

2021

Leaders' Perceptions of Innovation Processes in Public Sector Organizations

Ronald McGarvey
Walden University

Follow this and additional works at: <https://scholarworks.waldenu.edu/dissertations>

This Dissertation is brought to you for free and open access by the Walden Dissertations and Doctoral Studies Collection at ScholarWorks. It has been accepted for inclusion in Walden Dissertations and Doctoral Studies by an authorized administrator of ScholarWorks. For more information, please contact ScholarWorks@waldenu.edu.

Walden University

College of Management and Technology

This is to certify that the doctoral dissertation by

Ronald C. McGarvey

has been found to be complete and satisfactory in all respects,
and that any and all revisions required by
the review committee have been made.

Review Committee

Dr. Michael Neubert, Committee Chairperson, Management Faculty

Dr. William Shriner, Committee Member, Management Faculty

Dr. David Gould, University Reviewer, Management Faculty

Chief Academic Officer and Provost
Sue Subocz, Ph.D.

Walden University
2021

Abstract

Leaders' Perceptions of Innovation Processes in Public Sector Organizations

by

Ronald C. McGarvey

MBA, University of Mary Washington, 2012

BS, Adelphi University, 1989

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Management

Walden University

November 2021

Abstract

Successful innovation in the public sector has not yielded the intended results, thus the need exists for public sector leadership to foster innovation. This issue is important as the public sector represents up to 25% of a developed nation's gross domestic product and is expected to deliver services efficiently. The purpose of this case study was to explore the skills public sector leaders need to foster innovation. The conceptual framework included organizational culture, motivation in innovative environments, implementation of innovation, and organizational relationships of Glor's public sector organization theory, which helped consider minor or major challenges, intrinsic or extrinsic motivation, and whether its motivation is top-down or bottom-up. The research question focused on what skills public sector leaders need. The research design used a single case study approach. Data were collected using in-depth interviews with 15 public sector mid-level leaders. Data were analyzed via manual coding and theme development. Themes included: provide an opportunity for encouragement; do not be afraid to fail, internal fortitude; and manage leadership and political appointees as well. Providing a learning environment, accepting prudent risks, and providing structure and resources—keep people informed. Study's results can inform public sector leaders to better understand the value of leadership for innovation and organizational culture for relationships affecting innovation, facilitating improved delivery of services to their respective populations, including leadership, employees, and the public.

Leaders' Perceptions of Innovation Processes in Public Sector Organizations

by

Ronald C. McGarvey

MBA, University of Mary Washington, 2012

BS, Adelphi University, 1989

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Management

Walden University

November 2021

Dedication

A doctoral journey is not possible without the support and understanding of family and friends. The many hours invested in research, study, and writing severely limit the participation in social and family events and celebrations. I have many friends and family members to thank for their encouragement, support, and understanding—first, my immediate family who always encouraged learning. Second, my children demonstrated perseverance and complete what they start. Lastly, my wife, who I dedicate this work. Allison has been a steadfast supporter of my doctoral journey and without her support, would have been a greater challenge to complete.

Acknowledgments

Numerous people have assisted and supported me throughout this journey. First, I would like to acknowledge and thank the U.S. Marine Corps Human Resources and Organizational Development, Civilian Leadership Development Program. This program provided financial support to me, that I would not have completed this goal without it. Second, there are too many people to acknowledge and thank for their support individually. However, I would like to recognize a few who have already completed their doctoral journeys' and whose encouragement and advice have kept me on track, Dr. John Kiersma, Dr. Flora Lawson, Dr. Mike Riley, and Dr. Lap Yan.

Most importantly, I wish to recognize my dissertation committee: Dr. Michael Neubert, Committee Chair; Dr. William Shriner, Second Committee Member; and Dr. David Gould, University Research Reviewer. Each of these committee faculty provided me with thought-provoking guidance and counsel. It is through their comments and thought-provoking discussion points that clarity and depth are provided. For their efforts, I am forever thankful.

Table of Contents

List of Tables	iv
Chapter 1: Introduction to the Study.....	1
Background of the Study	2
Problem Statement	3
Purpose of the Study.....	4
Research Question.....	4
Conceptual Framework	4
Nature of the Study.....	5
Definitions	6
Assumptions	7
Scope and Delimitations.....	7
Limitations	8
Significance of the Study	9
Summary and Transition	10
Chapter 2: Literature Review	12
Literature Search Strategy	12
Conceptual Framework	13
Literature Review	15
Summary and Conclusions.....	45
Chapter 3: Research Method.....	46
Research Design and Rationale.....	46

Role of the Researcher	47
Methodology	47
Issues of Trustworthiness	56
Summary	60
Chapter 4: Results.....	61
Pilot Study	61
Research Setting.....	62
Demographics.....	62
Data Collection.....	63
Data Analysis	64
Data Coding.....	64
Evidence of Trustworthiness	67
Study Results.....	69
Summary	80
Chapter 5: Discussion, Conclusions, and Recommendations	82
Interpretation of Findings.....	82
Limitations of the Study	87
Recommendations	88
Implications	91
Conclusion.....	95
References.....	96
Appendix A: Interview Protocol.....	109

Appendix B: Initial Codes	112
Appendix C: Codes: 2nd Round	114
Appendix D: Categories to Themes	116

List of Tables

Table 1. Participants' Demographics	63
---	----

Chapter 1: Introduction to the Study

Innovation is essential for improving the efficiency and effectiveness of public sector organizations (PSOs; Wipulanusat et al., 2018). Although most PSOs are free from generating profit similar to commercial enterprises, PSOs still need to innovate while adapting to changing requirements by taking advantage of technologies for the effective and efficient delivery of services to their citizenry (Wipulanusat et al., 2018). Innovation can be creative or novel resolutions to problems and demands, including new services, new organizational structures, and improved processes (Currie et al., 2008; Wipulanusat et al., 2018).

Despite the significance that innovation has for organizations, innovation has experienced limited success in PSOs (Moussa et al., 2018b). Further, there is a lack of research on PSOs (Demircioglu & Audretsch, 2017), especially in terms of understanding of the public sector's innovation process with interview-based data collected from case studies for the research methodology (Wipulanusat et al., 2018). The results of this research may add to the body of knowledge on PSO innovation and improve outcomes.

This chapter includes an overview of this study by discussing the background where research material is analyzed, a description of the problem and purpose for the study, a research question, an introduction to the conceptual framework, and the nature of the study. This chapter also includes definitions of specific terms, the assumptions on which this study is based, the scope of the study and limitations, the significance of the research as it applies to knowledge development, applications, and social change. These subjects will be described and conclude with a summary and transition to Chapter 2.

Background of the Study

The research focused on innovation has received significant academic attention for more than 50 years, which has mostly focused on the private sector (Demircioglu & Audretsch, 2017). It has only been during the past 20 years that researchers have recognized the significant position held by the public sector. The public sector can represent between 20% and 34% of a developed nations' gross domestic product (Arundel et al., 2019; Wipulanusat et al., 2017). As represented in the 2019 U.S. Office of Personnel Management's (OPM's) Federal Employee Viewpoint Survey results, the public sector depicts a complex environment where the U.S. government employs workers from entry-level to executive-level and organizations with fewer than 100 employees to large organizations with more than 75,000 workers.

The U.S. Federal Government employs workers in most of the same jobs as the private sector. But the difference between the public and private sectors is that the public sector exists based on collected fees and tax revenue. In contrast, the private sector operates based on the existence of profit. Additionally, the public sector's leadership change potential is associated with an election cycle that does not exist similarly in the private sector. Further, workplace motivation for innovation differs between the public and private sectors, as the public sector lacks the award mechanism more frequently available in the private sector (Wipulanusat et al., 2018). The private sector can provide financial rewards to workers; the public sector relies on other factors associated with leadership methods (e.g., transformational leadership). Leadership is the most critical predictor of successful innovation (Wipulanusat et al., 2017).

Public sector workers play a significant role in delivering services, government success, and the need to develop novel and useful ideas (Amabile et al., 2004; Currie et al., 2008; Sherief, 2019). But in the 2019 Federal Employee Viewpoint Survey, less than half of the survey

responders indicated that their organizations are innovative (OPM, 2019). As the public sector represents a significant position in a developed nation's economy funded by taxes and fees, PSOs need to be efficient when delivering services to the people (Shereif, 2019). Public sector innovation (PSI) has not met higher efficiency and better service expectations (Moussa et al., 2018b). The public sector needs innovation to provide a constant flow of new and useful government services and products (Shereif, 2019).

Innovation is necessary for improving service delivery by PSOs and the survival of the organization (Arundel et al., 2019). PSOs have failed to fulfill their stakeholders' expectations for higher efficiency and service due to a lack of successful innovations (Moussa et al., 2018b). However, there is little incentive in the public sector to innovate as there is little to gain, and there is significant loss potential leading to an aversion of risk by leaders (Torugsa & Arundel, 2017). Although several approaches may be considered when assessing reasons for the lack of PSI results, there needs to be additional research on this issue from the perspective of relationships. Additional research is necessary on the relationships of innovation and ambidextrous culture relationships using an interview-based qualitative case study approach (Wipulanusat et al., 2018).

Problem Statement

The general problem was that PSOs have not fulfilled stakeholder expectations for higher efficiency and service attributable to unsuccessful innovations (see Moussa et al., 2018b). There are several reasons for innovation hesitancy in the public sector such as risk that innovations would not be acknowledged (Borins, 2002; Wipulanusat et al., 2017). Further, should the innovation fail, it fuels constituent resentment, negative response from the media, opposition criticism, and voters' lack of confidence. Overcoming risk requires a positive attitude of management where acceptable risk can be minimized by a planned and successfully tested

development before implementation (Shereigf, 2019). Leaders are a significant antecedent for facilitating creativity and innovation (Wipulanusat et al., 2018). The specific problem was a need for public sector leadership to foster innovation (Moussa et al., 2018a), which required additional research to better understand the innovation process in the public sector (Wipulanusat et al., 2018).

Purpose of the Study

The purpose of this qualitative single case study was to explore skills public sector leaders need to foster innovation. The explanation derives from an extensive literature review and in-depth interviews obtaining views from mid-level leaders of a PSO. I intended to understand how leaders perceive leadership for innovation and ambidextrous culture for innovation relationships and how relationship perceptions affect innovations. Their perceptions were assessed to understand leader relationship perceptions of relationships affecting innovation development and acceptance. Interviews were conducted by telephone due to COVID-19. This study was limited to a single case study organization and located in the Washington, DC region.

Research Question

The research question was “What skills do public sector leaders need?”

Conceptual Framework

This study’s conceptual framework was Glor’s (2008) substantive theory of PSO innovation. Glor’s theory suggests that organizational innovation patterns are a function of the interaction of three complex factors of motivation, social, and the challenge of implementation. According to Glor, motivation is relevant to both workers and leaders and includes intrinsic and extrinsic pressures. Organizational culture is referred to as the social value influenced by either

top-down or bottom-up motivation. Organizational culture reflects the source of the creative and innovative ideas and the direction providing support. The challenge to implementation is either major or minor and reflects the effort necessary to implement the innovation successfully. In addition to the three concepts, Glor also identified eight innovation patterns: imposed, reactive, active, buy-in, pro-active, necessary, transformational, and continuous change. These patterns are described more fully in Chapter 2.

Nature of the Study

The choice of the research method was a qualitative single case study (Hancock & Algozzine, 2017; Merriam & Tisdell, 2016; Yin, 2018), as it provided the opportunity to explore the leadership group's perceptions about innovation processes in the public sector's natural setting and contextualized by the research participants' experiences (Ravitch & Carl, 2016). A case study is an empirical approach facilitating contemporary real-world information (Yin, 2018). Within the case study design, a PSO was my focus that included several embedded units. This research included 15–20 PSO non-executive, mid-level leaders as they are positioned within their organization to have firsthand knowledge of top-down and bottom-up innovation efforts. Top-down innovations are directed from executive-level leaders with the strategic vision to achieve organizational goals. Bottom-up innovations are identified by lower-level workers with firsthand knowledge of and experience with processes positioned to identify improvements.

