau, D. M. (2018). Making evidence-based organizational decisions in an uncertain world. *Organizational Dynamics*, *47*(3), 135–146. https://doi.org/10.1016/j.orgdyn.2018.05.001

Rousseau, D. M. (2020a). Becoming an organizational scholar. *Annual Review of Organizational Psychology and Organizational Behavior*, *7*(1), 1–23. https://doi.org/10.1146/annurev-orgpsych-012119-045314

Rousseau, D. M. (2020b). The realist rationality of evidence-based management. *Academy of Management Learning and Education*, *19*(3), 415–424. https://doi.org/10.5465/AMLE.2020.0050

Rousseau, D. M., & Gunia, B. C. (2016). Evidence-based practice: The psychology of EBP implementation. *Annual Review of Psychology*, *67*(1), 667-692. https://doi.org/10.1146/annurev-psych-122414-033336

Rousseau, D. M., Manning, J., & Denyer, D. (2008). Evidence in management and organizational science: Assembling the field's full weight of scientific knowledge through syntheses. *The Academy of Management Annals, 2*(1), 475-515. https://doi.org/10.1080/19416520802211651

Rousseau, D. M., & McCarthy, S. (2007). Educating managers from an evidence-based perspective. *Academy of Management Learning & Education, 6*(1), 84-101. https://doi.org/10.5465/AMLE.2007.24401705

Rubenfeld, M. (2018). A framework for data accuracy and supporting better decision-making. *Journal of Securities Operations & Custody*, *11*(1), 6–13. https://ideas.repec.org/a/aza/jsoc00/y2018v11i1p6-13.html

Rye, M., Rognmo, K., Aarons, G. A., & Skre, I. (2019). Attitudes towards the use of routine outcome monitoring of psychological therapies among mental health providers: The

EBPAS–ROM. *Administration and Policy in Mental Health and Mental Health Services Research, 46*(6), 833-846. http://dx.doi.org/10.1007/s10488-019-00968-5

Rynes, S. L., & Bartunek, J. M. (2017). Evidence-based management: Foundations, development, controversies, and future. *Annual Review of Organizational Psychology and Organizational Behavior*, *4*, 235-261. https://doi.org/10.1146/annurev-orgpsych-032516-113306

Rynes, S. L., Colbert, A. E., & O'Boyle, E. H. (2018). When the "best available evidence" doesn't win: How doubts about science and scientists threaten the future of evidence-based management. *Journal of Management*, *44*(8), 2995–3010. https://doi.org/10.1177/0149206318796934

Rynes, S. L., Rousseau, D. M., & Barends, E. (2014). From the guest editors: Change the world: Teach evidence-based practice! *Academy of Management Learning & Education*, *13*(3), 305-321. https://doi.org/10.5465/amle.2014.0203

Sackett, D. L., Rosenberg, W. M. C., Gray, J. A. M., Haynes, R. B., & Richardson, W. S. (1996). Evidence-based medicine: What it is and what it isn't. *British Medical Journal, 312*(7032), 71-72. https://doi.org/10.1136/bmj.312.7023.71

Sandberg, S. (2013). *Lean in: Women, work, and the will to lead.* Ebury Publishing.

Saunders, M. N. K., Lewis, P., & Thornhill, A. (2019). *Research methods for business students.* Pearson Education Limited.

Scafuto, I. C., Serra, F., Guerrazzi, L., & Maccari, E. (2020). Intellectual structure of ongoing studies on business schools. *Brazilian Business Review*, *17*(4), 458–487. https://doi.org/10.15728/BBR.2020.17.4.6

Schafer, J. G. (2019). A systematic review of the public administration literature to identify how to increase public engagement and participation with local governance. *Journal of Public Affairs*, *19*(2), 1–12. https://doi.org/10.1002/pa.1873

Sfakianaki, E., & Kakouris, A. P. (2020). Obstacles to ISO 9001 certification in SMEs. *Total Quality Management, 31*(14), 1544-1564. https://doi.org/10.1080/14783363.2018.149064

Shaneyfelt, T., Baum, K. D., Feldstein, D., Houston, T. K., Kaatz, S., Whelan, C., & Green, M. (2006). Instruments for evaluating education in evidence-based practice: A systematic review. *Journal of the American Medical Association, 296*(9), 1116-27. https://doi.org/10.1001/jama.296.9.1116

Sharma, G., & Bansal, P. (2020). Partnering up: Including managers as research partners in systematic reviews. *Organizational Research Methods*, *26*(2), 262-291. https://doi.org/10.1177/1094428120965706

Silva, A., Almeida, A. M., Freire, M., Nogueira, J. A., Gir, E., & Nogueira, W. P. (2020). Cloth masks as respiratory protections in the COVID-19 pandemic period: Evidence gaps. *Revista Brasileira de Enfermagem*, *73*(suppl 2), Article e20200239. https://doi.org/10.1590/0034-7167-2020-0239

Siponen, M., & Baskerville, R. (2018). Intervention effect rates as a path to research relevance: Information systems security example. *Journal of the Association for Information Systems*, *19*(4), 247–265. https://doi.org/10.17705/1jais.00491

Statista. (2024). Number of cities, towns and villages (incorporated places) in the United States in 2019, by population size. [Graph]. https://www.statista.com/statistics/241695/number-of-us-cities-towns-villages-by-population-size/

Sturdy, A. (2021). The governance of management consultancy use: Practices, problems, and possibilities. In C. Hurl & A. Vogelpohl (Eds.), *Professional service firms and politics in a global era* (pp. 321–349). Palgrave Macmillan. https://doi.org/10.1007/978-3-030-72128-2_16

Tanfield, D., Denyer, D., & Smart, P. (2003). Towards a methodology for developing evidence-informed management knowledge by means of systematic review. *British Journal of Management, 14*(3), 207-222. https://doi.org/10.1111/1467-8551.00375

Thaning, M. (2020). Introduction to exemplary contributions. *Academy of Management Learning and Education*, *19*(3), 406–407. https://doi.org/10.5465/AMLE.2020.0327

Tornikoski, E., & Maalaoui, A. (2019). The theory of planned behaviour: An interview with Icek Ajzen with implications for entrepreneurship research. *International Small Business Journal: Researching Entrepreneurship, 37*(5), 536-550. https://doi.org/10.1177/0266242619829681

Tort-Martorell, X., Grima, P., & Marco, L. (2011). Management by facts: The common ground between total quality management and evidence-based management. *Total Quality Management & Business Excellence*, *22*(6), 599–618. https://doi.org/10.1080/14783363.2011.568262

Untaru, E. N., Ispas, A., Candrea, A. N., Luca, M., & Epuran, G. (2016). Predictors of individuals' intention to conserve water in a lodging context: The application of an extended theory of reasoned action. *International Journal of Hospitality Management*, *59*, 50-59. https://doi.org/10.1016/j.ijhm.2016.09.001

Villanueva, J. (2019). *A mixed methods case study of evidence-based practice in a knowledge organization* (Publication No. 27670593) [Doctoral dissertation, The Claremont Graduate University]. ProQuest Dissertations and Theses Global.

Vogt, W. P. (2011). *The SAGE quantitative research methods.* SAGE Publications. https://doi.org/10.4135/9780857028228

Wainwright, D. W., Oates, B. J., Edwards, H. M., & Childs, S. (2018). Evidence-based information systems: A new perspective and a road map for research-informed practice. *Journal of the Association for Information Systems*, *19*(11), 1035–1063. https://doi.org/10.17705/1jais.00519

Walshe, K., & Rundall, T. G. (2001). Evidence-based management: From theory to practice in health care. *Milbank Quarterly*, *79*(3), 429-457. http://dx.doi.org/10.1111/1468-0009.00214

Weber, R. (2004). The rhetoric of positivism versus interpretivism: A personal view. *MIS Quarterly, 28*(1), iii-xii.

Weiss, C. H. (1987). Evaluating social programs: What have we learned? *Society, 25*(1), 40-45. https://doi.org/10.1007/BF02695395

Williams, J., Brown, C., & Springer, A. (2012). Overcoming benchmarking reluctance: A literature review. *Benchmarking: An International Journal 19*(2), 255-276. https://emerald.com/insight/content/doi/10.1108/14635771211224563/full/html

Williams, N. & Kogan, R. (2019). Factors associated with evidence-based decision-making among patients and providers. *Journal of Comparative Effectiveness Research, 8*(9), 709-719. https://doi.org/10.2217/cer-2018-0152

Williamson, D. F., Parker, R. A., & Kendrick, J. S. (1989). The box plot: A simple visual method to interpret data. *Annuals of Internal Medicine, 110*(11), 916-921. https://www.researchgate.net/publication/20437659

Wright, A. L., Irving, G., Hibbert, P., & Greenfield, G. (2018). Student understandings of evidence-based management: Ways of doing and being. *Academy of Management Learning & Education, 17*(4), 453–473. https://doi.org/10.5465/AMLE.2016.0249

Yang, K. (2020). What can COVID-19 tell us about evidence-based management? *American Review of Public Administration, 50*(6–7), 706–712. https://doi.org/10.1177/0275074020942406

Young, R. A. (2022). *Improving strategic decision-making with evidence-based management: A public sector case study* (Publication No. 28715553) [Doctoral dissertation, Trevecca Nazarene University]. ProQuest Dissertations and Theses Global.

Appendix A

Articles Included in the Literature Review

Author	Year	Title of Articles in Literature Review
Criado-Perez et al.	2020b	Beyond an 'informed opinion': Evidence-based practice in the built environment
Criado-Perez, Collins & Jackson	2020a	Enablers of evidence-based management: Clues from the absorptive capacity literature
de Graaf	2019	Ethics and behavioural theory: How do professionals assess their mental models?
de Waal & de Haas	2018	Longitudinal research into the effects of the high performance organization framework
Hak & Sanders	2018	Principled negotiation: An evidence-based perspective
Jackson & Leung	2018	Evidence-based management for today's "ambidextrous" organizations
Kulikowski	2021	The model of evidence-based benchmarking: A more robust approach to benchmarking
Martelli & Hayirli	2018	Three perspectives on evidence-based management: Rank, fit, variety
Melissen & Jochems	2020	Increasing control of operations and improving financial performance at regional airports: A case study of Viggo Eindhoven airport
Pradhan & Jackson	2021	Ambidexterity continuity and shift in evidence-based management as a change response: Cases from major league baseball
Rousseau	2018	Making evidence-based organizational decisions in an uncertain world
Rubenfeld	2018	A framework for data accuracy and supporting better decision-making
Siponen & Baskerville	2018	intervention effect rates as a path to research relevance: information systems security example
Chrobot-Mason, Hoobler & Bruno	2019	Lean in versus the literature: An evidence-based examination

Author	Year	Title of Articles in Literature Review
Hulpke & Fronmueller	2020	Review of evidence-based management: *How to Make Better Organizational Decisions* by Eric Barends and Denise Rousseau
Hulpke & Fronmueller	2021	What's not to like about evidence-based management: A hyper-rational fad?
Thaning	2020	Introduction to exemplary contributions
Auger, Mirvis & Woodman	2018	Getting lost to find direction: Grounded theorizing and consciousness-raising in management education
Barends, Littell & Rousseau	2021	Priming the pump at the Campbell Business and Management Coordinating Group
Brink, Palmer & Costigan	2018	Business school learning goals: Alignment with evidence-based models and accreditation standards
Hall Van Ryzin	2018	A norm of evidence and research in decision-making (NERD): Scale development, reliability, and validity
John et al.	2020	Designing a visual tool for teaching and learning front-end innovation
Kaushal	2018	Relevance of evidence based decision making: Cases in ancient and current scenarios
Leroy et al.	2022	Walking our evidence-based talk: The case of leadership development in business schools
Lupova-Henry, Blili & dal Zotto	2021	Innovation-centric cluster business model: Findings from a design-oriented literature review
Marin-Garcia	2021	Three-stage publishing to support evidence-based management practice
Paterson, Harms & Tuggle	2018	Revisiting the rigor–relevance relationship: An institutional logics perspective

Author	Year	Title of Articles in Literature Review
Priem	2018	Toward becoming a complete teacher of strategic management
Rojon, Okupe & McDowall	2021	Utilization and development of systematic reviews in management research: What do we know and where do we go from here?
Rousseau	2020	Becoming an organizational scholar
Rousseau	2020	The realist rationality of evidence-based management
Rynes, Colbert & O'Boyle	2018	When the best available evidence doesn't win: How doubts about science and scientists threaten the future of evidence-based management
Scafuto, Serra, Guerrazzi & Maccari	2020	Intellectual structure of ongoing studies on business schools
Sharma & Bansal	2020	Partnering up: Including managers as research partners in systematic reviews
Wainwright, Oates, Edwards & Childs	2018	Evidence-based information systems: A new perspective and a road map for research-informed practice
Wright, Irving, Hibbert & Greenfield	2018	Student understandings of evidence-based management: Ways of doing and being
Cassar, Tracz-Krupa, Bezzina & Prytula	2018	"The times they are-a-changin": Reconstructing the new role of the strategic HR manager
Greasley & Thomas	2020	HR analytics: The onto-epistemology and politics of metricized HRM
Gubbins, Harney, van der Werff & Rousseau	2018	Enhancing the trustworthiness and credibility of human resource development: Evidence-based management to the rescue?
Lake, Carlson, Rose & Chlevin-Thieles	2019	Trust in name brand assessments: The case of the Myers-Briggs type indicator

Author	Year	Title of Articles in Literature Review
Lopes de Leao Laguna, Poell & Meerman	2018	Practitioner research for the professionalization of human resources practice: Empirical data from the Netherlands
McCartney & Fu	2022	Bridging the gap: Why, how and when HR analytics can impact organizational performance
Ross, Nichol, Elliott, Sambrook & Stewart	2020	The role of HRD in bridging the research-practice gap: The case of learning and development
Ribeiro, Rezende & Yao	2019	Toward a model of the municipal evidence-based decision process in the strategic digital city context
Schafer	2019	A systematic review of the public administration literature to identify how to increase public engagement and participation with local governance
Yang	2020	What can COVID-19 tell us about evidence-based management?

Appendix B

Evidence-Based Management Use Among U.S. Municipal Leaders Survey

Dear Municipal Leader,
You are invited to participate in this five-minute survey to determine which attitudes, perceived barriers, and facilitators impact U.S. municipal leaders' intention to use evidence-based management (EBMgt). Taking part in this study is completely voluntary. You may withdraw from this survey at any time without adversely affecting your relationship with anyone at your place of employment. Your responses will be kept strictly confidential, and digital data will be stored in secure computer files. No identifiable information will be collected from the participants and no identifiable responses will be presented in the final form of this study. There are no known risks or discomforts associated with this survey. The possible benefits of participation in this study have not been established.