A purposive sampling approach to participant selection was used. Research participants were selected from responses to a social media request and from subject matter experts already known to me. Participants met the following requirements: mid-level, non-executive leaders currently or recently employed by a PSO having a minimum of 5 years of supervisory or leadership experience. Data were collected through in-depth, semistructured interviews, field

notes taken during interviews, and U.S. government records and documents. If additional participants were needed to achieve data saturation, snowball sampling would have been used. Collected interview data were categorized and organized manually. With the development of themes, the data from the three different sources of evidence was analyzed using the convergence of evidence triangulation method (Yin, 2018).

Definitions

Ambidextrous culture for innovation: Ambidextrous culture for innovation includes both shared organizational norms and basic values (Wipulanusat et al., 2018). Shared organizational norms and basic values are used to establish innovative practices, procedures, policies, and structures in the work environment for a balance of exploration and exploitation (Benner & Tushman, 2003).

Leadership for innovation: Leadership for innovation is the willingness of leaders to take risks on novel initiatives and adopt fresh perspectives (Wipulanusat et al., 2018). Further, leadership for innovation has a vital role in building processes, structures, and a climate for innovation while motivating workers (Chan et al., 2014).

Mid-level leader: For this study, a mid-level leader is a federal employee of the pay grades GS-13, GS-14, or GS-15 identified by the U.S. OPM (<https://www.opm.gov/policy-data-oversight/classification-qualifications/>).

Public sector organization (PSO): A PSO is an organization that belongs to a government (Glor, 2008).

Assumptions

Methodological assumptions are used in qualitative research to identify information that may not be verifiable. Assumptions are information essential for framing research as the premise links abstractions to observed phenomena given social, historical, political, and cultural assumptions (Wolgemuth et al., 2017). Assumptions are out of the researcher's control, but they add relevance to research (Simon, 2011).

For this research, I identified three assumptions. The three assumptions are that each participant provided accurate and truthful information. Second, each research participant was believed to have experience similar to and representative of most mid-level leaders. And third, I assumed each participant was interested in innovation within the context of their public sector employment. I assumed that each research participant voluntarily participated in this research project and was interested in innovation within their organization. The research pool participants had previous experience considering how to manage innovation tasks, whether top-down or bottom-up, within their organization and were interested in improving the process. These assumptions are necessary for this research as, without truthful responses from the research participants, the findings would not accurately depict actual leader views of relationships. This assumption's concern was reduced as interviews were conducted with the research results reflective of all research participants' responses and not reliant on anyone else's response. Based on the participants' experience and placement criteria, participants responded to interview questions from similar observation points.

Scope and Delimitations

Delimitations are the boundaries of research (Hancock & Algozzine, 2017). The scope and delimitations for this research were attributed to the research design and methodology. The

delimitations, therefore, are described as the *case* and the *methodology* used and applied to this study. A qualitative single case study is an empirical study used to investigate a contemporary phenomenon (Yin, 2018). This study's research design was limited to obtaining information from mid-level leaders of a single federal agency. The information required focused on the managers' perceptions of relationships, the phenomenon, and how the relationships may affect innovation within their work units. Other views exist regarding leaders' perceptions of relationships affecting innovation in PSOs outside the scope of this research. However, the intent was to develop a rich and a deep understanding of the research participants' observations and experiences to determine the importance of relationships affecting innovation in the PSO (Merriam & Tisdell, 2016). The results of this study may not be fully transferable to other PSO organizations. There are many forms of PSOs with different missions, capabilities, operating environments, and goals. The findings from this research may not be applicable to these organizations.

Limitations

This research's limitations are that the findings may not be transferable to other contexts and may not represent all PSOs in the United States. The research was limited to federal mid-level leaders in a single geographic region. Conducting a similar study using similar leaders from a different geographic area or multiple areas may result in different findings. Attempting to use a different approach or methodology for this study, such as a quantitative approach, could also yield different results depending on how the questions are posed and the extent to which the accumulated data are assessed. Additionally, approaching the research design permitting greater breadth from the number of agencies represented in the data collection and the levels of government agencies may also yield different results.

Another limitation was ensuring a clear separation between my role as a researcher and an employee of a PSO. I am a current employee of a PSO and working in the operations directorate. To overcome this challenge, I did not conduct this research within the PSO where I am employed. Additionally, my research was conducted in work locations other than the operations department, where I have limited knowledge and experience to avoid bias.

Significance of the Study

Significance to Practice

This study was important for PSOs interested in improving their innovative processes by studying the PSO managerial perspectives on the relationship effects using PSO innovation theory developed by Glor in 2008, which suggests that motivation, organization culture, and challenge to implementation affect managerial perceptions. This study could improve the understanding of managerial perceptions regarding innovation, which can then improve innovation development for government service delivery. The study also contributes to reducing the gap in academic literature assessing the factors affecting PSO managerial perceptions of relationships affecting innovation processes.

Significance to Theory

This study adds to the growing body of knowledge for understanding innovation in PSOs. PSO leaders are crucial to organizations as they hold a position to affect outcomes. Socio-psychological factors that include leadership for innovation and the ambidextrous culture for innovation, including shared norms and basic values, are significant determinants fostering workplace innovation (Wipulanusat et al., 2018). This study adds insight on the leadership for innovation and ambidextrous culture for innovation relationship, recognizing the value of PSO

theory. PSOs face barriers encouraging, implementing, sustaining innovation, and affecting the opportunity for efficiency and effectiveness. This study viewed PSI issues based on the leaders' experience and observations of relationships involving innovation. This research contributes to the body of knowledge on PSOs innovation and understanding the significance of leaders' perceptions of relationships on PSO innovation.

Significance to Social Change

The results of this study may facilitate positive social change in other PSOs. The results of this research are intended to provide managers with additional knowledge for how they may modify their understanding of the significance of relationships affecting innovation in their work units that may result in improving the effective and efficient delivery of services to residents (Miao et al., 2017). Additionally, federal workers' workplace environment improves as behaviors and conditions change, and workers are more satisfied in their work, leading to reduced worker turnover (Miao et al., 2017).

Summary and Transition

I provided an overview of my intended research in this chapter. Although research on innovations within organizations has been studied for many years, the study of innovation within the public sector has only received research interest for the past 30 years. Given the lack of PSI research and reported poor PSI results, there was a need for greater understanding of the effects of leadership and culture on PSO workplace innovation (Wipulanusat et al., 2017). This issue is significant as the size of the public sector compared to developed nations' gross domestic product approaches 30%. The efficient delivery of services to the citizenry requires capable organizational processes as the result of organizational, creative thinking, and innovation. The information contained in this chapter establishes a focus on the status and significance of research

for the literature review in Chapter 2. Additionally, in Chapter 2, I describe the process that I used to locate relevant research material and describe the conceptual framework in detail.

Chapter 2: Literature Review

PSOs have failed to fulfill stakeholder expectations for higher efficiency and service attributable to unsuccessful innovations (Moussa et al., 2018b). PSOs need to foster innovative environments, requiring leaders committed to innovation (Moussa et al., 2018a). The purpose of this study was to explore skills public sector leaders need to foster innovation. Included in Chapter 2 is the process I used to locate significant scholarly research. The conceptual framework describes how leadership perspectives of relationships affect innovation in PSOs. The literature review provides the current research relevant to this study via multiple and occasionally differing views. The views include the need for PSI, public sector creativity and innovation relationship, the leadership and innovation relationship, PSO organizational culture and innovation relationship, PSO culture, PSI theory, and leadership styles affecting leaders' perceptions of PSI relationships.

Literature Search Strategy

I used several methods to conduct the literature search and review. A consistent approach was used during each search with the following keywords: *public sector cultures*, *public sector environments*, *PSI*, *public sector leadership theory*, and *PSO*. My initial approach used the Walden University Library to search databases belonging to ProQuest, EBSCO, SSRN, Science Direct, Routledge, Wiley Online Library, or Research Gate. I applied a very narrow focus for peer-reviewed articles and fewer than 5 years old with this first approach. The second approach broadened the view using similar search keywords but removed the timeframe. The third approach removed the peer-reviewed literature search criteria permitting the availability and

inclusion of non-peer-reviewed professional journals. And the fourth approach used open-source resources that included *Google Scholar* instead of the Walden University Library, making available all research; the same search keywords were used in the open-source research search.

The peer-reviewed literature search results yielded literature, with the earliest being from 1999 and the most recent being 2020. Books were sought, providing a more extended observation period, with the oldest being 1942. Although each book had not been peer-reviewed, each was previously listed as a reference in a peer-reviewed article. Secondary sources of research literature were identified in the reference section of peer-reviewed journal articles.

Conceptual Framework

PSI theory is a field with several approaches (Gow, 2014). For example, Rogers's (2003) diffusion of innovations concentrates on innovation processes of all kinds, noting that large organizations are more likely to innovate as they have unused slack resources (Gow, 2014). Rogers's other considerations were that innovation adoption was affected by cost, compatibility, complexity, and trialability. However, this study's conceptual framework includes organizational culture concepts, motivation in innovative environments, implementation of innovation, and organizational relationships of Glor's (2008) PSI theory that focused on innovations in PSOs. Glor identified three core categories referred to as factors: employee motivation, organizational culture, and the challenge of implementing innovation. Leaders can affect these three factors. Additionally, Glor identified eight innovation patterns: pro-active, active, buy-in, reactive, continuous, necessary, transformational, and imposed. Each of the patterns, although different, share commonalities reflecting the various forms of innovation that Glor identified.

Additionally, Glor (2008) described motivation as something that does not change significantly over time. Glor characterized these minor changes to employee motivation as

intrinsic and extrinsic motivation. Intrinsic motivation involves behaviors that are not dependent on external incentives or influence; however, they provide their own satisfaction and joy (Ryan & Deci, 2020). Extrinsic motivation refers to behaviors done for reasons other than their inherent satisfaction; these behaviors are reactions to the expectation of rewards or punishments (Ryan & Deci, 2020). Though motivation was described as not changing, organizational culture is not fixed or finite and can change over time (Glor, 2008). According to Glor, cultural characteristics can result from changes in leadership style, external environment, and social dynamics, including conscious and unconscious pressures.

The magnitude of challenge was identified as those initiatives having either top-down or bottom-up approaches for either minor or major challenges (Glor, 2008). Top-down approaches are approaches directed by upper management and elected officials who champion their ideas and support the innovation (Wipulanusat et al., 2018). Bottom-up approaches are those efforts identified by civil servants, mid-level managers, and frontline workers with direct contact with the clients. According to Glor (2001a), the magnitude of the challenge has two aspects: risk and relative advantage. Glor (2008) provided the following descriptions for both minor and major challenges. A minor challenge is (a) low risk to individuals and/or the organization and management in terms of status, opportunities, self-esteem, time, work, and psychic energy; (b) low personal risks, slight loss of power, money, status, and respect; (c) low public risks, involving failure, career consequences, public scrutiny and/or negative media attention; (d) low magnitude of change; (e) compatibility with existing values and past experience of the implementers of the innovations; (f) low perceived commitment to further change and low threat of change; (g) innovation dealing with operational decisions, incremental change, status quo/expanded reproduction, evolutionary transition; (h) no or minor changes in power and power relationships within the government or vis-à-vis groups outside the government; and (i) high relative advantage

of the innovation compared to what it is superseding, low complexity both in terms of understanding and use high testability of the innovation, and observability of the results.

A major challenge includes: (a) high risk to individuals and/or the organization and management in terms of status, opportunities, self-esteem, time, work, and psychic energy; (b) high personal risks, involving loss of power, money, status, and respect; (c) public risks, involving failure, career consequences, public scrutiny and/or negative media attention; (d) high magnitude of change; (e) high compatibility with existing values and past experience of the receivers; (f) high perceived commitment to further change and high threat of change; (g) omitted; (h) high threat, strategic change, evolutionary transition/revolutionary transformation, or changes in power relationships within the government or vis-a-vis groups outside the government; and (i) low relative advantage of the innovation compared to what it is superseding, high complexity in terms of understanding and use, low testability of the innovation, and observability of results.

This work benefitted from Glor's (2008) PSI theory development as it provides a template to consider the numerous attributes of the public sector as it relates to innovation. Glor's PSI theory was used to assess an organization's fitness capacity, which considers adaptability, communications, and difficulty in innovation development.

Literature Review

The Need for PSI

PSI is needed to improve public services quality and enhance problem-solving capacity; however, much research approaches the issue from a conceptual rather than empirical view (DeVries et al., 2016). Researchers have also approached the need for PSI from two views:

management and economics (Arundel et al., 2019). The management view primarily uses case studies examining the different aspects of the public sector, with the goal being public sector theory development. But the limit to the case study approach is that only a small number of organizations may be queried to understand causal relationships, with the inherent disadvantage being that some organizations are unrepresentative. The economic approach to PSI involves large-scale, representative surveys originally based on quantitative research proposed by the Organization for Economic Co-operation and Development's (OECD) Oslo Manual. Most research on PSI has focused on services; however, public sector polity deserves equal research attention (Sorenson, 2017).

The need for more research on PSI is supported by the continued criticism of innovation in the public sector for not having achieved the desired successes (Arundel et al., 2019; Moussa et al., 2018b). Significant PSO costs are incurred while providing services to respective populations, and innovation is needed to address societal challenges, including climate change, demographic pressures, urban congestion, and social and economic inequality (Arundel et al., 2019). Further, PSOs are confronted by the growing demands of the affected populations while facing revenue generation challenges to pay for provided services. Disappointing efficiency gains, growing fiscal austerity, and rising citizen demands for public services have pressured governments to suggest radical ways to create more for less (Sorenson, 2017). According to the OECD (2018), fiscal austerity, social inequality, and changing demographics are some of the pressures impacting PSOs encouraging them to transform themselves into innovation adopters. However, developing policy facilitating innovation runs counter to the role of PSOs, as governments have a statutory duty to provide services that are consistent and equal to all stakeholders (OECD, 2018). Innovation is essential for improving efficiency and effectiveness in the public sector and finding solutions to society's increasing demands for better services, but more qualitative research is

needed to understand the impact of ambidextrous culture for innovation relationships on innovation in PSOs (Wipulanusat et al., 2018).

Why Innovation is Essential to the Public Sector

The reasons why innovation is important to the public sector among researchers provided little variance. Wipulanusat et al. (2018) conducted their study to determine the effects of leadership and organizational culture on public sector job satisfaction. Wipulanusat et al. conducted a quantitative study of public sector workers within the context of job satisfaction. Bekkers et al. (2011) noted that governments need to innovate by developing new processes and policy concepts, technologies, organizational structures, management approaches, governance processes, and policy concepts to meet society's needs. Wipulanusat et al. continued by providing that innovation is important to PSOs as it is essential for improving efficiency and effectiveness.

Moussa et al. (2018a) conducted a critical review of academic publications for leadership and innovation in the public sector with the intent to identify those attributes necessary to develop and support cultures for innovation. The authors noted a lack of common understanding as to a definition for PSI, along with an equal lack of management framework able to explain innovation processes. Moussa et al. provided considerable detail as to the problems associated with developing cultures for innovation. According to Moussa et al., the need for innovation was limited to creating opportunities for survival, growth, and excellence for PSO goals. Their research was conducted from the standpoint that innovation was previously identified and understood to be necessary. The authors' research found several barriers in PSOs hindering innovation culture adoption while also presenting research results for addressing the shortfalls in leadership.

Bekkers, Edelenbos, and Steijn (2014) identified the need for PSI by providing that it is a necessary condition for creating a competitive economy. Bekkers et al. continued by identifying ideas and concepts, technologies, techniques and methods, forms, systems, and procedures creating meaningful interaction between government and society. Bekkers et al., unlike Moussa et al. (2018a), added to their explanation by noting PSI is needed to create a competitive economy and a positive influence on environmental and social renewal. Bekkers et al. discovered that there is a growing disconnection between governments and society. Specialization, differentiation, and fragmentation for this ever-increasing difference have led to a one-dimensional view of complex problems and needs.

The need for innovation within PSOs was evident in all reviewed literature. The common need was that it is necessary to provide the affected populations with needed resources and services. The authors differed in their approaches to the PSO innovation study, reflecting qualitative, quantitative, and literature reviews.

Sources of Innovation Within Organizations

Borins (2002) noted that innovation within the public sector is needed as increasing challenges have necessitated that they reduce costs, reduce the debt burden, and other opportunities such as information technology have forced them to innovate. In his study, Borins examined the results of both case studies and quantitative analysis, with the objective being to explore the relationship between leadership and innovation in the public sector. Borins noted the basis for his research was to explore the relationship between innovation and leadership. In his study using the review of case study data and quantitative analysis, Borins considered three issues: politically led responses to the crisis, organizational turnarounds, and bottom-up innovations. Borins provided research stating that innovation in the private sector is a bottom-up

development. The frontline workers and mid-level managers with firsthand knowledge of issues are not easily observed or understood by those higher up in organizations. Innovations in PSO can originate at any level; however, PSI is thought to originate at the top. Borins found that 50% of PSI originates at the mid-level management or front-line workers' levels, with 25% of PSO innovations being encouraged by organization leaders. Borins provided several examples of innovations created from within the organizations. He referred to these innovations as bottom-up development as these developments were part of official designs and developed by mid-level managers and lower-level workers when provided the latitude to think about possible improvement.

Wipulanusat et al. (2018) used a quantitative structured equation model for assessing data to study the influence on two climates for innovation constructs, those being leadership and organizational culture. The authors' selection for this design was to support research for determining the influence on leadership and organizational culture and workplace innovation. Wipulanusat et al. found that to achieve optimal performance, PSOs required innovation, being both bottom-up and top-down. Wipulanusat et al. concurred with Borin's claim that PSO innovation must originate from multiple PSO levels.

Baer and Frese (2003), conducted their quantitative research on climates for initiative and psychological safety, approached sources of innovation within organizations differently than Borins (2002), Glor (2008), and Wipulanusat et al. (2018). Baer and Frese approached the issue from an organizational culture view where all workers must feel comfortable, bringing forth innovative ideas. However, Glor developed her grounded theory for PSO theory for innovation, supports the belief that PSO innovations require both top-down and bottom-up approaches, and refer to both top-down and bottom-up as climates and properties. Baer and Frese continued by noting the organizational environment must support an active approach to work while

simultaneously acknowledging that workers have the latitude to sense problems and act proactively about them.

Researchers have found that innovation for the public sector is important. They have recognized the needs and expectations of public sector stakeholders that have to be satisfied. Contributing to the need for innovation in PSOs are the financial pressures placed on PSOs. The need to reduce operating costs is repetitive throughout the literature. One means of fulfilling both the populace's needs and financial pressures is to achieve both goals through innovation. Several authors have provided research on the continuing need for innovation research specific to the public sector. The need for PSI research is related to this study as it provides a foundational issue and justification. .

Public Sector Creativity and Innovation Relationship

Amabile (1996) and West (2002) described creativity as being the generation of original and useful ideas. Sarooghi et al. (2015) continued with a similar description for creativity, noting that creativity is the generation of novel and valuable insights. Sarooghi et al. advanced the explanation of the creativity and innovation relationship by noting that innovation follows creativity, where innovation is the implementation of the creative ideas leading to new products and services.

An innovation process consists of two parts, creativity and innovation, according to Sarooghi et al. (2015). Sarooghi et al. took a bivariate analysis approach with meta-regression that determined the association between creativity and innovation. Sarooghi et al. found a strong positive relationship between creativity and innovation ($r=.46$). A challenge noted by Sarooghi et al. was that the relationship between creativity and innovation is often assumed to be the same. Sarooghi et al. noted that creativity and innovation are not the same. Creativity follows the

identification of an issue or problem requiring a solution. Creativity is the creation of ideas or solutions to an issue or problem. Innovation is the acceptance of a creative idea or potential solution and the actual development of a solution for implementation. Sarooghi et al. noted that the creativity-innovation process is complex and does not follow a linear fashion reflecting its tentative nature. Sarooghi et al. found several relationships that can impact the creativity and innovation association's strength. The first level being the individual, the second is the team, and the third is the firm level. Sarooghi et al. found that several other attributes affect the creativity and innovation relationship in addition to the element queried, with those being firm size, type of industry, and innovation type. Sarooghi et al. noted that their research design might influence the creativity and innovation relationship results explained by their innovation processes, which vary significantly across empirical contexts and research designs, resulting in tension. Sarooghi et al. further described that the transformation of creative ideas into innovations represented by new products and services is significantly affected by institutions, cultures, organizations, and external environments. Although Sarooghi et al. were informative, their research did not address contextual elements defining the public sector from the private sector and did not consider how culture or geography's unique attributes may affect their research results.

Sherief (2019) approached creativity and innovation from an organizational climate, noting that previous researchers had focused more on individual creativity. Sherief conducted a qualitative study using both interviews and organizational creativity literature studies, noting that creativity and innovation lead to a consistent flow of new and useful government services. Sherief's research intended to create an inventory of organizational climate elements likely to boost public service creative behavior. In his study, Sherief noted that some researchers describe the creativity and innovation process as having two steps: exploration and exploitation. The exploration phase is aligned with creativity, where workers have identified an issue requiring a

resolution, developing and contemplating the various solutions. Recognition of novel and useful ideas concludes the exploration process. Exploitation commences when organizational members encourage others to adopt the value of a new item. Sherief found that PSOs must recognize their workforce's skills and abilities and foster creativity and innovative environments. In his research, Sherief's organizational climate attributed supporting creativity and innovation include meaningful work, organizational vision, autonomy, slack resources, supervisory support, deliberation, diversity, and organizational willingness to take risks.

Wang and Zhu (2011) conducted a quantitative study of creativity and leadership from a transformational leadership approach. The authors' focused on understanding the influence observed by transformational leadership and their effects on creativity. While conducting their research, Wang and Zhu noted that researchers do not fully understand the relationship between transformational leadership and creativity. They observed that leadership, and specifically, transformational leadership, had a positive effect at the individual level. Wang and Zhu's approached the topic of leadership for creativity differently from the approach of other researchers. Wang and Zhu focused on a specific leadership approach rather than the broader aspects of organizational culture, as described by Shereif and the specific creativity and leadership attributes of Sarooghi et al. Wang and Zhu also noted the effects of leadership style was less an issue at the group level. However, Wang and Zhu, in their findings, recognized that both individual and group creativity are complex and subject to contextual factors at various levels. Additionally, Wang and Zhu noted the potential for differences between individualistic and collective cultures and their potential to affect the transformational leadership and creativity relationship.

Many researchers have found that there is a link between creativity and innovation. The challenge identified is understanding the strength of the relationship. There also appears to be a

lack of universal understanding, with some researchers believing that creativity is an integral part of innovation. In contrast, others recognize them as separate yet related tasks. Researchers acknowledge the relationship between creativity and innovation; however, researchers do not describe how creativity and innovation differ between public and private sector organizations. Amabile, Schatzel, Moneta, and Kramer's (2004) described leaders' behaviors found during the longitudinal study included one quantitative study and two qualitative studies that recognized the fundamental link between creativity and innovation being key to an organization's ability to achieve goals. Amabile et al. described how organizations create workers and creative teams on individual innovation potential. Leadership and multi-levels of leader behavior need to facilitate an environment that supports workers' potential to be creative and support innovation. Amabile et al. noted three organizational creativity theories, componential theory, interactionist theory, and multiple social domains theory. The componential theory was found by Amabile et al. to align with creativity in the work environment most closely and used as the conceptual approach to their study. Amabile et al. found that relationship-oriented behaviors focus on socioemotional were supportive of facilitating an environment for creativity. This approach underscores the need for leaders and leadership to create an environment where creativity and innovation are possible.