If you have questions or want a copy or summary of this study's results, you can contact the researcher at the email address below. If you have any questions about whether you have been treated in an illegal or unethical way, contact the coordinator of the Cambridge College Institutional Research Board, Dr. Joseph Miglio, at (617) 873-0490 or joseph.miglio@cambridgecollege.edu. Please feel free to print a copy of this page to keep for your records. Please indicate your consent below.

Thank you very much,

James C. Schafer
Cambridge College School of Business
James.Schafer55@go.cambridgecollege.edu

Q1

- ○ Yes, I consent to participate in this survey.
- ○ No, I do not consent to participate in this survey.

Q2

Are you at least 18 years old?

- ○ Yes
- ○ No

Q3

Are you a current or former Mayor, City Manager, City Administrator, Commissioner, Alderman or hold a leadership role in your municipality?

- ○ Yes
- ○ No

Q4

Did you participate in the pilot study?

- ○ Yes
- ○ No

Q5

Are you aware of the concept of evidence-based management (EBMgt)?

- Yes
- No

Q6

Please check all the activities that EBMgt involves.

- Relying on outside consults
- Using several different kinds of evidence
- Citing more recent publications
- Focusing on academic research findings
- Obtaining stakeholder concerns and values
- Avoiding professional opinions
- Using a large number of academic articles to justify decisions

According to the Center for Evidence Based Management, evidence-based management (EBMgt) means making decisions about the management of employees, teams, or organizations through the conscientious, explicit, and judicious use of the four sources of information:

- the best available scientific evidence (e.g., management research findings);
- organizational evidence (e.g., municipal records or data);
- experiential evidence (e.g., expert opinions); and,
- stakeholders' values and concerns (e.g., community preferences).

Using an EBMgt approach for management decision-making means that you take the following six steps:

1. Asking: translating a practical issue or problem into an answerable question;
2. Acquiring: Systematically searching for and retrieving the evidence;
3. Appraising: Critically judging the trustworthiness and relevance of the evidence;
4. Aggregating: Weighing and pulling together the evidence;
5. Applying: Incorporating the evidence into the decision-making process; and,
6. Assessing: Evaluating the outcome of the decision taken to increase the likelihood of a favorable outcome.

The following two questions ask about your familiarity using EBMgt.

Q7

Please check your degree of agreement with each of the following questions.

What percentage of your major management decisions have been made using the above EBMgt approach in the past six months?

- 0
- 1-25%
- 26-50%
- 51-75%

76-100%

Q8

How often do you use the following information for your decision making? Please make ONE selection per line item.

	Daily	Weekly	Monthly	Less Than Once a Month	Never
Case studies					
Organizational Data					
Peer/Expert Opinions					
Personal Experiences					
Qualitative Research					
Quantitative Research					
Randomized Controlled Trial Studies					
Scientific Research Findings					
Stakeholders' Values and Concerns					
Systematic Reviews or Meta-Analysis					
Program Evaluations					

Q9

The following seven questions ask about your beliefs and perceptions about EBMgt. Please check your degree of agreement with each statement.

Integrating the best available evidence into municipal management decision-making is important.

Important

Somewhat Important

Neither Important nor Unimportant

Somewhat Unimportant

- Unimportant

Q10

I plan to use EBMgt for my management decision-making within the next six months.

- Likely
- Somewhat Likely
- Neither Likely nor Unlikely
- Somewhat Unlikely
- Unlikely

Q11

Using EBMgt increases the quality of management decisions.

- Agree
- Somewhat Agree
- Neither Agree nor Disagree
- Somewhat Disagree
- Disagree

Q12

I intend to adopt EBMgt in my organization in the near future.

- Agree
- Somewhat Agree
- Neither Agree nor Disagree
- Somewhat Disagree
- Disagree

Q13

I support the adoption of EBMgt in my organization.

- Agree
- Somewhat Agree
- Neither Agree nor Disagree
- Somewhat Disagree

Disagree

Q14

How likely will you use EBMgt to make decisions during the next six months?

Likely

Somewhat Likely

Neither Likely nor Unlikely

Somewhat Unlikely

Unlikely

Q15

Adopting EBMgt in my decision-making will likely improve organizational performance.

Agree

Somewhat Agree

Neither Agree nor Disagree

Somewhat Disagree

Disagree

The following items ask about potential barriers and facilitators to using EBMgt.

Q16

Please check your degree of agreement about potential barriers that might hinder your use of EBMgt.

	Agree	**Somewhat Agree**	**Neither Agree nor Disagree**	**Somewhat Disagree**	**Disagree**
Lack of interest					
Lack of skills in appraising the quality of evidence					
Lack of strong research evidence to support the use of EBMgt					
Lack of time					
Lack of training opportunities					
Unfamiliarity with EBMgt					
Lack of skills in searching the literature					

Q18

Please check your degree of agreement about facilitators that might help your use of EBMgt.

	Agree	Somewhat Agree	Neither Agree nor Disagree	Somewhat Disagree	Disagree
Availability of access to journals and databases	○	○	○	○	○
Availability of EBMgt training programs	○	○	○	○	○
Availability of organizational support	○	○	○	○	○
Creating a culture in practicing EBMgt	○	○	○	○	○
EBMgt Promotion by Professional Associations	○	○	○	○	○

Q19

The final six items are about demographic information:

To what generation do you belong?

- ○ Generation Z (born 1995-2012)
- ○ Millennials (born 1980-1994)
- ○ Generation X (born 1965-1979)
- ○ Baby Boomer Generation (born 1946-1964)

Q20

What is your highest level of education?

- ○ High School Diploma or Equivalent
- ○ Associate's Degree
- ○ Bachelor's Degree
- ○ Master's Degree
- ○ Doctorate Degree

Q21

Are you employed on a full-time or part-time basis?

- Full-time
- Part Time

Q22

How many years of municipal administration experience do you have?

- 9 years or less
- 10-15
- 16-20
- 21-25
- 26 or more

Q23

Which of the following best describes your municipality size?

- Under 100,000
- 100,001 - 250,000
- 250,001 - 500,000
- 500,001 - 750,000
- Over 750,001

Q24

In which geographic region of the United States do you work?

- Northeast (ME, VT, NH, MA, CT, RI, NJ, DE, MD, PA, NY)
- Southwest (AZ, NM, TX, OK)
- West (HI, AK, CA, NV, OR, WA, ID, UT, MT, WY, CO)
- Southeast (AR, LA, MA, AL, TN, KY, WV, DC, VA, NC, SC, GA, FL)

Appendix C

Permission to Use Survey Instrument

Ruiling Guo

Idaho State University

Hello James,

Thank you for your message. You may ask your university library to contact Central Michigan University Library through interlibrary loan service to get a copy of my doctoral dissertation which includes my survey instrument. I hope you give the credit using this survey instrument.

Good luck with your doctoral study!

Ruiling Guo

Appendix D

Subject Matter Expert Questionnaire

I am developing a questionnaire for the purpose of determining which attitudes, barriers, and facilitators impact U.S. municipal leaders' intention to use evidence-based management. The study also examines whether select demographic variables affect the intention to use evidence-based management.

I would greatly appreciate your willingness to participate in a preliminary assessment of this survey. After you have finished filling out the questionnaire, I will ask you to provide feedback on your understanding of the individual items in the survey. I would like to thank you in advance for completing the questions below.

Administration

How long does the survey take to complete?

Are the instructions for each section clear and unambiguous?

Organization

Do the different sections flow reasonably from one to the next?

Are the questions within each section logically ordered?

Are all the questions necessary in order to fulfill the purpose of the study?

Content

Are the questions direct and concise?

Are the questions measuring what they are intended to measure?

Are the questions free of unnecessary technical language and jargon?

Are examples and analogies relevant for individuals of other cultures?

Are questions unbiased?

Are there questions that make respondents feel uncomfortable, embarrassed, annoyed, or confused? If so, can these be worded differently to avoid doing so?

Are all response options necessary for inclusion?

Did any of the questions seem to have overlapping response choices, such that you were unsure which choice to select?

Did any of the questions have no applicable response choice for you to select?

Appendix E

Pilot Study Questionnaire

I am developing a questionnaire for the purpose of determining which attitudes, barriers, and facilitators impact U.S. municipal leaders' intention to use evidence-based management. The study also examines whether select demographic variables affect the intention to use evidence-based management.

I would greatly appreciate your willingness to participate in a preliminary assessment of this survey. After you have finished filling out the questionnaire, I will ask you to provide feedback on your understanding of the individual items in the survey. I would like to thank you in advance for completing the questions below.

Administration

How long does the survey take to complete?

Are the instructions for each section clear and unambiguous?

Organization

Do the different sections flow reasonably from one to the next?

Are the questions within each section logically ordered?

Are all the questions necessary in order to fulfill the purpose of the study?

Content

Are the questions direct and concise?

Are the questions measuring what they are intended to measure?

Are the questions free of unnecessary technical language and jargon?

Are examples and analogies relevant for individuals of other cultures?

Are questions unbiased?

Are there questions that make respondents feel uncomfortable, embarrassed, annoyed, or confused? If so, can these be worded differently to avoid doing so?

Are all response options necessary for inclusion?

Did any of the questions seem to have overlapping response choices, such that you were unsure which choice to select?

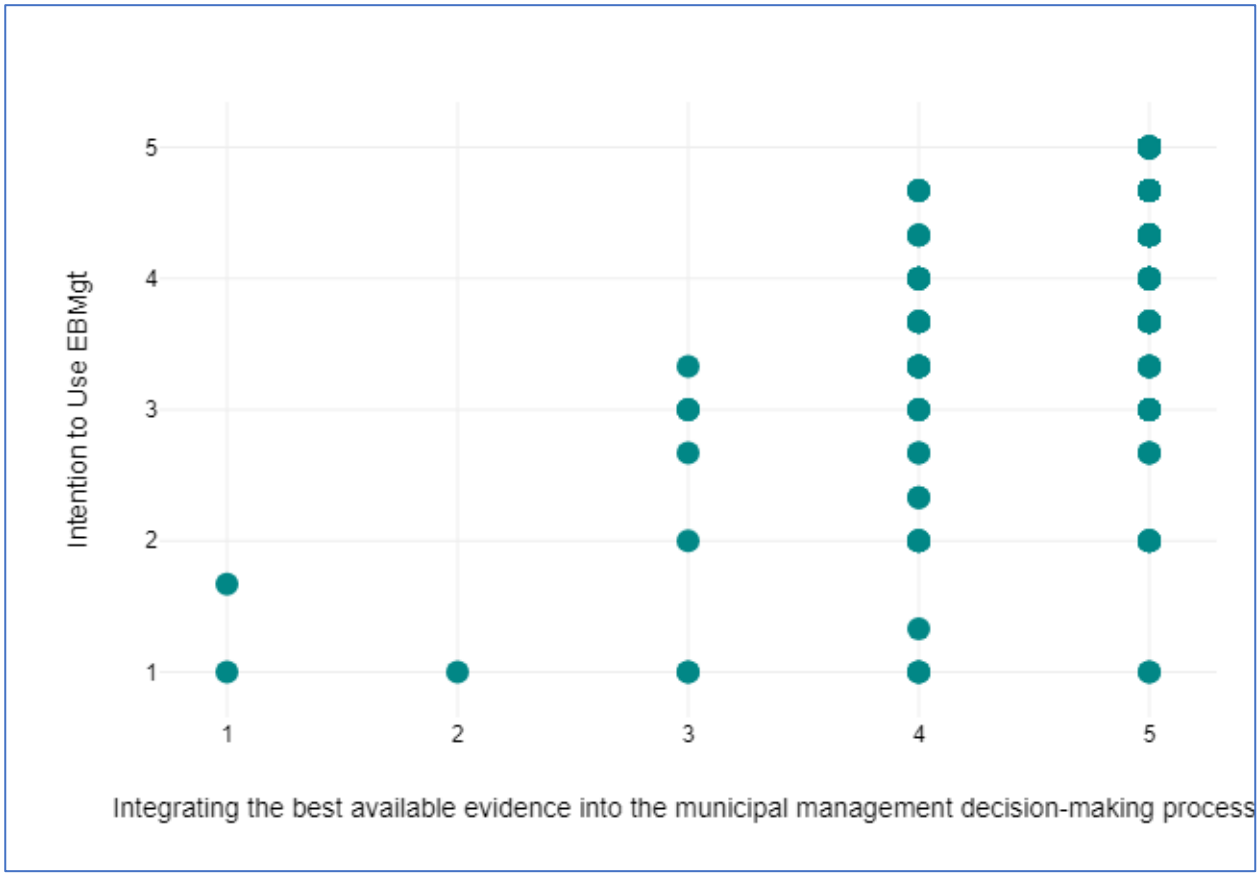
Did any of the questions have no applicable response choice for you to select?

Appendix F

Monotonic Relationships

Figure 6

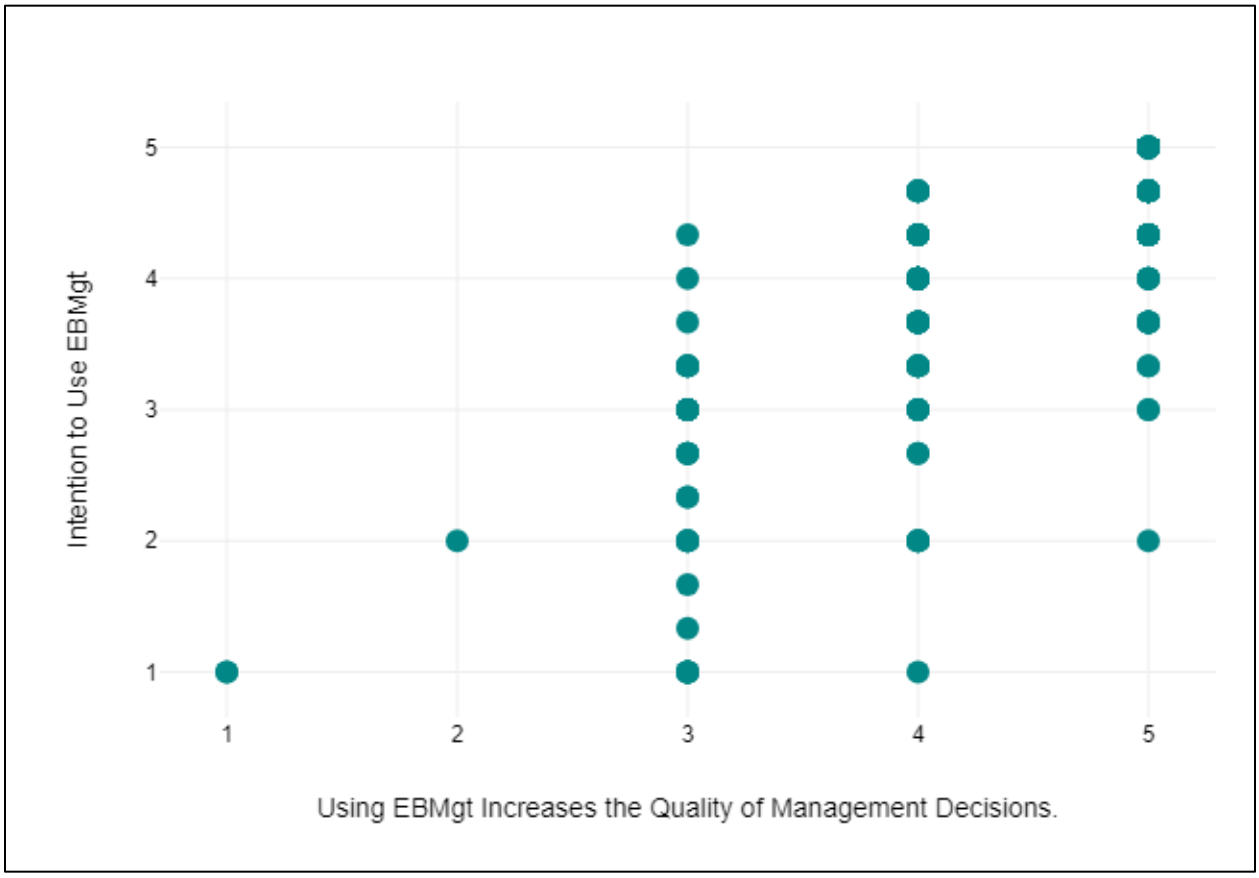
Relationship Between Intention and Attitude 1



Note. The unit of measurement on the vertical axis is a 5-point Likert scale. The unit of measurement on the horizontal axis is a 5-point Likert-type scale. This scatterplot demonstrates a clear monotonic relationship with a positive slope between the dependent variable, intention to use EBMgt, and the independent variable, the first attitude: It is important to integrate the best available evidence into the municipal management decision-making process.

Figure 7

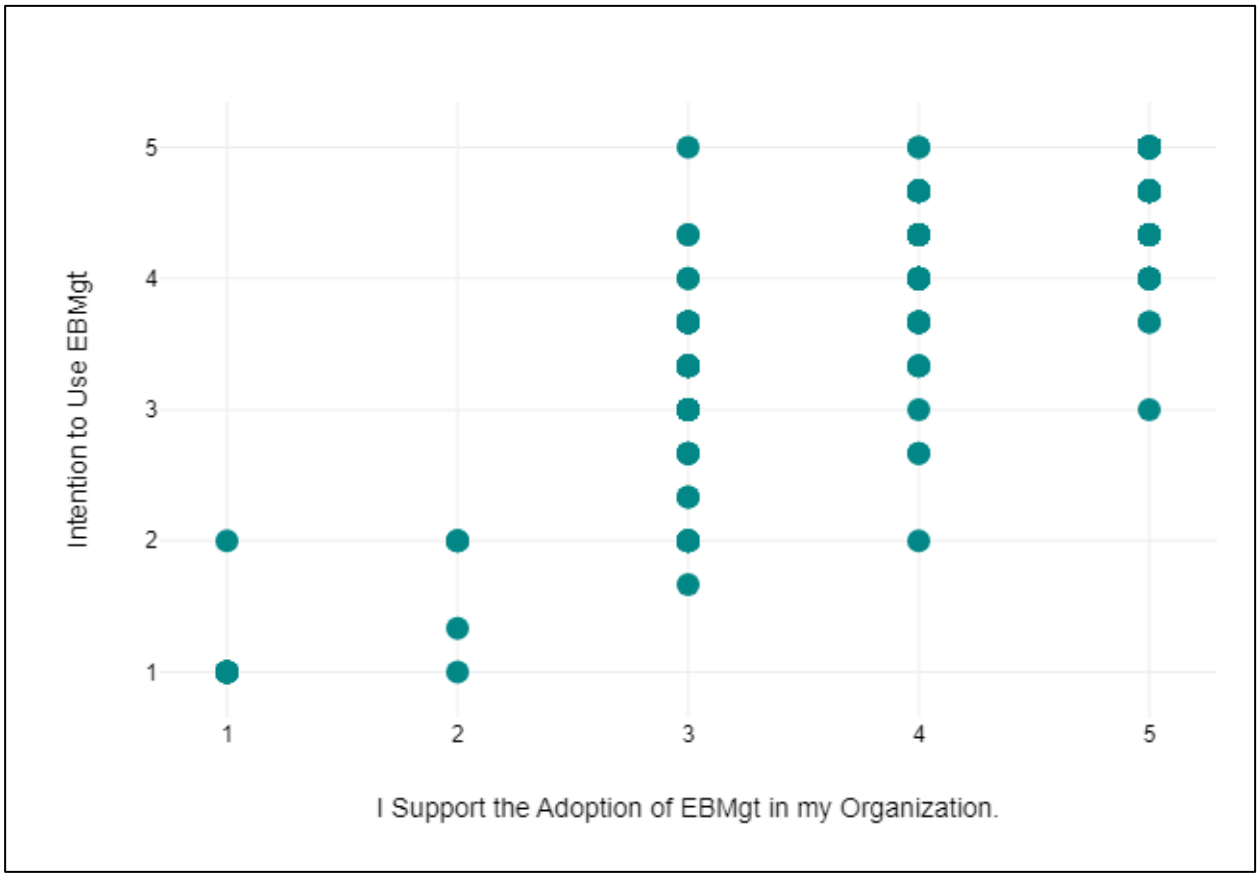
Relationship Between Intention and Attitude 2



Note. The unit of measurement on the vertical axis is a 5-point Likert scale. The unit of measurement on the horizontal axis is a 5-point Likert-type scale. This scatterplot demonstrates a clear monotonic relationship with a positive slope between the dependent variable, intention to use EBMgt, and the independent variable, the second attitude: Using EBMgt increases the quality of management decisions.

Figure 8

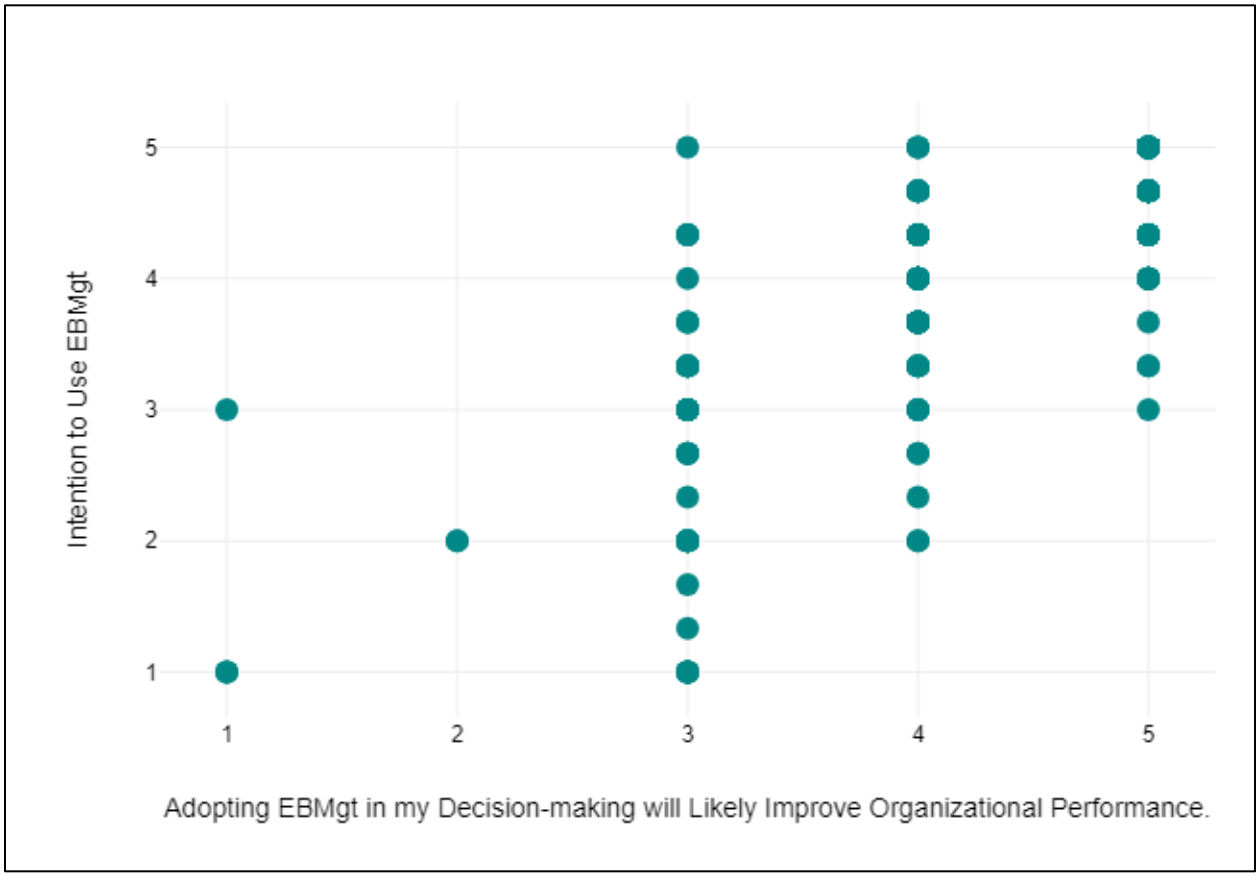
Relationship Between Intention and Attitude 3



Note. The unit of measurement on the vertical axis is a 5-point Likert scale. The unit of measurement on the horizontal axis is a 5-point Likert-type scale. This scatterplot demonstrates a clear monotonic relationship with a positive slope between the dependent variable, intention to use EBMgt, and the independent variable, the third attitude: I support the adoption of EBMgt in my organization.

Figure 9

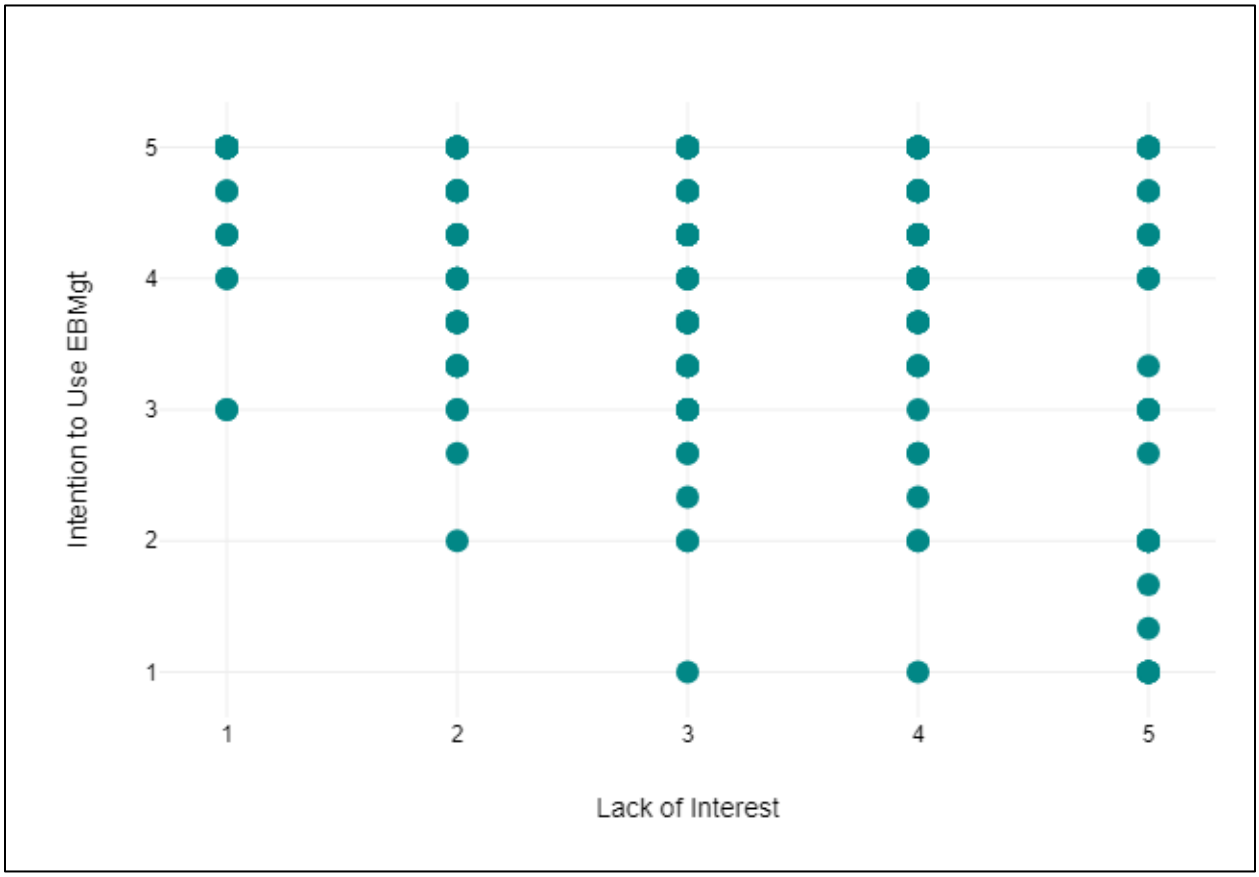
Relationship Between Intention and Attitude 4



Note. The unit of measurement on the vertical axis is a 5-point Likert scale. The unit of measurement on the horizontal axis is a 5-point Likert-type scale. This scatterplot demonstrates a clear monotonic relationship with a positive slope between the dependent variable, intention to use EBMgt and the independent variable, the fourth attitude: Adopting EBMgt in my decision-making will likely improve organizational performance.