Many researchers have identified a positive relationship between creativity and innovation. Although linear, this relationship has been recognized that innovation always follows creativity and where the relationship is consistent in its iterative process. Creativity, according to researchers, is the generation of possible solutions. Creativity is followed by innovation, which is the development of those ideas into usable solutions. When an issue or problem is identified where a solution is necessary or advantageous, stakeholders need to engage in creative thought. Organizational goals and objectives determine whether innovation development for solutions occurs and establish the timeframe for development.

Understanding PSI

Researchers in this section describes the need for innovation in PSOs, requiring a consistent or uniform understanding of PSI. Bekkers, Edelbos, and Steijn (2011) first described PSI as a learning process in which governments seek to solve problems by developing new services, technologies, organizational structures, management approaches, governance processes, and policy concepts.

Moussa et al. (2018b) conducted a critical literature review of academic publications for innovation and leadership in PSOs. This research focuses on leading nations that effectively define innovation and identify leadership behaviors, promoting a culture of innovation. Moussa et al.'s research identified a non-existent definition for innovation in the existing literature and identify leadership behaviors promoting innovation within PSO's. Moussa et al. found that among the challenges associated with PSO innovation are the inconsistencies in understanding what constitutes innovation. This understanding of innovation is attributed to differences among nations. Moussa et al. also noted that most existing leadership studies had used a quantitative approach. These studies investigated the impact of existing leadership theories, including transformational leadership, leader-member exchange theory, empowering leadership, and authentic leadership.

Currie et al. (2008) approached PSI by viewing it through an entrepreneurial lens. Currie et al. proposed a new definition for public sector entrepreneurship extending beyond existing literature. Public sector entrepreneurship encompasses three distinct focuses, those being stakeholder, entrepreneur, and political. The authors provided that public-sector entrepreneurship enhances PSI by strengthening its potential. Currie et al. recognized that entrepreneurial environments require leaders and organizations supportive of innovation and require engaged

leaders. The authors defined public-sector leaders as those who search for creative or novel resolutions to problems and demands, including new services, new organizational structures, and improved processes. Currie et al. conducted their qualitative interview-based study to explore the concept of entrepreneurial leadership and entrepreneurial approaches to leadership in the public sector and how those approaches may differ from the private sector. Currie et al. found that the public-sector entrepreneur differs from the private sector. The three previously identified aspects of stakeholder, entrepreneur, and political must all work in concert, which differs from the private sector.

PSI, according to Brown and Osborne (2005), is a radical discontinuity of the past. Brown and Osborne found no less than 23 definitions describing innovation within the field of management. Definitions of innovation have changed over time, reflecting the thought of many noted management researchers. Given the numerous definitions for innovation and the breadth of view, Brown and Osborne identified four features common to most of the 23 innovation definitions. The first feature was newness, which refers to the first time or first use of the new knowledge. The second feature is referred to as a relationship to an invention, where Brown and Osborne considered the relationship between invention and innovation. The third feature is that innovation is both a process and an outcome, meaning that the innovation can be either a transformation to a procedure or a product. The fourth feature Brown and Osborne described as the most significant is the extent to which it involves changes or discontinuity related to transformation. The authors further identified four categories for innovation: first, process; second, product or service; third, governance; and fourth, conceptual.

Bekkers and Tummers (2018) conducted a review of scholarly literature where they observed that innovation within the public sector is needed. The need for change provided by

Bekkers and Tummers focused on changes to the global economic condition, emphasizing change from administrative leadership to managerial leadership, changes in demographics and the aging populations, and political change. Bekkers and Tummers expanded their research to specifically include PSO research to assess means and methods to transform energy systems away from fossil fuels, address aging populations' issues, and understand both the benefits and threats associated with new technologies. Bekkers and Tummers noted the definition of PSI had changed over time. In 1911, Schumpeter linked innovation and entrepreneurship in the context of economics. Schumpeter believed that entrepreneurship was necessary as new ideas had to be sold. Nearly 30 years later, Schumpeter reversed himself on the definition of innovation by providing that innovation was less associated with entrepreneurship and less individualistic (Sledzik, 2013). Bekkers and Tummers noted during the 1960s, the context for innovation changed from economics and was subsequently described in the context of a systematic approach organized and programmed, permitting the development of research capabilities. Initially, PSI was thought to be achievable, providing the organizations had the necessary resources to allocate to the task. This definition for PSI has changed and is now considered an open process, including collaboration across stakeholders.

PSI is used to improve services, technologies, processes, products, policies, etc. There is little difference between public innovation and private innovation. However, how they differ is found in the motivation behind the exploration. Private sector innovation is motivated by the potential for reward obtained via profit. PSI is based on different motivation criteria that bring personal satisfaction deriving from serving the public good. Leaders support PSI with the willingness to take risks for the development of creative and novel ideas. Innovation can only follow creativity; however, creativity may exist without innovation. The PSO creativity and

innovation relationship is related to this study as leaders and organizations must apply the skills and policies required for creating a supportive organizational culture.

The Leadership and Innovation Relationship

According to Amabile et al. (2004) and Panuwatwanich et al. (2008), leadership in organizations is a critical predictor when determining the significance of how subordinates strive for creativity and innovation. Moussa, McMurray, and Muenjohn (2018c) and Plastric (2008) shared this understanding by referring to the leadership and innovation relationship as a pivotal and crucial role.

Amabile et al. (2004) used a multistudy longitudinal program investigating employees' experience of daily events, work environment, and performance. Amabile et al. conducted a study focused on leader behavior and its influence on creativity in the workspace used both quantitative and two qualitative analyses. Considering the results of these analyses, the authors depicted the leaders' behavior within the workplace influences creativity setting the foundation for innovation. Amabile et al. found that leaders who engage with their workplace subordinates daily can influence their workers' perceptions, feelings, and performance, leading to increased employee creativity levels. In their literature review, Mousa et al. (2018a) identified similarities between Amabile et al.'s conclusion regarding leader engagement with workers for encouraging creativity with what Torugsa and Arundel (2016) noted and found leader engagement with workers to support innovation. Moussa et al. found that innovation in PSOs is complex and lacks straightforward answers. Moussa et al. derived from the literature review that employers can enhance the innovation cultures by developing management competencies, avoiding barriers by recognizing sources of innovation, and developing conditions that motivate all individuals in the organization to innovate.

Rosing, Frese, and Bausch (2011) conducted a literature review and a meta-analysis of literature exploring leadership and innovation. Rosing et al. (2011) found that the creative-innovation relationship is not finite, complex, and inconsistent. Rosing et al. describe that creativity does not always consistently lead to innovation. Rosing et al. explained that innovation does not occur in a specific period after developing a creative idea as other factors may influence the creative idea's advancement. Rosing et al. found that different leadership styles can have a positive correlation with innovation. Rosing et al. developed an ambidextrous leadership theory, which is leaders' ability to use exploration and exploitation strategies equally well. Rosing et al. recognized the research conducted by March (1991), who first described exploration and exploitation as it related to creativity and innovation. According to March, exploration is associated with a broad approach, experimentation, and risk-taking when new knowledge is needed to fill a current information void. Exploitation is the narrowing of view, use of existing knowledge, risk reduction, and is used to modify existing knowledge for an improved or different purpose. Exploitation, according to March, is also used for the development of innovation. Jansen et al. (2009) expanded on March's explanation noted exploration for innovation pursues new knowledge for that purpose, whereas exploitation expands on current knowledge extending existing products and services. Therefore, leaders use their leadership skills to encourage workers to innovate based on the conditions present at that time. Rosing et al. described both transformational leadership and transactional leadership approaches as being equally relevant. The difference between the two approaches lies in the underlying motivations: personal self-interests, idealized self-interest, inspirations, intellectual stimulation, or rewards.

Wipulanusat et al. (2017) identified two methods of leadership, transformational and consideration, in their quantitative study as being the predominant styles facilitating innovation in

PSOs. According to Wipulanusat et al., these factors included qualities resulting in workers being engaged in their work, feeling rewarded by their active participation in work outcomes, and empowers workers even in PSOs with significant organizational structure. In a manner similar to transformational leadership, Wipulanusat et al. described that consideration leadership provides a work environment where emotional support, friendliness, warmth, and trust for followers exist. Gunzel-Jensen (2018) asserted that transformational leadership behaviors facilitate innovation within organizations. However, Gunel-Jensen differed from Wipulanusat et al., noting that empowering leadership enhances workers' ability to make independent decisions in their job tasks. This combination of transformational and empowering leadership behaviors leads to increased worker job satisfaction (Gunzel-Jensen). In the research conducted by Slimane (2015), Slimane stated that a relationship between leadership and innovation existed and has sought to clarify that relationship. With research findings, Slimane noted the relationship between innovation and leadership is a partnership where leaders work with other stakeholders to solve problems (Gunzel-Jensen; Moussa et al. 2018a; Wipulanusat et al.).

Slimane (2015) differed from Currie et al. (2008) by describing innovation leadership from a social vantage point. From this view, Slimane considered leaders' relationship to others and did not discuss the categories for innovation. Slimane noted innovation leadership is collective actions by individuals and used to advance social change when leaders inspire and motivate others through their activities.

Moussa et al. (2018b) researched the attributes of how leaders encourage innovation. The view presented by Moussa et al. differs from both Currie et al. (2008), and Slimane (2015) as Moussa et al. consider the behaviors of leaders and employees within their contextual relationship facilitating innovative environments. However, Moussa et al. described research similar to

Slimane (2015), where social issues of leadership are considered. Similar findings reached related to the impact of leaders on worker attitudes and behaviors. Borin's (2002) research considered leadership and innovation in the public sector different from the other authors by assessing where PSI originated and viewing it from either top-down or bottom-up. Borin found a strong relationship between leadership and innovation in the public sector; however, he regarded the issue from the organizational level and did not discuss conditions under which organizational cultures developed for improving successful innovation.

Rosing, Frese, and Bausch (2011) analyzed 10 leadership styles as they considered innovation, with the most significant number of articles using transformational leadership in their approach. The most frequent leadership-innovation research discusses transformational leadership when studying innovation, according to Bass (1999), transformational leadership seeks to move the worker beyond self-interests using charisma, inspiration, intellectual stimulation, or individualized consideration.

Consideration leadership was also described by Wipulanusat et al. (2017) as supporting innovation developments. Initially recognized as a behavioral dimension at Ohio State University in the late 1940s, consideration leadership included support for subordinates, welfare, equitable treatment, and warmth. Bass and Bass (2009) described consideration leadership as the extent to which leaders are concerned about their workers' well-being. According to Wipulanusat et al., consideration leadership focused on being a support mechanism where the leader appears to assume the role of a mentor while creating an open and empowering organization supporting innovation. Consideration leadership pairs well with transformational leadership as they both create organizational environments recognizing the value of the worker or subordinate.

Wipulanusat et al. (2017) validated this statement as they had found that the two predominant

leadership styles were transformation and consideration in the context of organizational innovation.

Rosing et al. (2011) compared transformational leadership with transactional leadership, noting that transformational leadership seeks to encourage workers to explore and take risks, while transactional leadership uses an exchange-based relationship offering rewards for goal achievement. Rosing et al. separated innovation into two views, with the first being an explorative approach where new processes are developed. The second view provided by Rosing et al. was referred to as exploitation, where existing processes or products are exploited for different purposes. Exploitation required a transformational leadership approach permitting team members to think and take risks in the innovation development process (Rosing). Exploitation focused on expanding an existing process relies on a transactional leadership style where team members are rewarded for achievements and performed in a risk avoidance atmosphere. Rosing et al. findings were consistent with previous research presented by Jansen, Vera, and Crossan (2009) and March (1991). March first described exploration as search, variation, and risk-taking. Exploitation described by March included refinement, choice, production, efficiency, and execution. March noted the significant difference between exploration and exploitation is that exploitation does not have the risks of exploration without gaining benefits.