Figure 10

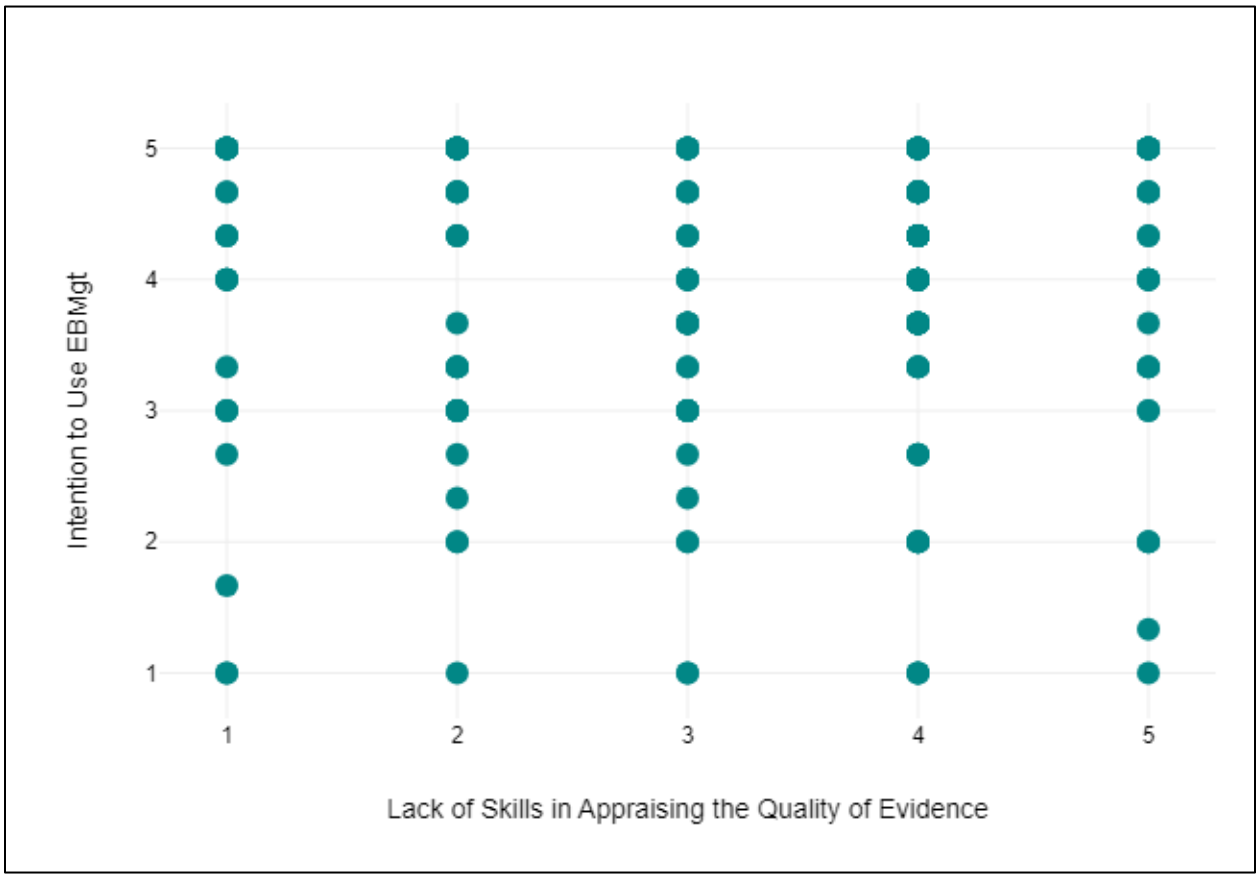
Relationship Between Intention and Barrier 1



Note. The unit of measurement on the vertical axis is a 5-point Likert scale. The unit of measurement on the horizontal axis is a 5-point Likert-type scale. This scatterplot demonstrates a clear monotonic relationship with a negative slope between the dependent variable, intention to use EBMgt and the independent variable, the first perceived barrier: Lack of interest.

Figure 11

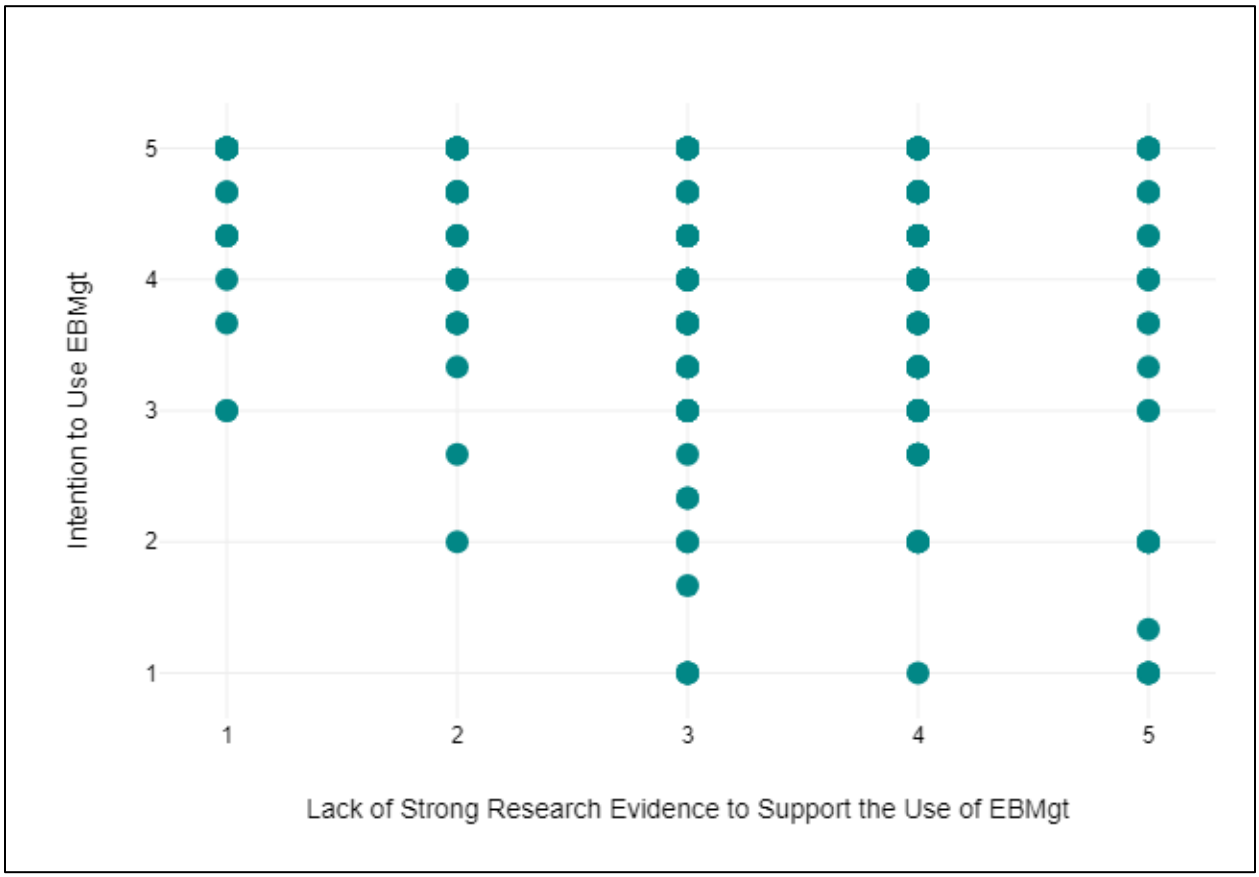
Relationship Between Intention and Barrier 2



Note. The unit of measurement on the vertical axis is a 5-point Likert scale. The unit of measurement on the horizontal axis is a 5-point Likert-type scale. This scatterplot does not demonstrate a monotonic relationship between the dependent variable, intention to use EBMgt and the independent variable, the fifth facilitator: EBMgt promotion by professional associations. I relied on the assumption being met to perform Spearman's Rho in Guo's (2015) study.

Figure 12

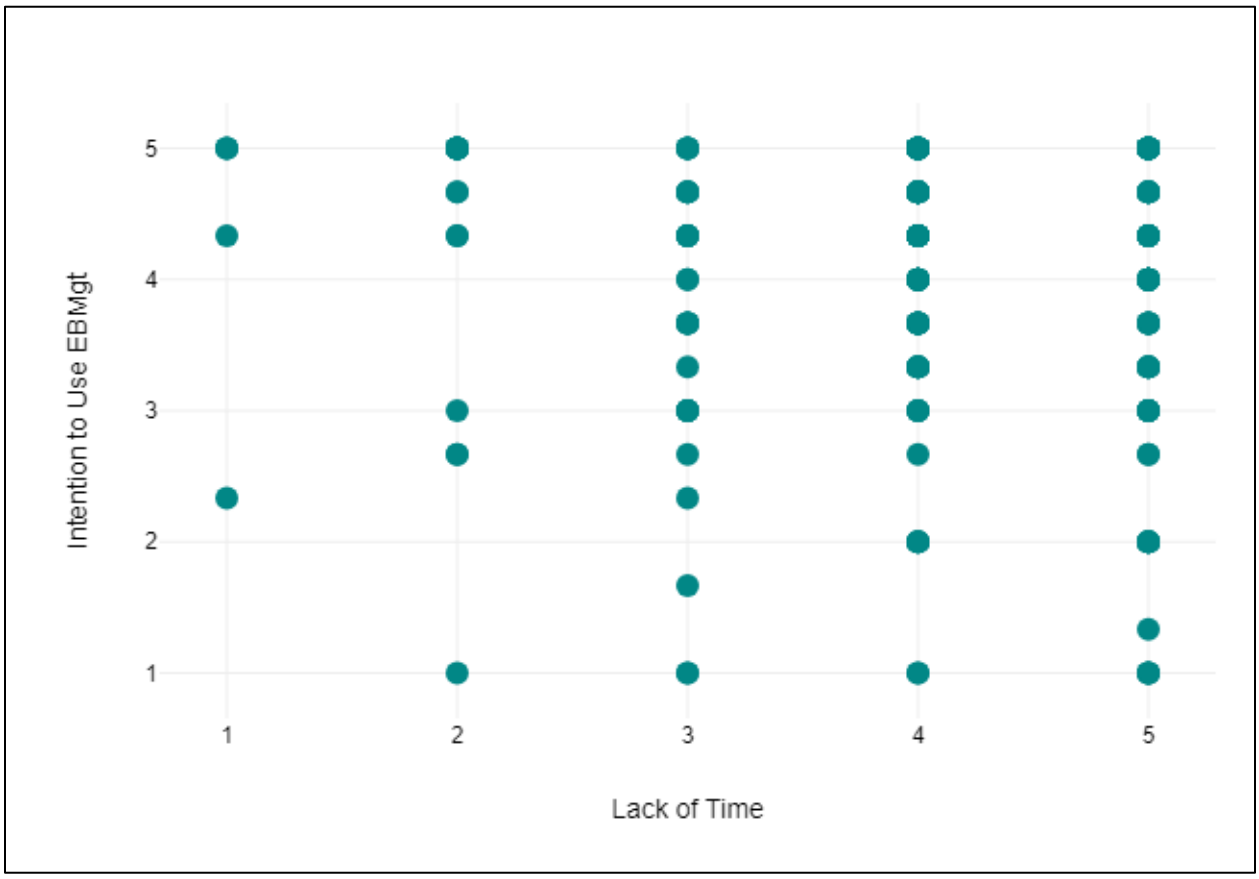
Relationship Between Intention and Barrier 3



Note. The unit of measurement on the vertical axis is a 5-point Likert scale. The unit of measurement on the horizontal axis is a 5-point Likert-type scale. This scatterplot demonstrates a clear monotonic relationship with a negative slope between the dependent variable, intention to use EBMgt and the independent variable, the third perceived barrier: Lack of strong research evidence to support the use of EBMgt.

Figure 13

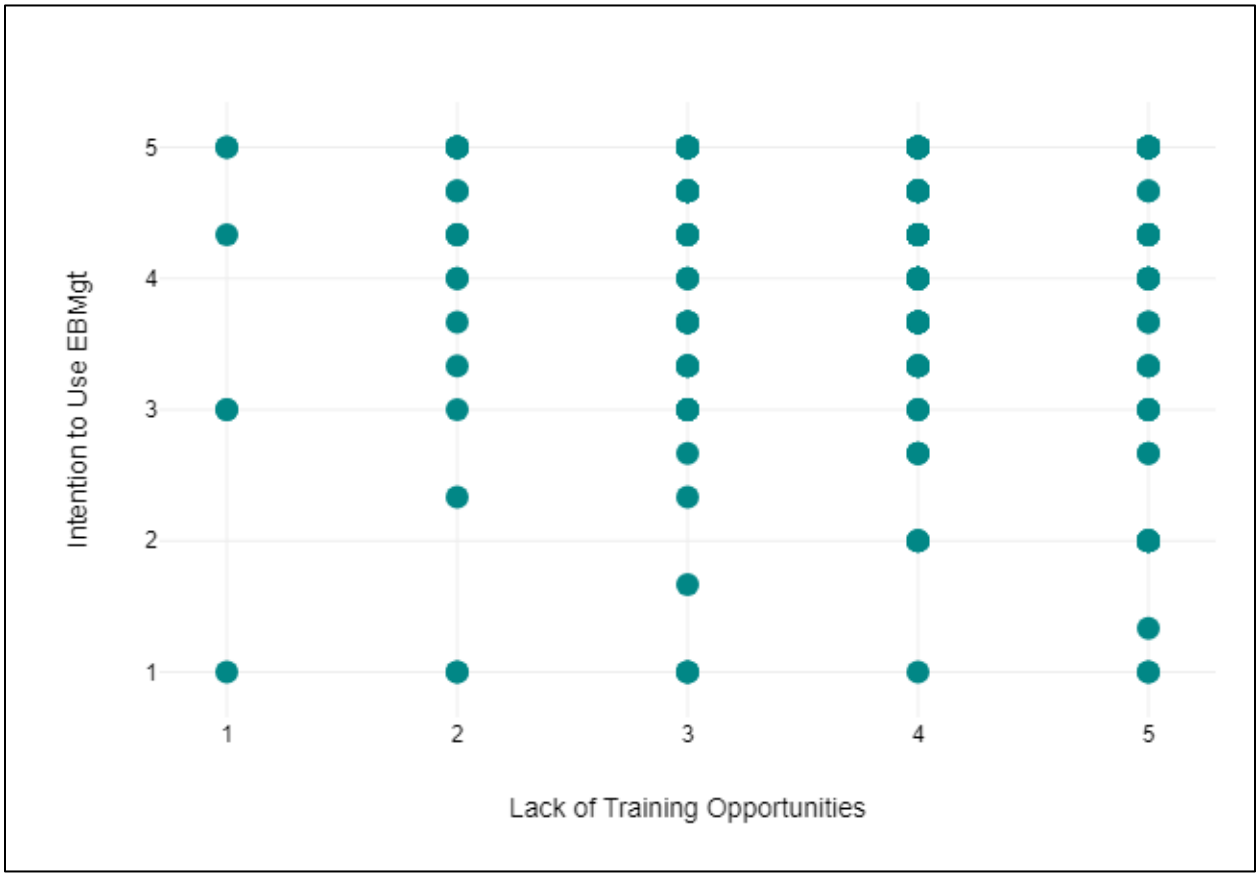
Relationship Between Intention and Barrier 4



Note. The unit of measurement on the vertical axis is a 5-point Likert scale. The unit of measurement on the horizontal axis is a 5-point Likert-type scale. This scatterplot demonstrates a moderate monotonic relationship with a negative slope between the dependent variable, intention to use EBMgt and the independent variable, the fourth perceived barrier: Lack of time.