Gunzel-Jensen (2018) and Rosenburg, Hanson, Jakobsen, and Wulff (2018) acknowledged the value of transformational, transactional, and empowering leadership effects on PSI. Gunzel-Jensen et al. approached the PSI leadership issue from the standpoint of capacity building. Gunzel-Jensen et al. noted that innovation capacity-building should be considered via transformational or transactional leadership approaches while simultaneously using empowering leadership. According to Gunzel-Jensen et al., empowering leadership is focused on developing

the capacity for innovation within an organization and not solely motivation. When used in conjunction with empowering leadership, their study found that transformational leadership demonstrated a positive PSI relationship. The research conducted by Gunzel-Jensen et al. viewed the issue of innovation in its general meaning. Gunzel-Jensen et al. did not identify the explorative and exploitive concerns researched by Rosing et al. (2011). Gunzel-Jensen et al. found that transformational leadership and empowering leadership had a positive relationship with PSI, reflecting an association with explorative innovation. Gunzel-Jensen et al. did not identify or provide additional information on exploitive innovation as they had previously provided on the explorative transformation-empowerment dyad.

Borins (2002) approached the subject of PSI and leadership from a different point of view. Rather than focusing on leadership approaches such as transformational, transactional, or empowering, Borins focused on where in the organizational structure innovations were identified and developed. Through case studies and quantitative analysis, Borins explored the relationship between leadership and innovation. In his study, Borins considered three questions on innovation leadership, the creation of leadership capacity, formal leadership reactions to innovations, and climate creation for innovators. Similar to Wipulanusat et al. (2018), Borins conducted research via two views, bottom-up and top-down. Taking this approach to research permitted him to obtain observations from both vantage points. Borins found that bottom-up innovation was challenging as it required leaders to advocate for the idea and advance it through the organization. Bottom-up innovations can be challenging to institute depending on the organization's structure and adherence to bureaucratic processes. Top-down innovations are less problematic to initiate as, according to Borins, higher levels of organizational leadership with formal authority direct the implementation of innovations. In either case, friction within the organization would slow the

advancement for innovation adoption. According to Borins, overcoming this friction requires a supportive environment facilitated by both political and senior leaders. Borins found via quantitative data analysis that bottom-up innovations occur more often than credit is given. The innovators generally assume an information leadership position while advancing their innovation and are likely to be placed on a formal advancement path.

Wipulanusat et al. (2018) concluded in their study that ambidextrous culture relationships are possible when social psychological constructs, including leadership for innovation and ambidextrous culture for innovation, are present. Wipulanusat et al. found that leaders' role is important for creating work environments where creativity and innovation are encouraged, resulting in workplace innovation in federal departments.

The public sector in many developed nations represents up to 34% of gross domestic product, according to Arundel et al. (2019). The expectation and demand for services by the governed population places pressure on PSOs. Constituents expect governments and their organizations to meet their needs. The observation is that governments and PSOs do not possess unlimited resources to meet societal expectations and needs. To this end, a means to meet societal expectations and needs within an economically constrained environment is to identify means and methods to achieve both. A process to meet societal expectations requires that creative and innovative solutions be explored, as Sarooghi (2015) described, which requires PSOs to develop leaders who understand an innovative organization's cultural aspects. Awareness of the innovation needs of PSOs improve leaders' ability to use the leadership for innovation and ambidextrous culture for innovation, both significant determinants fostering workplace innovation (Wipulanusat et al., 2018)

PSO Organizational Culture and Innovation Relationship

Glor (2002) described the organizational factors needed for creating innovative environments. Glor described the organizational culture as a social structure where the motivation to innovate is present on some level. Sarooghi et al. (2015) provided that innovation is inclusive of two processes, those being creativity and innovation. Sarooghi et al. described that to fix a problem, the problem must first be identified. With issues identified, the organization's leaders and subordinates need to comprehend how solutions are identified. This process, according to Sarooghi, described creativity. Creativity is followed by others who represent either internal or external resources depending on the issue for the development of one or more solutions, which again, Sarooghi identified innovation and completes the creativity-innovation relationship. Shereif (2019) supported Sarooghi et al. view by noting that the terms innovation and creativity have been used interchangeably by researchers. However, creativity and innovation are two different parts and separated and sequential. Sherief portended that creativity is the initial stage for a new and useful idea. The initial stage ends, according to Sherief, when the idea is turned into something and becomes an innovation. Therefore, researchers themselves have determined that creativity and innovation, although linked, are two separate functions.

Moussa et al.(2018a) described how the creativity-innovation process requires a PSO culture permitting those with unique knowledge of the organization, and the innovation issue considers the basis for the issue and supports the development of alternative solutions. According to Moussa et al., PSOs need to create and maintain organizational cultures that encourage and support creativity and innovation. Shereif (2019) noted that organizational culture or climate is viewed as a set of tools guiding staff behavior. These tools, according to Shereif, included values and standards governing organizations. Moussa et al. continued by stating that it is the

organization's people in power or, more precisely, leaders who can affect culture or climate within the organization facilitating creativity and innovation.

Moussa et al. (2018a) also noted a challenge to PSI is the lack of a comprehensive understanding of what defines PSI. Additionally, PSI content and measurement criteria useful when determining innovation goal achievement. Innovation measurement determines whether a change is an innovation or simply a modification to an existing device or process. Moussa et al. (2018b) determined that for PSOs to achieve organizational cultures and climates supporting creativity and innovation, a systems approach for innovation capacity is needed.

Moussa, McMurray, and Muenjohn (2018c) found that a common understanding of PSI is non-existent. However, PSI does share some common characteristics with business innovation. Moussa et al. (2018c) found that PSI shares common traits with processes, services, products, and methods to advance quality and efficiency.

Moussa et al. (2018c) found that leadership related to innovation can be viewed from several perspectives via their literature review. Each of these processes is unique to the involved people, and the specific event reviewed. Among the process, Moussa et al. had identified intra-organizational describes an individual's leadership characteristics, dyadic processes describing the worker-leader relationship, group processes describing the relationship between the leader and the group, and organizational processes describing the relationship between the organization and all subgroups. Moussa et al. suggested that additional research is necessary regarding PSI as types of innovations are not well defined. Sarooghi et al. also called for additional research on the topic of cultural effects potential to influence PSI affected by geographic and cultural differences.

Jansen, Vera, and Crossan (2009) and Rosing et al. (2011) further elaborated on the creativity and innovation relationships by describing the significance of exploitation and exploration. Rosing et al. described the difference between creativity and innovation as creativity

is the development of original and useful ideas, while innovation represents the implementation of creative ideas. Rosing et al. further noted that creativity and the implementation of creative ideas do not proceed in a strict relationship where phases and stages representing the creation-innovation relationship exists. Therefore, the creativity and innovation relationship is not consistent and is always changing. Within their research, Rosing et al. described an ambidextrous leadership condition where two complementary leadership approaches are necessary. These two conditions support either explorative or exploitive innovation methods. According to March (1991), the explorative process is connected with experimentation and risk-taking, while exploitation is connected with reduced variance, adherence to rules, and risk avoidance. Jansen et al. associated both explorative and exploitive as innovative approaches. Jansen et al.'s findings agree with March and Rosing et al.'s description of explorative and exploitive innovation. The research results for Jansen et al. and Rosing et al. agreed that the transformational leadership approach facilitates innovation in many projects; however, leaders need flexibility in their leadership approach and should not be restricted to a singular approach.

PSO Culture Affecting Innovation Relationships

Information describing the extent to which PSOs need to identify cultural factors requiring development for successful PSI development and implementation is not consistent. Sarooghi et al. (2015) considered three factors for their quantitative study assessing the cultural dimensions for collectivism, uncertainty avoidance, and power distance. Sarooghi et al. found that collectivism has little influence on the creativity- innovation relationship. This differed from the results for uncertainty avoidance and power distance factors where Sarooghi et al. found a positive relationship. Baer and Frese (2003) considered PSO culture's relationship to innovation differently, having seen the need to view the product and production process innovation

separately. Baer and Frese conducted their quantitative study to understand that PSO people are necessary to implement innovation successfully. Innovation has a higher likelihood of success when the organizations' people feel safe when taking risks for innovation development and are encouraged to contribute to the solution development process. For their research, Baer and Frese focused on two specific aspects of culture or climate, those being initiative and psychological safety. Glor (2001b) also identified Baer and Frese's factors with similar terminology as key to influencing innovation in PSOs.

According to Glor (2001b), PSOs providing cultures supporting innovation requires three elements, those being motivation, exterior culture, and challenge to innovate. According to Glor, motivation research is a concept encouraging behavior change within a workspace for empowerment addressing unconscious, conscious, and proactive relationships. Glor's description is similar to intrinsic motivation described by Sherief (2019). Sherief described intrinsic motivation as being freedom, workgroup support, organizational encouragement, organizational impediments, supervisory encouragement, challenging work, sufficient resources, and workload pressure. Both Glor's and Sherief's positions support Baer and Frese's (2003) cultural factors of initiative and psychological safety when describing elements necessary for PSO innovation.

Glor (2002) continued by noting that PSO individual motivation may display both intrinsic motivations as described by Sherief (2019) and extrinsic motivation. Both forms of motivation may be found within a PSO and require a relationship between the leader and worker. Intrinsic motivation is aligned with a transformational leadership style where mutual trust is achieved. Extrinsic motivation aligns closely with transactional leadership with reward motivation. Both forms of motivation are possible, according to Glor, with the difference identified in how innovation is achieved, directed, or encouraged.

Researchers have reported that organizational culture is necessary for innovation to occur within organizations. Glor (2002) noted that organizational culture is a social structure, while Sherief views organizational culture as a set of tools guiding behavior that include values and standards for governing organizations. The difference between the two is that Glor observed organizational structure in a social context, which contrasts to Sherief's (2019) belief that organizational structure is a set of operating conditions. Moussa et al. (2018a) elaborated on the culture and innovation relationship by noting that innovation lacks consistent measurement criteria. Although the information provided by all researchers confirms the organizational culture and innovation relationship, there is a lack of common understanding as to the degree the relationship exists. This information places in context likely results from research regarding the leadership for innovation and the ambidextrous culture for innovation relationships affecting innovation.

PSI Theories

Diffusion of Innovation Theory

Rogers (2003) developed the diffusion of innovation theory with the purpose being to depict how innovation is adopted and spread over time. Roger's theory identified five categories of innovation adoption frequently represented using a bell curve. Rogers's categories include the innovator, early adopter, early majority, late majority, and laggards. Khan and Khan (2019) applied the Rogers principle of diffusion theory when discussing leadership and innovation applicable to public sector responsibilities. Kahn and Khan related the diffusion theory to leaders and public sector relationships to describe how leader perspectives affect innovation in PSOs.

PSI Theory

Schumpeter (1942) first offered his innovation theory in 1942. Schumpeter described innovation as having one or more of five characteristics: a new product or species, a new production method, a new market, new resources, or a new industry structure. Sledzik (2014) informed that Schumpeter's theory on innovation is described in the context of economics and capitalism, where there is a financial advantage to take a risk by an entrepreneur to bring about something new. In this theory, Schumpeter described innovation as creative destruction where previous products are set aside to bring forward new processes or products. Schumpeter's theory focused on private sector organizations requiring the generation of profit for their survival. PSOs usually operate on budgets funded via levies and taxes and do not generate profit. However, both public and private organizations may innovate according to De Vries et al. (2016), which they believe makes Schumpeter's theory useful to PSOs to meet their profit goals delivery of services.

The public sector differs from the private sector in that profit is not a goal as would be the focus for private organizations. PSOs operate as a result of levied taxes provided to the public organization for the delivery of services. De Vries et al. (2016) notes that a standard definition for PSI does not exist, leaving the task of PSI identification to the researcher. Glor's (2008) approach to defining innovation for the public sector differs from Schumpeter's. In contrast, Schumpeter described innovation as the creative destruction of a process, technology, and so on. Glor did not limit the description to processes or technologies and went on to describe a PSI as any new policy, program, or process used for the first, second, or third time.