Figure 14

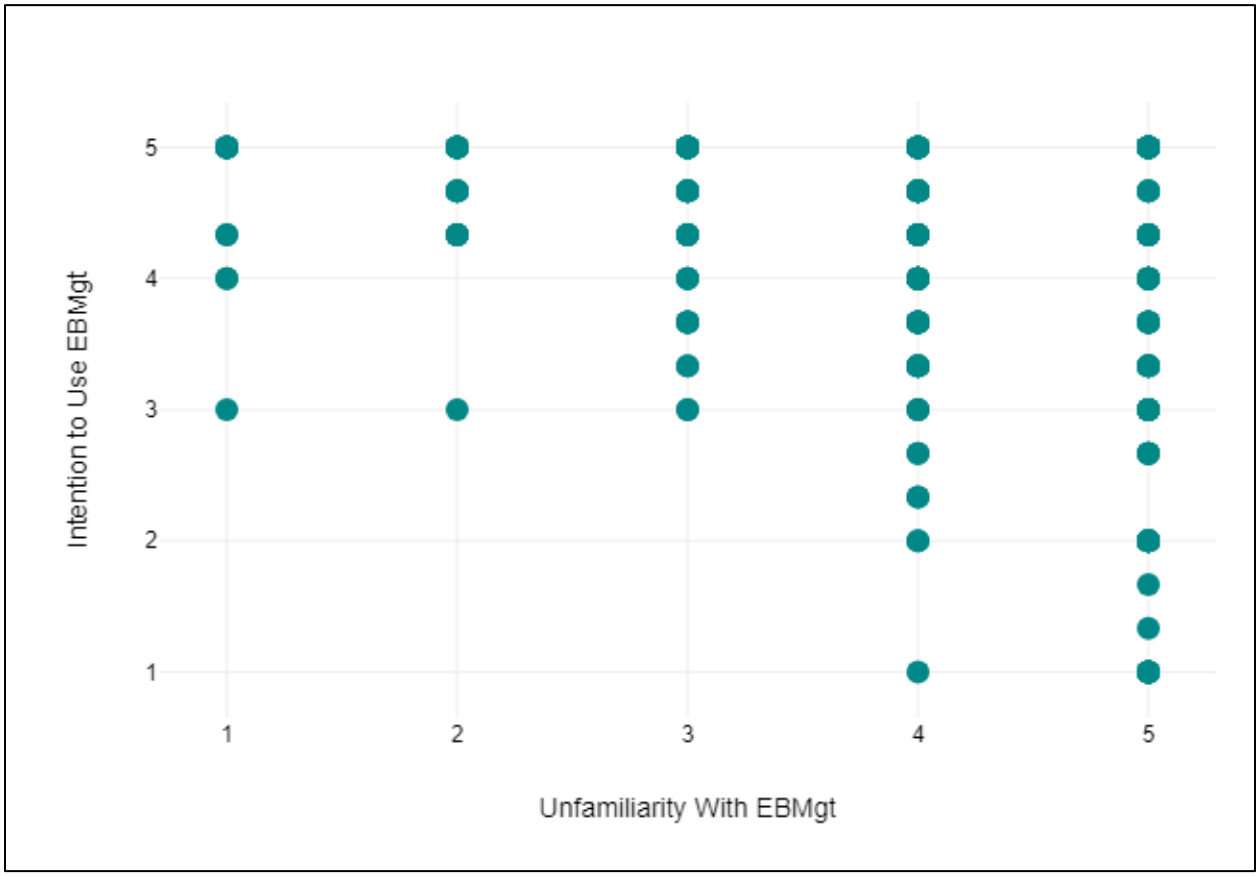
Relationship Between Intention and Barrier 5



Note. The unit of measurement on the vertical axis is a 5-point Likert scale. The unit of measurement on the horizontal axis is a 5-point Likert-type scale. This scatterplot demonstrates a moderate monotonic relationship with a negative slope between the dependent variable, intention to use EBMgt and the independent variable, the fifth perceived barrier: Lack of training opportunities.

Figure 15

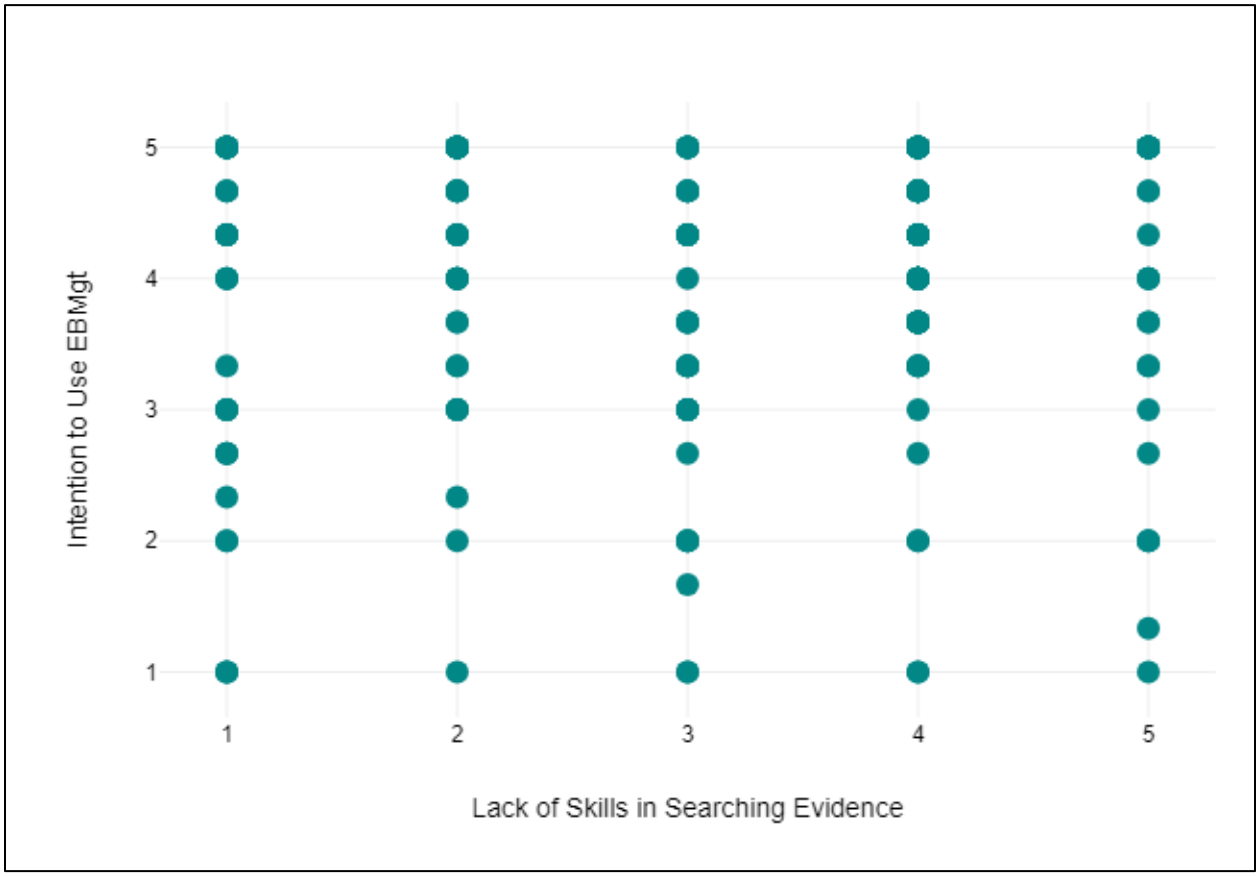
Relationship Between Intention and Barrier 6



Note. The unit of measurement on the vertical axis is a 5-point Likert scale. The unit of measurement on the horizontal axis is a 5-point Likert-type scale. This scatterplot demonstrates a clear monotonic relationship with a negative slope between the dependent variable, intention to use EBMgt and the independent variable, the sixth perceived barrier: Unfamiliarity with EBMgt.

Figure 16

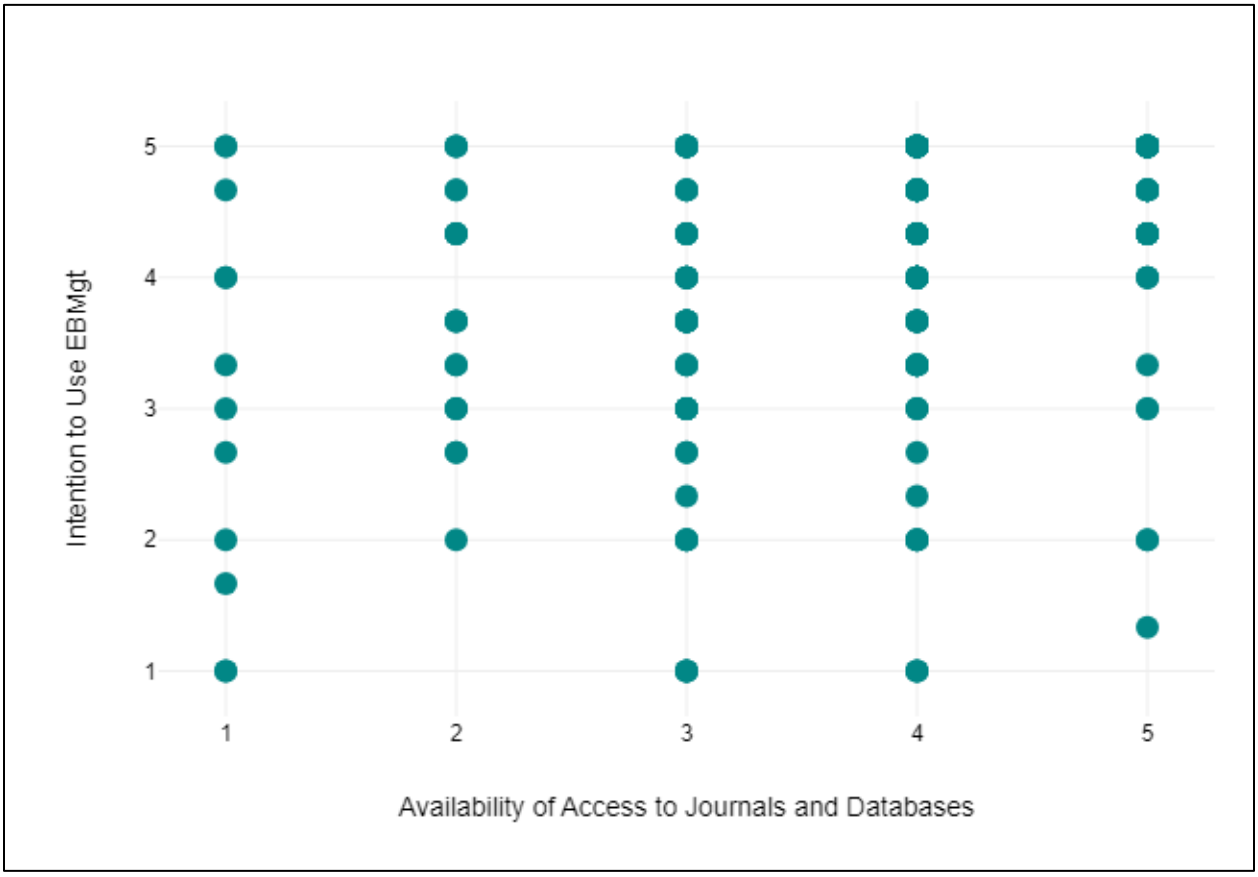
Relationship Between Intention and Barrier 7



Note. The unit of measurement on the vertical axis is a 5-point Likert scale. The unit of measurement on the horizontal axis is a 5-point Likert-type scale. This scatterplot does not demonstrate a monotonic relationship between the dependent variable, intention to use EBMgt and the independent variable, the fifth facilitator: EBMgt promotion by professional associations. I relied on the assumption being met to perform Spearman's Rho in Guo's (2015) study.

Figure 17

Relationship Between Intention and Facilitator 1



Note. The unit of measurement on the vertical axis is a 5-point Likert scale. The unit of measurement on the horizontal axis is a 5-point Likert-type scale. This scatterplot does not demonstrate a monotonic relationship between the dependent variable, intention to use EBMgt and the independent variable, the fifth facilitator: EBMgt promotion by professional associations. I relied on the assumption being met to perform Spearman's Rho in Guo's (2015) study.