Glor's (2001a) PSI theory included three core issues impacting individuals, organizations, and challenges to implementation. Glor proposed that PSI theory reflects the convergence or interaction of motivation, organizational culture, and implementation. Glor

continued by noting that innovation in PSOs is identified in patterns representing individual, social dynamics, and implementation followed by three conceptual categories or factors representing employee motivation, organizational culture, and the challenge to implementing innovation.

Gow (2014) described PSI theory as being a subset of innovation theory. Gow (2014) found during a *Google* search for innovation research articles that 1.4% of innovation research was focused on PSI. Gow examined research on the similarities and differences among PSI researchers. Gow found consistency in researchers' understanding of the types of people likely to innovate, the innovation process, and innovation initiatives likely to succeed. However, Gow noted that there continued to exist differences among PSI researchers as to what constitutes a true innovation. The issue is that the innovation spectrum includes a group asserting that lesser improvements be considered an innovation. In contrast, another group advocates that innovation is reflective of those processes or things having a significant impact. Bloch and Bugge (2013) also recognized the argument and rationalized it as an absence of a common understanding of innovation capacity measurement.

Workplace Leadership

Climates for Initiative

Baer and Frese (2003) noted that a climate for initiative refers to formal and informal organizational practices and procedures guiding and supporting a proactive, self-starting, and persistent approach toward work. Baer and Frese noted that a climate for initiative is an organizational climate capitalizing on the organization's members' personal initiative (PI). Starzyk and Sonnentag (2019) noted that two conditions impact PI, those being leadership style and psychological safety within the work unit. Transformational leaders create the organizational

climate facilitating PI (Starzyk and Sonnentag). Employee-driven activity does not live alone; however, it is influenced by management and colleagues (Haapasaari, Engstrom, & Kerouso, 2018) where workers have the ability and encouragement to innovate,

Baer and Frese (2003) described climates for initiative as requiring a work environment and organizational culture where workers recognize problems and proactively identify each and begin corrective measures. Baer and Frese provided a list of seven descriptions for initiative. Baer and Frese provided descriptions for initiative include:

1. workers actively attacking problems
2. workers search for solutions
3. workers seeking to become actively involved in problems
4. workers take the initiative
5. workers seek opportunities quickly to attain goals
6. workers do more than asked
7. workers are good at developing new ideas

Baer and Frese (2003) continued by noting that a climate for initiative is necessary for process innovations and state that they had found two climate dimensions necessary. According to Baer and Frese, the first climate dimension supporting an innovation culture is the organizational environment and how it supports an active approach to work. Several management tools requiring active support and need for worker initiative are total quality management (TQM) and just-in-time (JIT) production. The second climate dimension provided by Baer and Frese is the work environment. Baer and Frese explained that the work environment must provide the workers with an environment where they feel safe to take risks, especially interpersonal risks.

Baer and Frese supported Wipulanusat et al. (2018) that an ambidextrous culture for innovation is necessary for successful innovation in PSOs.

Climates for Psychological Safety

Psychological safety is described by Baer and Frese (2003) as creating an organizational environment and culture where individuals feel safe to take interpersonal risks without fear from negative consequences to self-image. Baer and Frese found that psychological safety has a positive relationship with firm performance. Starzyk and Sonnentag (2019), having viewed the issue from a personal initiative (PI) standpoint, found that workers working in a psychologically safe organization feel that they may take responsibility and participate more actively, supporting Baer and Frese's position.

Starzyk and Sonnentag (2019) found that the subject of PI was identified in two stages. The first required transformational leadership that substituted for PI as the workers had yet to develop confidence in the organizational culture. The second stage includes psychological safety, where workers had developed PI based on confidence in the organizational culture.

Wipulanusat et al. (2018) described an innovative culture that includes aspects or elements for a psychologically safe environment, encapsulating leadership for innovation. Wipulanusat et al. approached leadership for innovation from the standpoint of optimal performance, stating that optimal performance requires both top-down and bottom-up innovation. The description of a top-down innovation organizational culture is associated with transactional leadership as innovation is directed and managed from above. The bottom-up approach, however, requires a different culture where workers are encouraged to take risks. Risk-taking is associated with transactional leadership where individual and organizational innovation culture supportive of risk-taking exists and is required for creativity and psychological safety.

PSO and Types of Innovation Relationship

DeVries et al. (2016) conducted a methodological review of the literature using innovation and entrepreneur terms. De Vries et al. identified six categories of innovation associated with PSO's. The categories found by De Vries et al. are process innovation, administrative process innovation, product or service innovation, and conceptual innovation.

Relationships Affecting Innovation in PSOs

Numerous relationships are identified and worthy of research for adding to the body of knowledge. Torfing and Ansell (2017) conducted their study of how elected politicians can strengthen their political leadership and policy innovation capacity. Torfing and Ansell found that politicians often recognize the need for change however are limited in enacting the needed change as their current relationship with senior civil servants or lack of engagement with inclusive policy networks. Torfing and Ansell found that expand their collaboration network for policy innovation with different groups of experts, stakeholders, and citizens are needed.

Wipulanusat et al. (2018) described top-down and bottom-up approaches, echoed by Denti and Hemlin (2012), who represented a similar dual-process for managing innovation. Denti and Hemlin noted that the organization's leaders create a culture where both creativity and innovation within their organizations may occur. Permitting workers, the opportunity to develop, according to Denti and Hemlin, facilitated a bottom-up process for innovation development. In the second part of the dual-process for managing innovation, Denti and Hemlin described how top-down innovation results from the organization's strategic innovation goals. Within the top-down view for innovation, the leaders determine the direction of focus for innovation while supporting the top-down approach with resources that include time, space, funding, and knowledge to achieve team goals.

Barriers for Improving Successful Innovation in PSOs

Borins (2002) referred to public service innovation as an oxymoron. PSOs are similar to monopolies in that there is an absence of competitive pressure described in the public choice theory authored by Tollison and Buchanan (1984). Without competitive pressure, there is little incentive for fostering creative and innovative cultures. Torfing (2019) described similar organizational constraints as Borins. The bureaucratic nature of the public sector and hierarchical control, and the absence of competition, continue to impose barriers to PSIs. However, Torfing continued by noting that this description for PSI is incorrect as a review of the public sector, and innovation proves otherwise. Borins continued by noting that PSOs proceed cautiously to avoid risk found in innovation failures, avoid political opposition and media scrutiny.

Additionally, Borins' (2002) research found that immediate supervisors appreciated bottom-up PSO innovations. However, higher levels of leadership or business lobbies did not view the bottom-up innovations with equal value. Hesitation in recognizing bottom-up innovation proposals requires courageous leaders who do not perceive the innovation as an attack on their position or authority. Bottom-up innovation is not consistent with the bureaucratic and hierarchical organization structures associated with PSOs. PSO innovation requires an advocate willing to advance innovation through the organization and engage in the debate for its adoption. Innovations adopted by organizations can result in organizational change with the potential to disrupt existing structures, relationships, and the status quo.

Leadership and Social Change

Social change is the result of leadership actions, according to Slimane (2015). Leaders steer organizations to address social issues to build community and seek to understand underlying social problems. According to Slimane, social problems are viewed at three levels, the individual,

organizational, and community, where leaders recognize and define social issues requiring change.

Summary and Conclusions

This chapter provided a synopsis of recent and current research focused on public sector leadership and the leadership effects on innovation. This chapter includes a description of the study's conceptual framework and the process used to conduct the research.

The literature review section was divided into six topic areas. These topic areas include: (a) why there is a need for PSI; (b) The relationship between PSI and creativity; (c) understanding PSI; (d) the leadership and innovation relationship; (e) PSO culture and innovation relationship; and (f) the PSO culture affecting the innovation relationship.

The literature review results found extensive literature on leadership and innovation and approached from numerous and unique views. However, there is a gap in the literature for how PSO leaders perceive relationships leading to innovation. During the literature search and review processes, I did not locate information regarding leaders' perceptions of innovation leadership and the ambidextrous culture for innovation relationships. Wipulanusat et al. (2018) identified the literature gap and noted that additional research was required.

In Chapter 3, Methodology, I described my research methods for this study. Additionally, I provided information on my research design and rationale for that design, my role as the researcher, the research methodology, participant selection logic, recruitment of research participants, and data analysis plan.

Chapter 3: Research Method

The purpose of this qualitative, single case study was to explore the skills public sector leadership needs to foster innovation. I used an exploratory single case study design with multiple embedded units to meet this study's objectives. This chapter includes the research design and its rationale, my role as the researcher, and the research methodology. The Methodology section includes descriptions for the participant selection and recruitment, the instrumentation for data collection, and procedures for data collection. The data analysis plan follows the methodology section. Issues of trustworthiness follow and include credibility, transferability, dependability, and confirmability. The chapter concludes with a description of how I met ethical research procedures.

Research Design and Rationale

The purpose of this qualitative case study was to explore how public sector leaders develop an organizational environment promoting creativity and innovation. A qualitative research design was appropriate for this study. It provided a guide to obtaining deeper knowledge and understanding of situations and meanings for those involved (Hancock & Algozzine, 2017), which is not possible in quantitative research. Qualitative research is used to understand how people interpret their environment and experiences, whereas quantitative research focuses on how many (Merriam & Tisdell, 2016). An exploratory design guided this research in examining the relationships between the manager's perceptions of the concepts and the effect these perceptions have on innovation with the PSO, according to Glor's PSO theory (see Ravitch & Riggan, 2017).

An interview-based data collection approach was used that provided a deeper understanding of leaders' views. Research participants were interviewed to determine their knowledge, experience, and views regarding the PSO workplace environment they facilitate,

ensuring their workers are comfortable bringing forth ideas and solutions to problems. The qualitative researcher has the flexibility to recognize and consider other information and non-verbal communications in addition to specific information acquired from an interviewee (Merriam & Tisdell, 2016). The data helped answer the single research question: What skills do public sector leaders need?

Role of the Researcher

The primary instrument of qualitative research for data collection and analysis is the researcher. The researcher engages in a reflexive process to uncover layers of influence shaping the study (Ravitch & Carl, 2016). I have worked for PSO organizations at the municipal and federal levels for 28 years. However, my position within this study was that of an observer. To reduce the possibility of researcher bias and not undermine confidence, I did not select research participants from the organization where I am employed. Although my current OPM identified paygrade was similar to the research participants, there was no senior/subordinate relationship as we worked in different organizations. To further mitigate the possibility of researcher bias, each participant was provided a transcription of their interview question responses to confirm the accuracy and opportunity to correct mistakes or clarify vague information before analysis.

Methodology

A qualitative single case study served as the research approach (Hancock & Algozzine, 2017; Merriam & Tisdell, 2016; Yin, 2018). This research provided the opportunity to explore the leadership group's perceptions of relationships in a natural setting and contextualized by the research participant's experiences (Ravitch & Carl, 2016). A case study is an empirical approach facilitating contemporary real-world information (Yin, 2018). Within this case study design, U.S. government leaders were the focus of the study. The participants included 15 PSO non-executive,

mid-level leaders. A purposive sampling approach was used (Ravitch & Carl, 2016), selecting participants from social media and subject matter experts. Participants had to meet the following requirements: mid-level, non-executive leaders currently or recently employed by a PSO having a minimum of 5 years of supervisory or leadership experience until data saturation occurs. If additional participants were needed to achieve data saturation, snowball sampling was planned.

Data were collected through in-depth, semistructured interviews, field notes taken during interviews, and U.S. government records and documents. Collected interview data were categorized and organized manually. With the identification of themes, the data from the three different sources of evidence were analyzed using the triangulation method and replication logic (Yin, 2018). Data triangulation occurs when multiple sources of similar phenomenon evidence converge. The multiple sources of evidence for this research included participants' observations and experiences resulting from interviews, government records, and empirical literature.