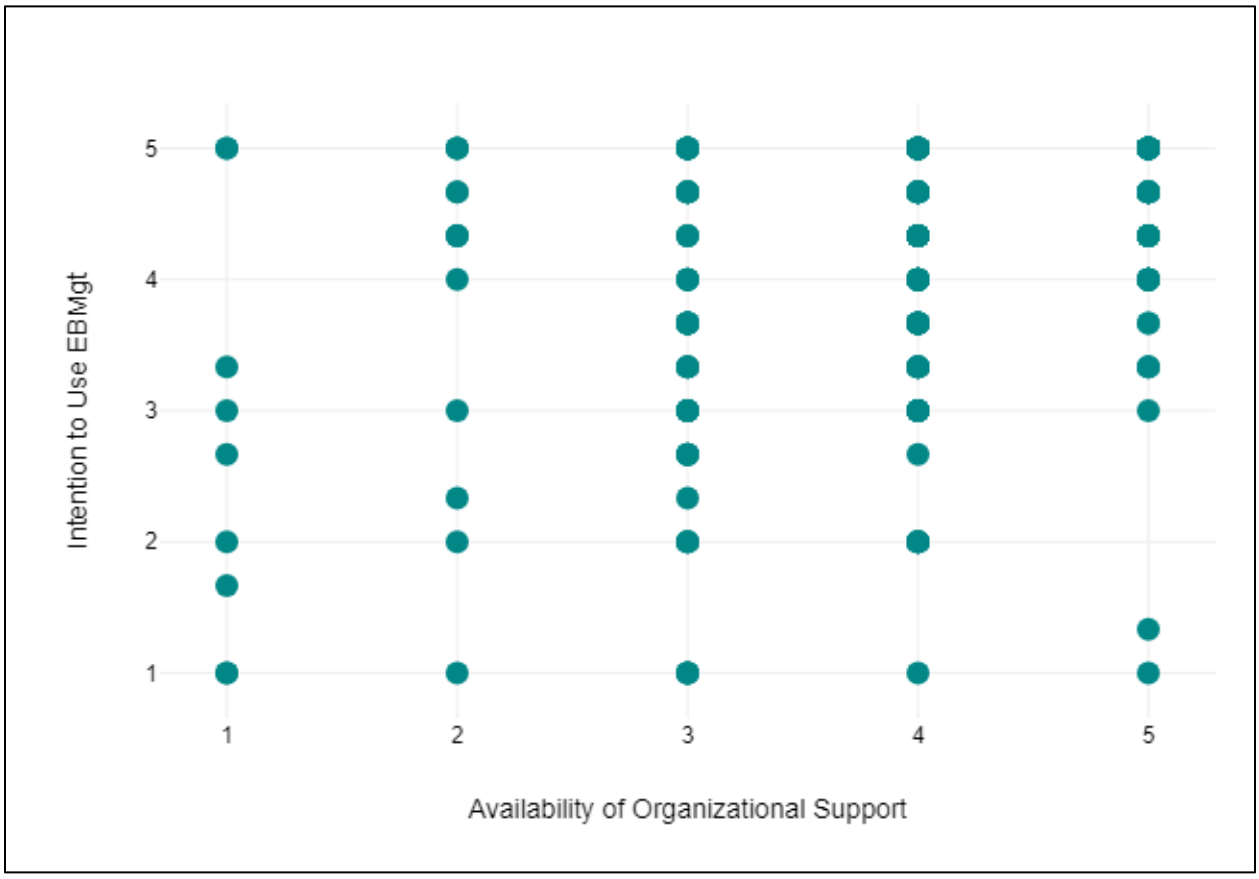
Figure 18

Relationship Between Intention and Facilitator 2

Note. The unit of measurement on the vertical axis is a 5-point Likert scale. The unit of measurement on the horizontal axis is a 5-point Likert-type scale. This scatterplot does not demonstrate a monotonic relationship between the dependent variable, intention to use EBMgt and the independent variable, the fifth facilitator: EBMgt promotion by professional associations. I relied on the assumption being met to perform Spearman's Rho in Guo's (2015) study.

Figure 19

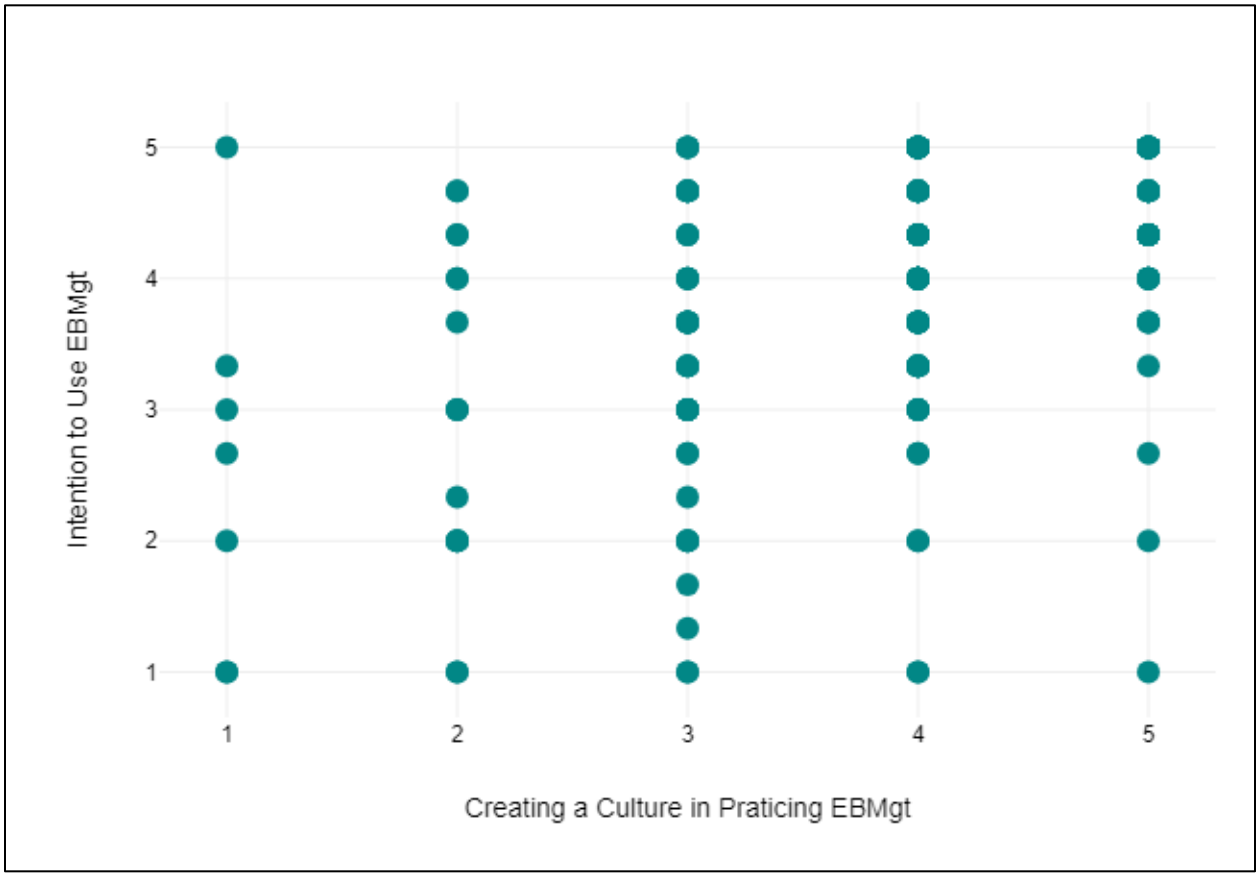
Relationship Between Intention and Facilitator 3



Note. The unit of measurement on the vertical axis is a 5-point Likert scale. The unit of measurement on the horizontal axis is a 5-point Likert-type scale. This scatterplot does not demonstrate a monotonic relationship between the dependent variable, intention to use EBMgt and the independent variable, the fifth facilitator: EBMgt promotion by professional associations. I relied on the assumption being met to perform Spearman's Rho in Guo's (2015) study.

Figure 20

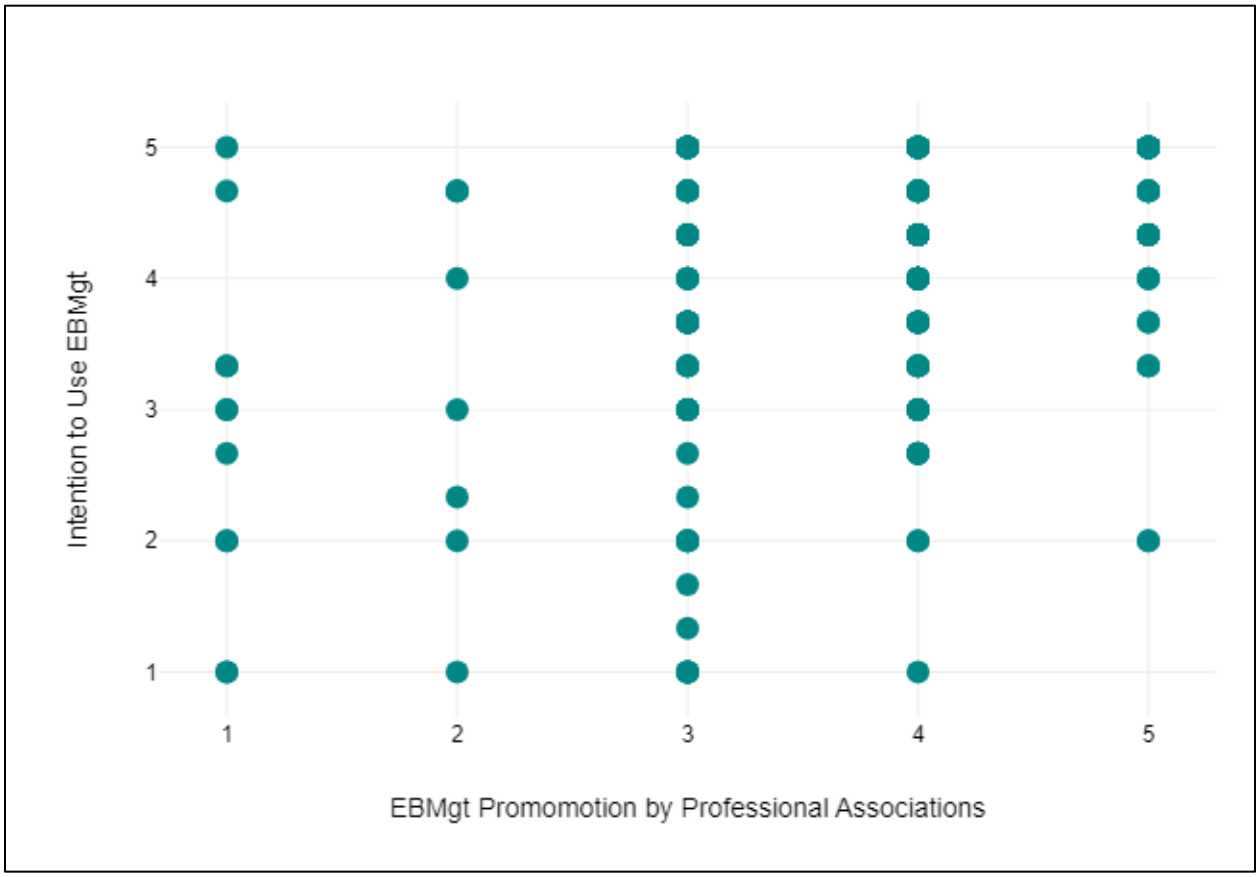
Relationship Between Intention and Facilitator 4



Note. The unit of measurement on the vertical axis is a 5-point Likert scale. The unit of measurement on the horizontal axis is a 5-point Likert-type scale. This scatterplot does not demonstrate a monotonic relationship between the dependent variable, intention to use EBMgt and the independent variable, the fifth facilitator: EBMgt promotion by professional associations. I relied on the assumption being met to perform Spearman's Rho in Guo's (2015) study.

Figure 21

Relationship Between Intention and Facilitator 5



Note. The unit of measurement on the vertical axis is a 5-point Likert scale. The unit of measurement on the horizontal axis is a 5-point Likert-type scale. This scatterplot does not demonstrate a monotonic relationship between the dependent variable, intention to use EBMgt and the independent variable, the fifth facilitator: EBMgt promotion by professional associations. I relied on the assumption being met to perform Spearman's Rho in Guo's (2015) study.

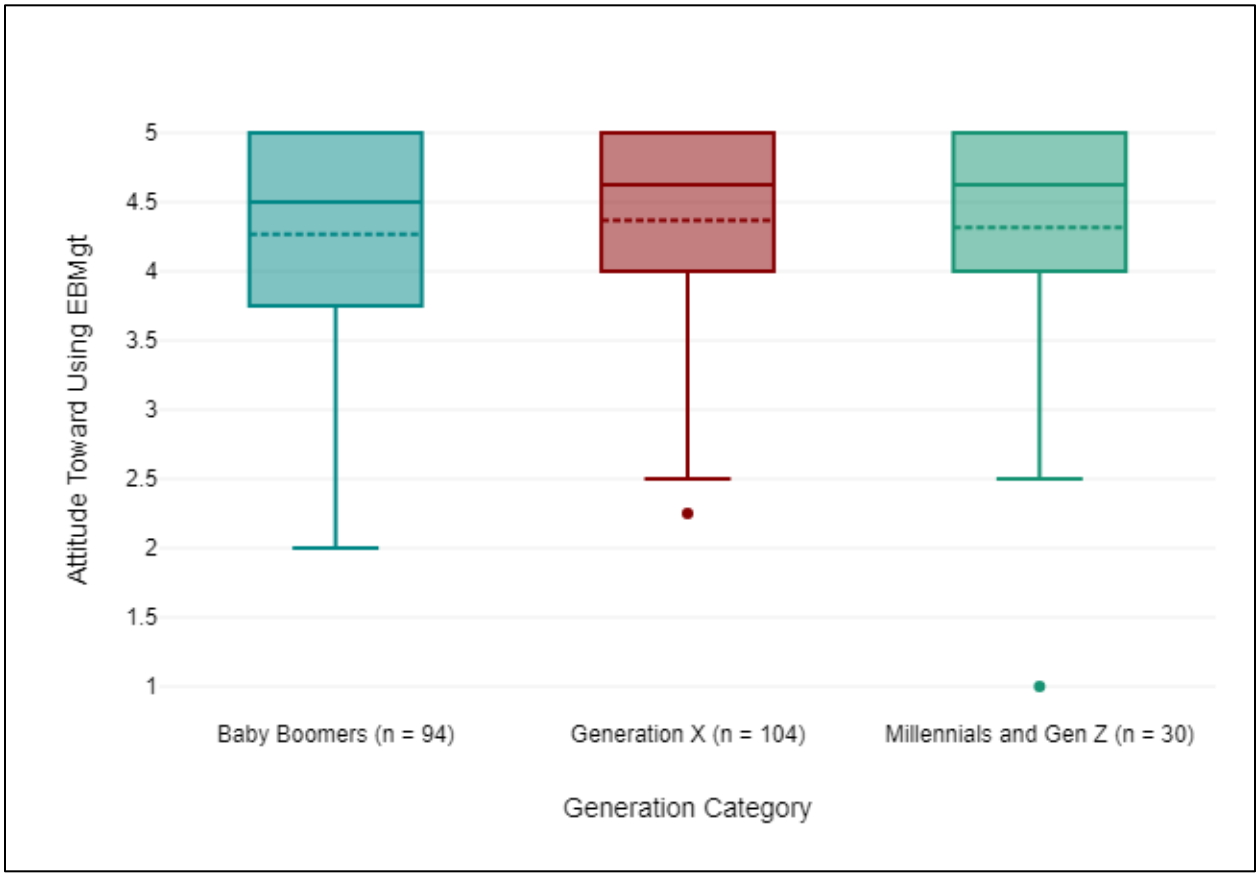
Appendix G

Box Plots of Kruskal-Wallis Test of Table 14 Data

The box plot represents the middle 50% of the data. The horizontal line represents the median value of the distribution of the data on the attitude toward using EBMgt. The interquartile range represents the upper and lower ends of the box, also known as the hinges (Williamson et al., 1989). The interquartile range is calculated by subtracting the upper hinge from the lower hinge. The larger the interquartile range, the wider the difference in the group's attitude toward using EBMgt.