Participant Selection Logic

Participants were derived from a social media request and subject matter experts already known by me. Participants were located within the National Capital Region, including Washington, DC, Northern Virginia, Maryland, and California. I used a purposive sampling approach, which provided context-rich and detailed accounts (Ravitch & Carl, 2016), selecting 15 PSO non-executive, mid-level leaders having a minimum of 5 years of leadership experience within PSOs. Interview data collection continued until data saturation occurred (Ravitch & Carl, 2016). All interviews were conducted via telephone due to the continuing COVID-19 pandemic and the need for social distancing. Prior to each interview, each research participant received a summary of the research topic and goals, a privacy statement, information that their participation was voluntary. Each participant signed a participant acknowledgment form where the participant

agreed to participate in the research. Each research participant received a \$10.00 Starbucks gift card after the conclusion of their interview.

Instrumentation

I used a naturalist and constructionist approach to data gathering. I used in-depth semistructured interviews and document searches to obtain needed information supporting analysis in this naturalist approach. Interviews were conducted via telephone, facilitating data collection during the COVID-19 crisis. Interview responses were collected and recorded on a digital recorder attached to my phone following an interview collection outline. The interview data collection outline was supplemented with an additional data collection form, which had several pre-planned follow-up questions to explore more deeply the research participants' previous question responses (Brinkmann & Kvale, 2015).

The interview collection worksheet included a series of semistructured and open-ended probing questions, which offered each participant an opportunity for a broader field of observations and to provide greater depth. I created four open-ended interview questions with several additional questions (see Appendix A). The interview questions were separated into two categories, with the first two questions to gain context and establish the participants' placement within their organization. The second two questions were designed to collect the participants' views about their innovation process experience. The interview questions were derived from the OPM's 2019 Federal Employee Viewpoint Survey and the 2018 Oslo Manual (OECD, 2018). I had pre-planned follow-up questions to use when clarification of a participant's response was necessary or to investigate a previously unexplored potential. Data saturation was achieved during the 15 interviews negating the need for additional data collection. Each interview concluded with a review of the research criteria for privacy and reminders that the participant will

receive a transcript of their interview within a few days. They then had 72 hours to respond to me with corrections. The meeting concluded with me expressing my appreciation for their participation.

Pilot Study

A pilot study is a scaled-down version of the actual study (Baldeh et al., 2020). The pilot study is associated with the testing of the data collection instrument (Ravitch & Carl, 2016). The pilot study is intended to identify and correct problems, misuse of resources, and inappropriate evaluation techniques (Baldeh et al. 2020). I conducted a pilot study of my research protocol with two recent management Ph.D. recipients. The pilot study used the same research interview questions to practice and assess the effectiveness of the planned data collection for the larger study (Doody & Doody, 2015; Ravitch & Carl, 2016). Using the same questions allowed the pilot study participants to confirm that the research questions would generate useful information, recognize the presence of researcher bias, gaining confidence with questioning participants.

The pilot study was conducted via telephone and at a time convenient for each pilot study volunteer. Each pilot study interview lasted approximately 20 minutes, with additional time for critique. The pilot study results indicated that my research interview questions were aligned with my research question. However, the pilot study participants recommended two changes. The first change was to provide a greater description of an ambidextrous culture. The second recommendation was to have additional planned secondary interview questions to obtain greater depth of participants' experiences. I incorporated both of these recommendations in my data collection process.

Procedures for Recruitment, Participation, Member Checking, and Data Collection

Upon receiving approval from the Walden University IRB (approval # 05-03-21-0628725), I contacted each participant to arrange for a suitable and convenient interview time. Due to COVID 19, participant interviews were conducted via telephone. Prior to each interview, participants were provided information on my research organization, participant confidentiality, and the purpose of the research. They were also informed that participation was voluntary, and they would have an opportunity to review my collected information for accuracy. As interviews were conducted via telephone, each participant was provided a consent form via email, which they returned to me.

I was the sole researcher for this study and asked the interview questions and collected each response. I was respectful of the participants' support for this research and their time and planned to take no more than an hour to complete each interview. I made interview notes during each interview that were added to the interview transcription for verification and analysis. Each interview was recorded for transcription and to ensure information accuracy. Participants were sent a \$10.00 Starbucks gift card as a token of my appreciation.

The interview close-out was a separate procedure that provided the research participant with valuable information. First, upon completion of each interview, the participant was offered an opportunity to review their provided information. This review process is member checking, where the participants viewed their interview information to verify accuracy (Brit et al., 2016). Second, each participant was reminded of the research's confidential nature and how their contribution and identity are guarded. Third, each participant was asked if they had any additional questions regarding my research process. Fourth, each participant was provided with my Walden University contact information should they need to contact me or contact the Walden University

IRB. Fifth, each participant was asked for their permission to be contacted after the interview should clarification of content be necessary.

I stored each participant's data on an external computer hard drive. The external hard drive data is encrypted and password protected. The data will be retained for 5 years after the study's conclusion. After 5 years, the hard drive will be overwritten at least five times to ensure no trace of the research data remains.

Data Analysis Plan

According to Patton (2015), qualitative analysis is not standardized and must be defined and created with each study. Qualitative data analysis differs from quantitative analysis as, according to Patton, consistency of data is absent and requires definition with each study. Ravitch and Carl (2016) provided a similar explanation for qualitative analysis by referring to it as a nebulous process where few fixed formulas exist and are useful as guides (Yin, 2018). Ravitch and Carl also provided clarification between data interpretation and data analysis. According to Ravitch and Carl, interpretation is a continuous process of all human observations, whereas data analysis is distinct, requiring an intentional and systematic data interpretation process.

According to Ravitch and Carl (2016), the primary goal of qualitative data analysis is to focus on what the study participants say, how it is stated, and how it is placed in the context of their thoughts and experience. Ravitch and Carl (2016) noted that qualitative data analysis is an iterative and recursive process. Data analysis commences with a specific organization and management method, immersion engagement with the data, and writing and representation (Ravitch & Carl, 2016). I began the data analysis process by organizing data according to codes (Saldana, 2016). Codes are researcher-defined words or short phrases that symbolically assign a summative, salient, essence-capturing attribute (Saldana, 2016) describing data. Although I had

initially planned to use descriptive coding to retain the rich context of each research participant's responses, I used In-Vivo codes summarizing the primary topic of the text (Saldana, 2016). I used coding to identify patterns in the data and whenever a term was used repetitively. Two rounds of coding were conducted that refined the codes. The patterns reflect the similar, different, frequency, appearing in a specific order, corresponding to specific events, and causative (Saldana, 2016). I used NVivo qualitative data assessment software (QDAS) to facilitate data management, although I found it easier to code manually using Microsoft Excel. The QDAS provided assistance and tools (Yin, 2018) for organizing the data (Saldana, 2016). QDAS facilitated the analysis of data, word counts, frequency of phrases appearing in the text, and the use of Boolean search phrases (Yin, 2018) for within-case analysis and replication logic (Halkias & Neubert, 2020).

Qualitative data analysis is an active and ongoing process, according to Ravitch and Carl (2016). As multiple data sources were used, I began to organize the data when first obtained and when formative data analysis occurred (Ravitch & Carl, 2016). The collected data were compared and contrasted for similarities and differences. The initial formative data analysis led to summative data analysis after data collection was completed (Ravitch & Carl, 2016). According to Yin (2018), using multiple sources of data adds strength to case study research. Interview data were recorded and transcribed seeking common and repetitive words and phrases which were coded and counted for frequency.

Qualitative research is intended to develop personal views regarding the research topic. During the gathering of personal observations, 15 participants were interviewed regarding their observations. Each participant had 5 or more years of leadership experience within the public-sector workspace. I recognized that the participants each have their perspectives that I capture

regarding each interview question. Each participant's response was unique and based on their knowledge, skills, abilities, and lived experience.

Triangulation

Denzin (2017) described four triangulation methods, methodological, data, investigator, and theoretical. For this study, I am using the data triangulation method. Data triangulation, according to Denzin, is the purposeful sampling of many sources of data that can influence the research results. Fusch, Fusch, and Ness (2018) noted that the context of triangulation is clear and removes ambiguity from the research. Denzin further provided that triangulation considers time, place, and people.

Interview data were triangulated with other evidence, including field notes, government documents, member-checking, archival records, and literature about the conceptual framework. Yin (2018) noted that data triangulation is the convergence of multiple sources of evidence permitting corroboration and identified in four principles. Yin's data collection principles include using numerous sources of evidence, creating a case study database, maintaining a chain of evidence, and exercising care when using social media sources. I did not use social media during his study.

The use of multiple sources of information provides the opportunity to corroborate or refute research information (Yin, 2018) and dependability (Ravitch & Carl, 2016). Data triangulation is the process of obtaining sufficient data to provide quality and depth to answer my research questions (Ravitch & Carl, 2016) confidently. In triangulating interview data, the data was considered in the context of archival documents, field notes, conceptual framework literature, and literature focused on PSOs (Yin, 2018). Field notes are highly descriptive observations

describing participants, settings, activities, and behaviors (Merriam & Tisdale, 2016). According to Merriam and Tisdale, field notes are researcher observations that further elaborate on the context of data collection. According to Ravitch and Carl, triangulating multiple data sources, those being literature, interview data, and placed in the context of location or field notes, is the process of convergence.

Collected data was organized in a database assisting the analytic process. The convergence of archived database evidence is the descriptive term for comparing and contrasting interview data with the triangulated data of field notes, government documents, archival records, and literature about the conceptual framework leading to a single reality (Ravitch & Carl, 2016). Data collection was focused on participants' views regarding the methods they use or have observed that facilitate creative thinking within their workspace. Leadership observations for facilitating innovation were coupled with the participant's views on the ambidextrous culture for innovation present within their organization. This information was compared with previously described literature and was considered in the context of OPM's Federal Employee Viewpoint Survey and OECD studies. Data saturation was determined during the 15th research participant's interview, and additional research participant interviews would not provide new information.

The chain of evidence was identified and captured in the database, where collected data was cataloged. A database organizes information, is a chain of evidence, contains data for analysis, and permits data manipulation for display (Yin, 2018). Unique and repetitive observations in the context of the research question were identified. Analysis of cataloged data was conducted, facilitating analysis and the initial identification of codes during the analysis process. Themes evolve from coded data (Ravitch & Carl, 2016). The result of coding and data analysis is the evolution and identification of themes. I continued to review previously identified

codes and adjust them according to and based on research during the analysis process. In the next chapter, I presented and described themes resulting from data analysis. Codes and themes were depicted in Appendices E, F, and G.

Issues of Trustworthiness

Credibility

Credibility, according to Brinkmann and Kvale (2015), refers to truth. Merriam and Tisdell (2016) described how credibility equates research findings to reality. Ravitch and Carl (2016) provided that credibility is one outcome of trustworthiness, which indicates the quality and rigor of the study. In this study, truth and reality are how each participant understands and describes reality based on their knowledge and experience.

Credibility, as described by Brinkmann and Kvale (2015), provided seven criteria necessary for credibility in research. The seven criteria are, first, thematizing, which requires soundness for theoretical presupposition. Second, a design where the knowledge produced involves the adequacy of research design and methods. Third, interviewing consists of interview alignment with research intent and depth of questions. Fourth, transcribing includes the quality of interview transcription. Fifth, analyzing the quality of data obtained and does the analysis accurately portrays the information provided. Sixth, validation is a reflective judgment depicting important parts of the study. Finally, reporting describes the accuracy of the collected and analyzed research data and how well it characterizes the information in the context of the research question. In addition to following Brinkmann and Kvale's criteria, transcribed interview recordings were provided to each research participant for accuracy validation and edited accordingly.