Figure 22

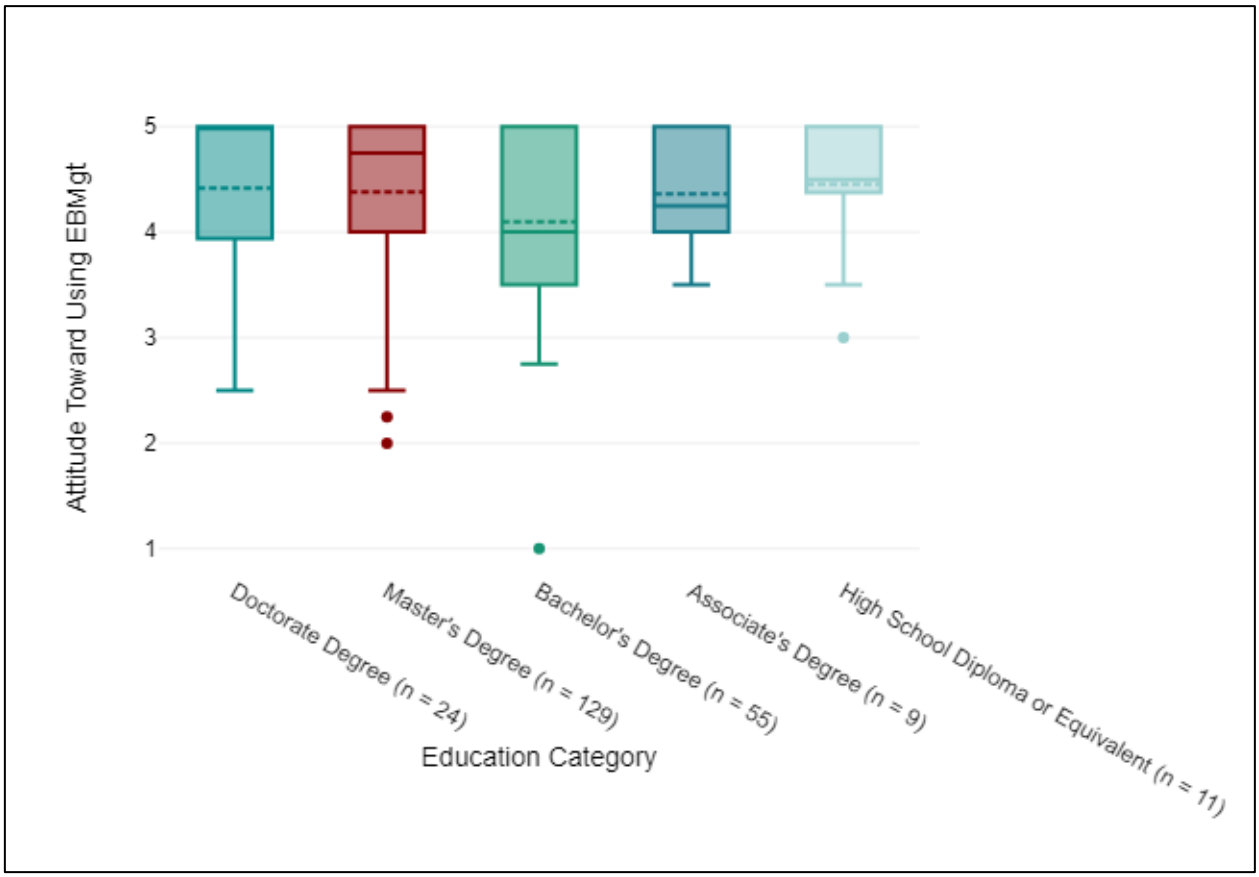
Relationship Between Attitude and Generation



Note. N = 228. The vertical axis is a 5-point Likert scale. The horizontal axis represents the categories. The box represents the interquartile range. The solid line in the box represents the median. The dotted line in the box represents the mean. The bottom and top horizontal lines that lie beyond the box represents the lower and upper hinges, respectively. The dots outside the hinges represent outliers. The color of the box represents the corresponding category below the box.

Figure 23

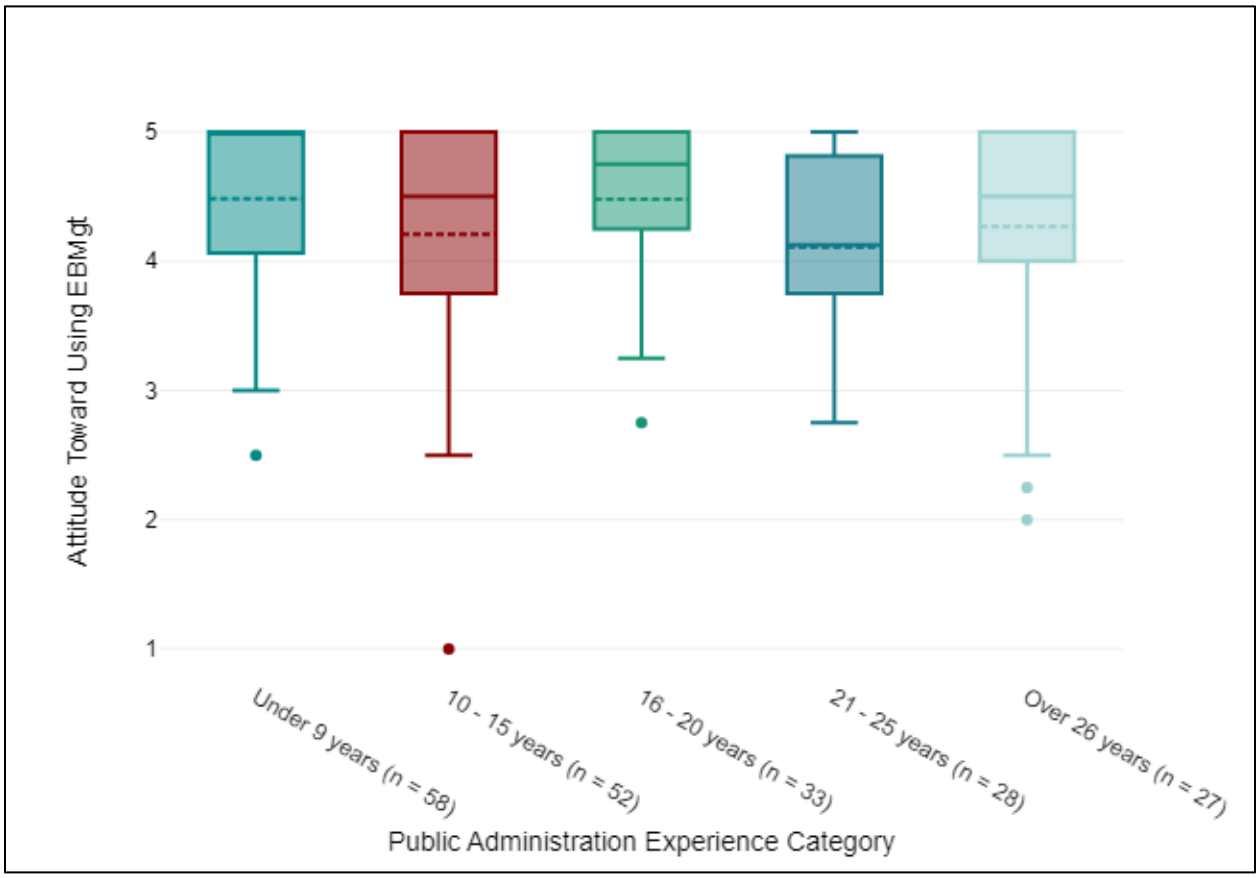
Relationship Between Attitude and Education



Note. N = 228. The vertical axis is a 5-point Likert scale. The horizontal axis represents the categories. The box represents the interquartile range. The solid line in the box represents the median. The dotted line in the box represents the mean. The bottom and top horizontal lines that lie beyond the box represents the lower and upper hinges, respectively. The dots outside the hinges represent outliers. The color of the box represents the corresponding category below the box.

Figure 24

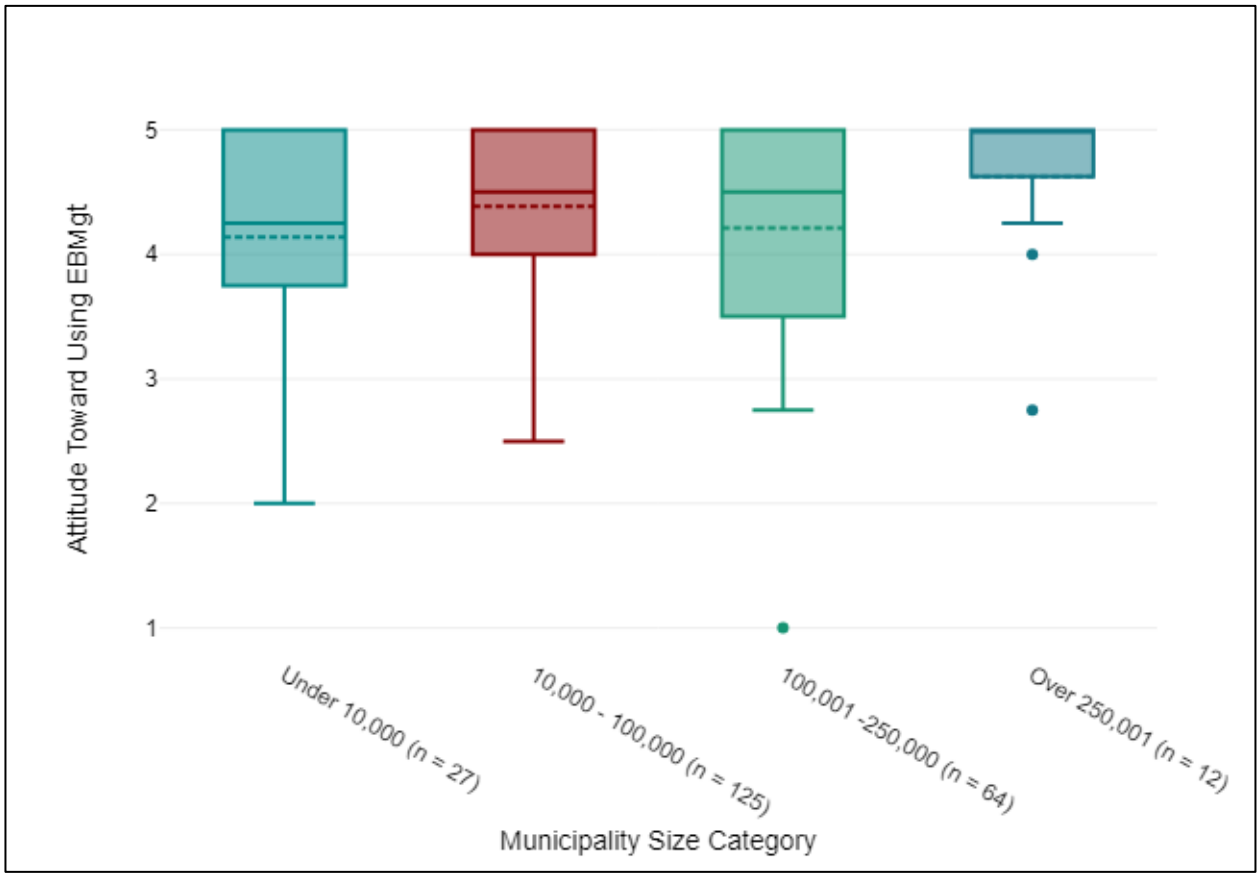
Relationship Between Attitude and Public Administration Experience



Note. N = 228. The vertical axis is a 5-point Likert scale. The horizontal axis represents the categories. The box represents the interquartile range. The solid line in the box represents the median. The dotted line in the box represents the mean. The bottom and top horizontal lines that lie beyond the box represents the lower and upper hinges, respectively. The dots outside the hinges represent outliers. The color of the box represents the corresponding category below the box.

Figure 25

Relationship Between Attitude and Municipality Sizes



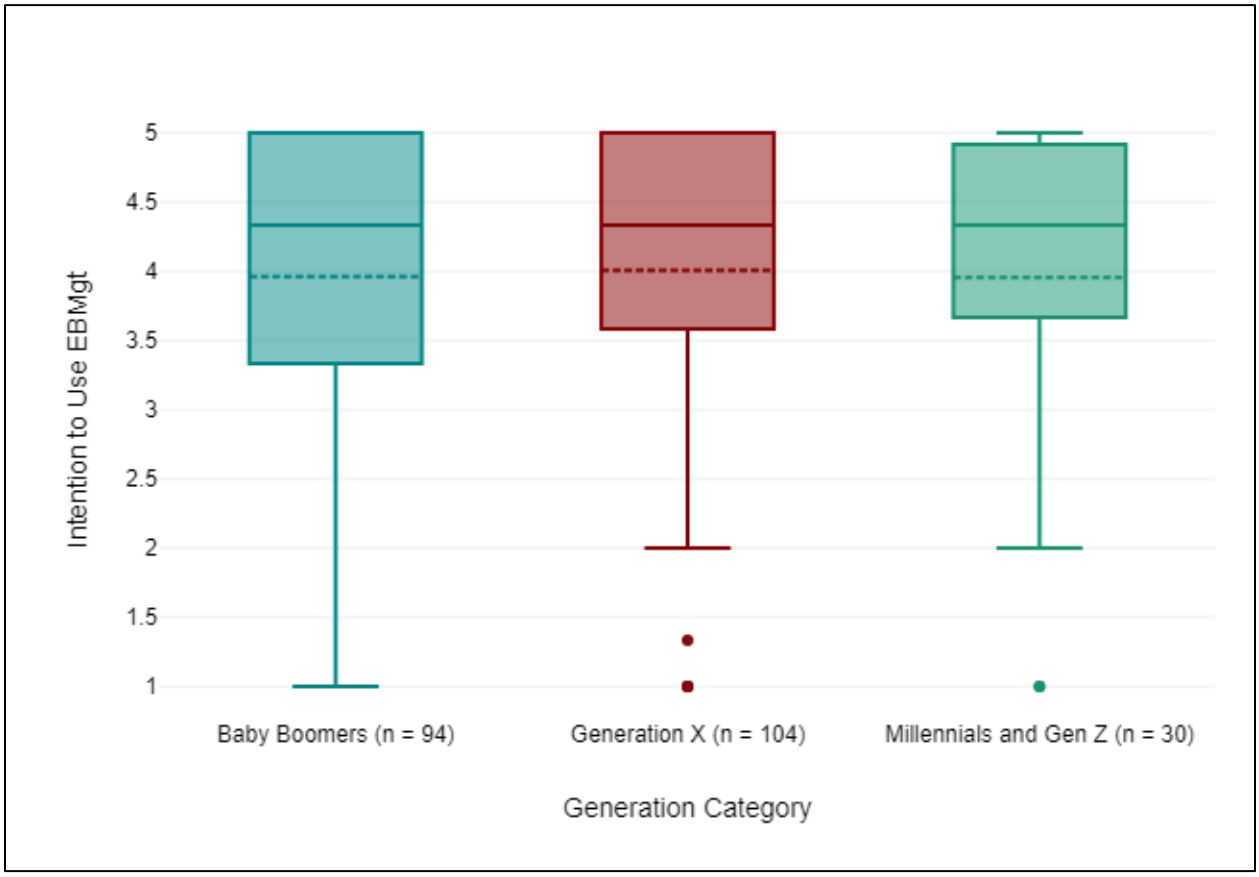
Note. N = 228. The vertical axis is a 5-point Likert scale. The horizontal axis represents the categories. The box represents the interquartile range. The solid line in the box represents the median. The dotted line in the box represents the mean. The bottom and top horizontal lines that lie beyond the box represents the lower and upper hinges, respectively. The dots outside the hinges represent outliers. The color of the box represents the corresponding category below the box.

Appendix H

Box Plots of Kruskal-Wallis Test of Table 15 Data

Figure 26

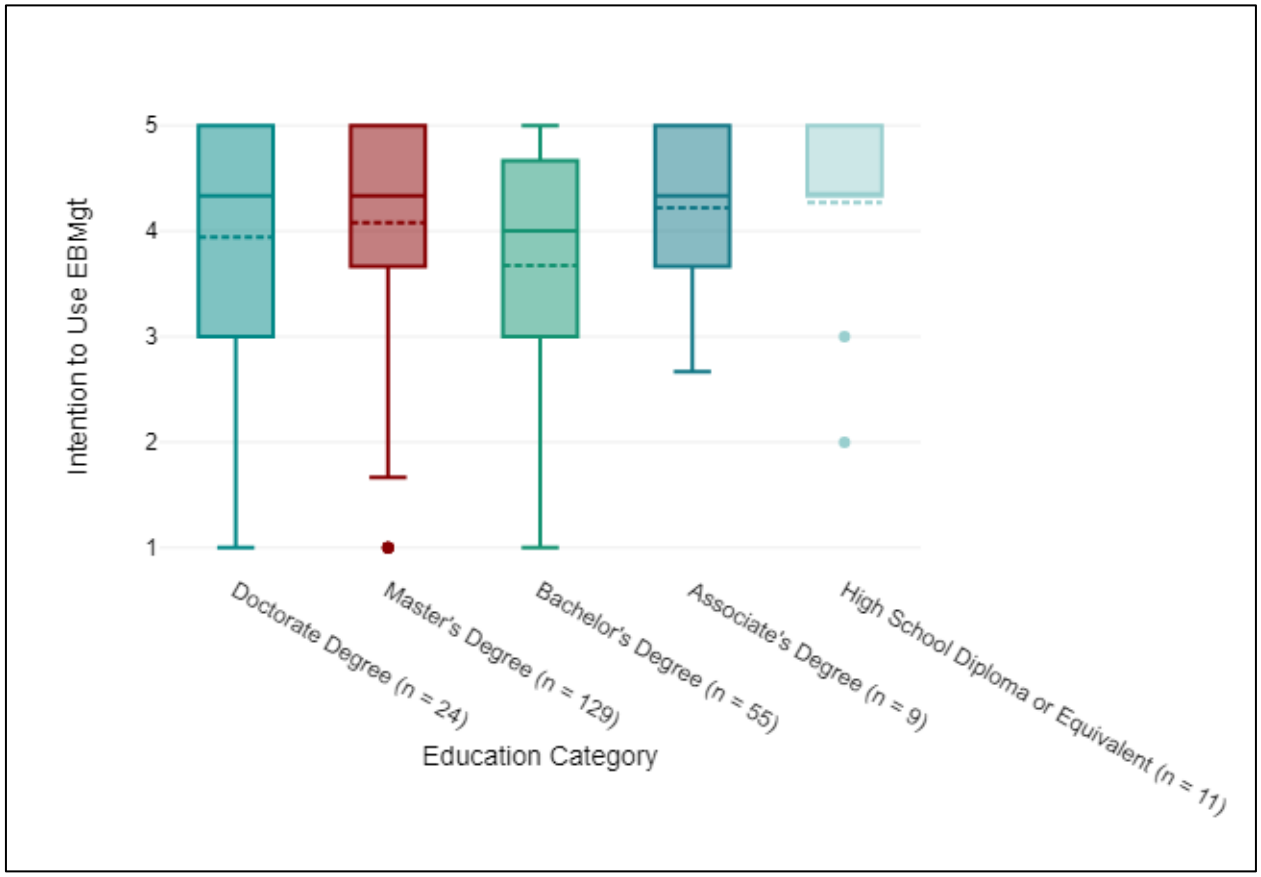
Relationship Between Intention and Generation



Note. N = 228. The vertical axis is a 5-point Likert scale. The horizontal axis represents the categories. The box represents the interquartile range. The solid line in the box represents the median. The dotted line in the box represents the mean. The bottom and top horizontal lines that lie beyond the box represents the lower and upper hinges, respectively. The dots outside the hinges represent outliers. The color of the box represents the corresponding category below the box.

Figure 27

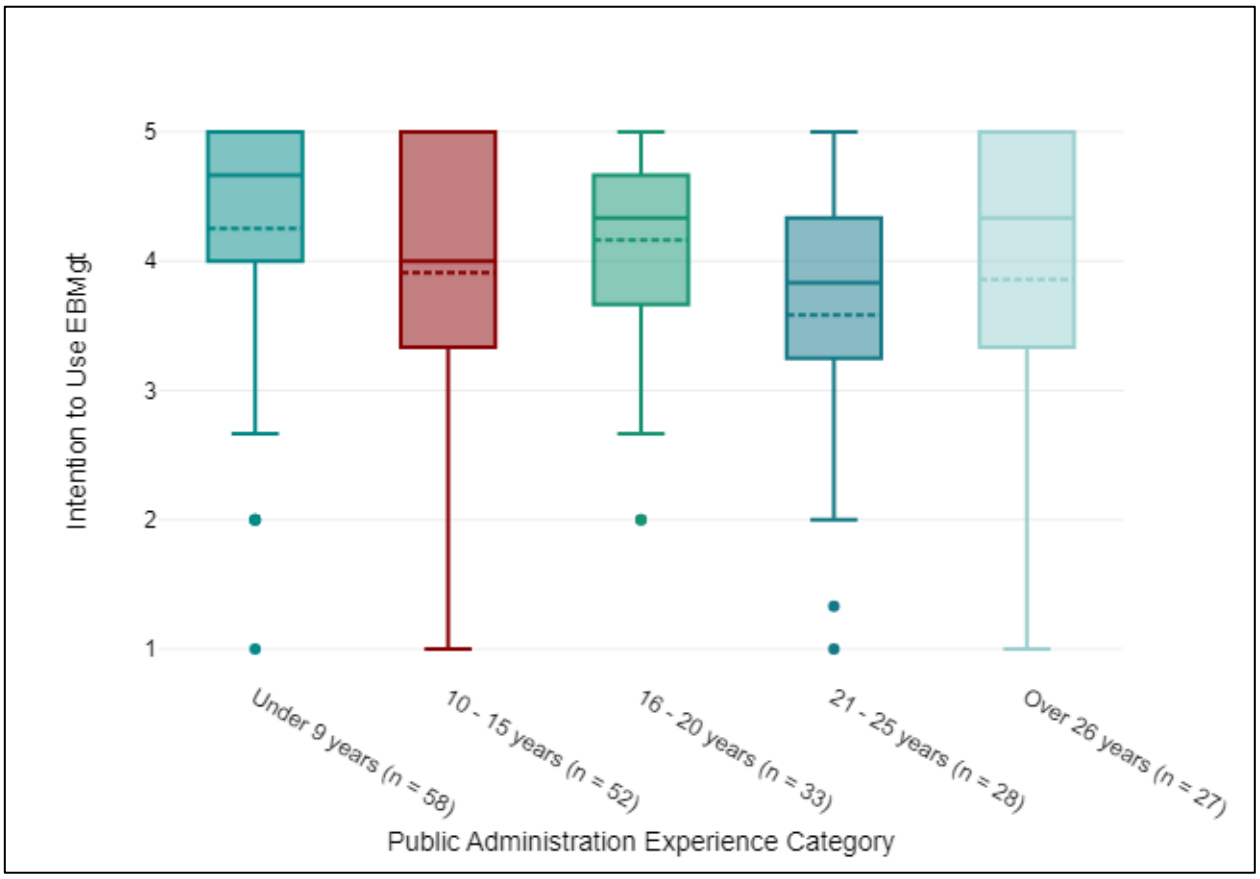
Relationship Between Intention and Education



Note. N = 228. The vertical axis is a 5-point Likert scale. The horizontal axis represents the categories. The box represents the interquartile range. The solid line in the box represents the median. The dotted line in the box represents the mean. The bottom and top horizontal lines that lie beyond the box represents the lower and upper hinges, respectively. The dots outside the hinges represent outliers. The color of the box represents the corresponding category below the box.

Figure 28

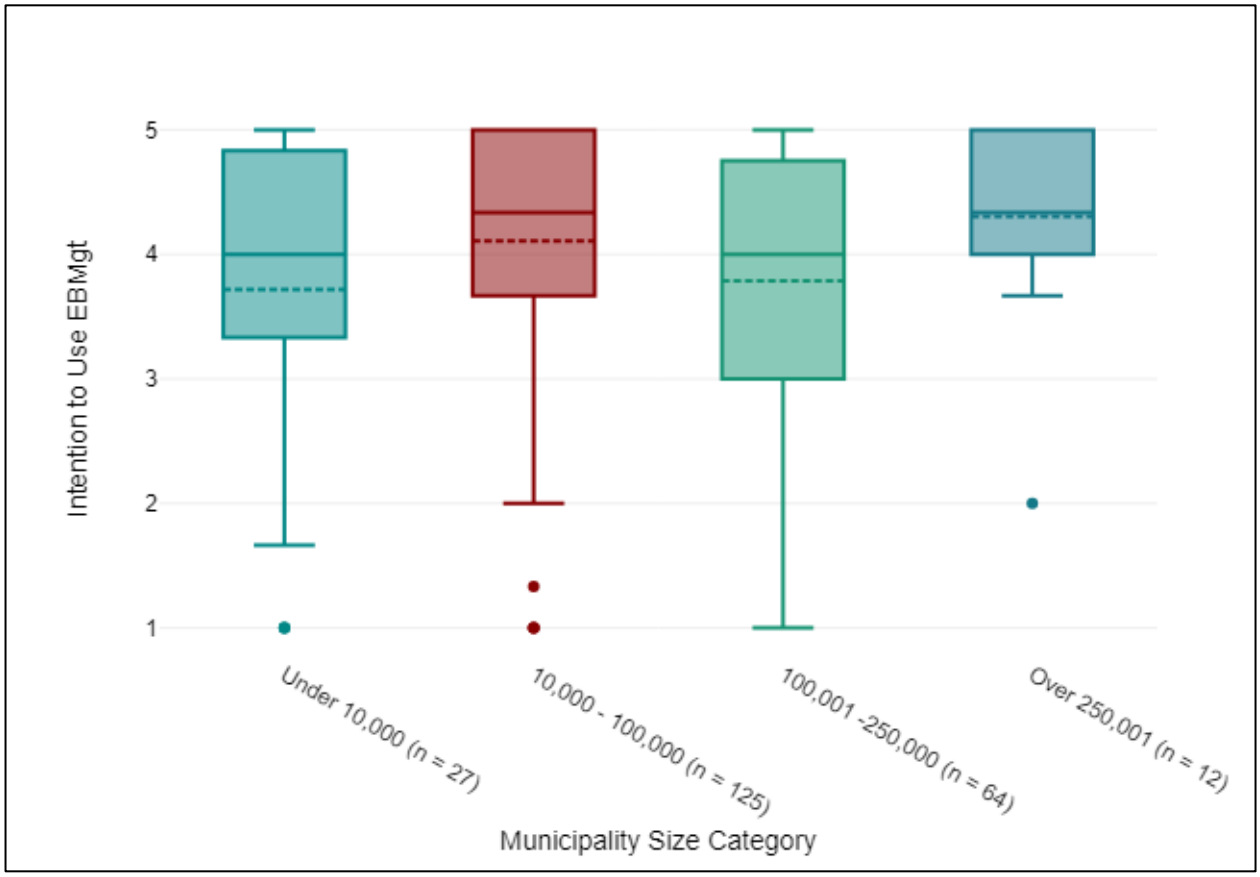
Relationship Between Intention and Public Administration Experience



Note. N = 228. The vertical axis is a 5-point Likert scale. The horizontal axis represents the categories. The box represents the interquartile range. The solid line in the box represents the median. The dotted line in the box represents the mean. The bottom and top horizontal lines that lie beyond the box represents the lower and upper hinges, respectively. The dots outside the hinges represent outliers. The color of the box represents the corresponding category below the box.

Figure 29

Relationship Between Intention and Municipality Sizes



Note. N = 228. The vertical axis is a 5-point Likert scale. The horizontal axis represents the categories. The box represents the interquartile range. The solid line in the box represents the median. The dotted line in the box represents the mean. The bottom and top horizontal lines that lie beyond the box represents the lower and upper hinges, respectively. The dots outside the hinges represent outliers. The color of the box represents the corresponding category below the box.