Transferability

According to Ravitch and Carl (2016), transferability is how a qualitative study can be applicable or transferable to broader contexts while still maintaining context-specific richness. Participants were queried about their leadership for innovation and their ambidextrous cultures for innovation observations and experience obtained within one organization for this study. Although all research participants shared the same minimum requirements, I diversified the research participants based on gender and years of experience to achieve a broader perspective of observations that increased the transferability potential. Given the breadth of research participants, there was an increased opportunity to obtain a greater perspective and understanding during this study. Additionally, research participants were selected from several federal agencies affording a greater breadth of experience and observation. However, according to Merriam and Tisdale (2016) and Ravitch and Carl (2016), universal transferability may not be achievable. Additional studies can be initiated based on this study while exploring other organizations, geographic locations, or cultures.

Dependability

According to Ravitch and Carl (2016), dependability refers to data stability and consistent over time. Ravitch and Carl continue by further describing dependability as a reasoned argument for how the data is collected and how the collected data answers the research question. In conducting my research to achieve dependability, I used a single set of research questions aligned with the research purpose. Interview questions were presented to each participant in the same sequence. An audit trail is a journal that was maintained to document and ensure compliance with the research method described by Merriam and Tisdale (2016) and provided a means to explain how research results were achieved. The audit trail that I used included a

detailed record of processes, procedures, and decision points throughout the study. Triangulation for data collection methods, a choice explanation for data collection, and alignment with research questions were used to ensure data management consistency. Ravitch and Carl described triangulation as considering the data from several vantage points, minimizing researcher bias.

Confirmability

Researcher bias is often a criticism of qualitative research. Confirmability is a means, according to Ravitch and Carl (2016), for describing steps minimizing researcher bias. Among those steps for removing researcher bias, I used confirmable data. Triangulation is an approach for confirming data, according to Merriam and Tisdell (2016). Merriam and Tisdell provided that triangulation is a process where multiple approaches are used to acquire data. Multiple approaches can include multiple investigators, multiple sources of data, or participants with different perspectives (Merriam & Tisdell). For this research, I compared participants' reported observations in the context of the empirical literature, field notes, and government documents. In the comparison of all information sources, I sought similarities and differences. With the identification of differences, I looked for a rational or irrational basis. An irrational basis required additional research or was identified as an unresolved issue.

Additionally, reducing researcher bias for a study required the researcher to recognize their own biases. Ravitch and Carl (2016) noted that the researcher understands how personal biases and prejudices map into our interpretations. Reflexivity is the steps taken by the researcher to recognize their biases and effects (Ravitch and Carl, 2016) on data. The researcher needs to understand who they are and how they present themselves to each research participant to avoid skewing participant responses.

To improve confirmability, I used a data triangulation method where data was collected from multiple sources and compared for accuracy. Research data included field notes, government documents, member-checking, archival records, and literature. The data was transcribed and returned to the respective participant as a form of member-checking to ensure the collected information accurately reflected their observations and without researcher bias.

Ethical Procedures

Walden University's IRB guidelines for research provided the ethical standards for academic research and data collection. I did not commence the collection of research participants' data until after IRB approval was received. The purpose of the IRB is to ensure human research subjects' ethical treatment following the principle of *do no harm*. As I knew who the potential research participants were, I contacted each via a separate e-mail. I provided each prospective research participant with a description of my study and solicited their participation. Each prospective research participant received a Consent Form. The Consent Form was the only place where the subject's name was associated with this study. This form included a brief description of my research intent, research participation requirements, and how each research participant was selected. I provided each prospective research participant with an approximate time commitment for participation and described the data collection process. I informed each prospective participant that the research interview would be conducted via telephone. I provided sample interview questions to each potential research participant for familiarization. The form provided that their participation in my study was voluntary and that they could withdraw at any time; the research participant's privacy of their identity and specific research contribution was maintained during and after the research data were collected.

This research was conducted at a location of the research participants choosing while I was in my private home office. Each interview participant was of a similar pay grade as mine and as described by the U.S. OPM's General Schedule. Research data obtained during the course of the study was archived and is retained for 5 years. Interview recordings, transcripts, and other information are stored on a separate external computer hard drive encrypted for security. This hard drive is not used for any other purpose and is currently stored in a locked file cabinet. All research material is saved for 5 years, after which time the data is destroyed. The hard drive will be overwritten no less than five times or physically damaged, thereby making any remaining data unreadable.

Summary

I presented my process for completing this study, described my role as the researcher, and justified my research approach. I provided information for the process to contact and recruit potential research participants and the rationale for their selection. I provided information affirming this study's rigor through dependability, confirmability, credibility, transferability, and ethical procedures. Research participants are protected via the IRB process and to minimized ethical risk. Additionally, I have not used a partner organization to obtain research participants.

Chapter 4 includes the results of my pilot study, the research plan, data analysis, and trustworthiness. Included in Chapter 4 is the description of the research participants' demographic information that includes age, gender, generic job title, years of work experience, and years of leadership experience. The research plan included detailed data collection, detailed data analysis supported by themes and codes, and research results. Chapter 4 is followed by Chapter 5, where an interpretation of findings is presented.

Chapter 4: Results

The purpose of this qualitative, single case study was to explore skills public sector leaders need to foster innovation. My intent was to understand how leaders perceive leadership for innovation and ambidextrous culture for innovation relationships and how relationship perceptions affect innovations. Interviews were conducted by telephone due to COVID-19. The information gathered was assessed to understand leader relationship perceptions of relationships involving innovation development and acceptance. This study was limited to a single case study organization in the Washington, DC region. This chapter includes a discussion of the pilot study, the research setting, the demographics of the research participants, the process used for data collection, and the situational characteristics, how the data was analyzed, trustworthiness, and the research results. The chapter concludes with a summary.

Pilot Study

A pilot study was conducted using the same interview questions (see Appendix A). The pilot study was conducted via telephone due to mandated social distancing requirements resulting from COVID-19. Two pilot study participants were used, each having a doctoral degree. These participants were asked to participate due to their knowledge of the doctoral dissertation process and intent of research data collection.

The results of the pilot study showed that the research interview questions aligned with my study's goals. However, both pilot study participants believed that one question required greater focus. Two subquestions were added to Interview Question 1, which provided both improved focus and substantive depth to address their comments. Each pilot study participant was provided with the changes via email. Each agreed that the changes improved the research interview question.

Research Setting

The research was conducted via telephone due to the social distancing requirements of COVID-19. All interviews were pre-arranged and conducted at a convenient time for each participant. Each participant, therefore, chose their own interview setting. However, during the interview introduction period, each participant assured me that they were either in a private office or at their home, where their desired level of privacy was assured. Each participant also acknowledged that they were not under any form of duress. This question during the interview introduction period was meant to uncover issues that may have skewed the respective participant's observations. None of the participants indicated any current events that were out of the normal or annual government operating cycle.

Each participant was presented with the same interview questions and in the same order to minimize variation in the participants' thought progression. All interview questions were open-ended and semistructured, leaving the opportunity for each participant to respond based on their unique knowledge and experience. Additional questions were asked when clarifying responses. I was cautious to avoid being too specific to protect the identities of the participant and their organization.

Demographics

All participants were either current or recently retired U.S. government employees. Each participant was either a current GS-13–GS-15 pay grade identified by the U.S. OPM. Participants' positions reflected numerous job categories (see Table 1). As my research was focused on leadership skills, there was no intent to narrow the field beyond experienced leaders to any specific agency or job category.

Table 1*Participants' Demographics*

Participant	Gender	Age	Position Title	Years of Government Service	Years of Leadership Experience
A1	Male	41	System Administrator	8	6
B6	Male	64	Program Manager	18	18
S5	Male	57	Program Manager	21	17
H4	Male	52	Program Manager	8	8
N6	Male	43	Director	8	6
T2	Male	58	Deputy Director	21	21
Z9	Male	62	Director	18	18
B2	Male	48	Program Manager	5	2
H3	Male	44	Program Manager	14	13
T9	Male	43	Program Manager	11	10
S8	Female	56	Chief of Staff	20	13
W5	Male	66	Director	8	8
G7	Female	45	Program Manager	5	5
A4	Male	48	Program Manager	12	8
B9	Male	62	Director	30	26

Note. N=15

Data Collection

Data collection commenced after approval was received from the Walden University IRB. Initial solicitation for research participation was emailed individually to 33 people who met the research criteria. A total of 15 people meeting the research criteria responded with *I consent* via email. After receiving the consent form acknowledgment, telephone interviews with participants were scheduled on a day and time of their choice.

Each participant's interview was planned to last no longer than an hour. All interviews were completed in less than an hour, taking between 22 and 45 minutes. Each interview was conducted via telephone due to COVID-19 restrictions and recorded on a digital recorder. Each interview was assigned a two-digit random code to associate with a specific participant. Codes identifying each participant were removed before sharing the interview transcript with the

respective participant. Transcription of recorded interviews commenced immediately after each interview concluded, along with initial coding. Participants were each provided 72 hours to respond to their transcript content with corrections and clarification. After 72 hours, each transcript was deemed accurate without further communication from the participant, and the content was viewed for analysis. None of the interviews yielded discrepant information; however, the spectrum of interview responses identified variations attributed to the location from within an organization where the research participant obtained leadership experience.

Data Analysis

The data analysis process involved an inductive approach, which is data-driven, focusing on emergent data and discovery (Saldana, 2016). Inductive coding is appropriate for the researcher with little knowledge of the phenomenon. Although I had initially planned to take a descriptive coding approach, many of the participants used unique terms whose rich value I chose to retain during the initial coding. I adjusted to an In-Vivo coding method. Coding used four phases: data review, initial coding, categorization, and theme development.

Data Coding

Data review commenced shortly after each interview. During each interview, I made side notes on the data collection form of significant or unexpected responses. These side notes were considered and added to initial coding, assuring that the participants' meanings were captured and added to the analysis. Following the initial review of interview notes, I transcribed each voice recording. All transcriptions were checked for accuracy, grammar, comprehensible content, and edited of any identifying content. Each transcription retained a two-digit code on a separate spreadsheet before being sent to the respective participant. Participants were afforded 72 hours to

respond with their acknowledgment, recommended changes and clarifications, or corrections. After 72 hours, without response, the transcript was considered accurate for analysis.

During the analysis phase of this study, I used NVivo software to facilitate data organization and assist with data display; however, NVivo was challenging to use. Although I retained the NVivo program for data organization, I conducted coding using Excel. Initial coding was used with In-Vivo coding (Saldana, 2016), as In-Vivo codes capture the behaviors and processes useful to the analyst (Straus, 1987). This early period in data analysis involves seeking patterns, insights, and concepts that seem interesting (Yin, 2018). Initial codes were appropriate, though they are tentative, offering consideration of the data while having the potential to change (Saldana, 2016). However, initial In-Vivo codes preserve the participants' meaning and view (Charmaz, 2014). Second round coding followed to consolidate codes having similar meaning. Caution was used when consolidating similar codes not to remove rich values. Following code development, I began to categorize the codes under the labels of leadership for innovation and the ambidextrous culture for innovation.

Categories

Following initial and second-round coding, I began categorizing. Categorizing is the second part of the analysis sequence and is the process of organizing the codes based on similarities (Saldana, 2016). Categorizing began with the research question: What skills do public sector leaders need? The data were organized under two views: first, leadership for innovation (L4I), and second, ambidextrous culture for innovation (AC4I). Under each of these views, codes were refined into categories. The codes were organized into categories identified in Glor's (2008) substantive theory of PSO innovation. Categories include challenge, minor and major; motivation, intrinsic and extrinsic; and culture, top-down and bottom-up.

Patterns and Themes

Patterns and themes evolved during focused immersion in the data (Patton, 2015). During the data analysis phase, patterns and themes emerged, aligning with the research question. The patterns and themes focused on the social side of leadership for interactions with people, both subordinates and seniors. Additional themes focused on organizational structure issues and the attributes necessary for creating a conducive innovation environment.

Discrepant Cases

During the data research collection phase, all participants willingly shared their views on leadership skills necessary for innovation within PSOs. However, attitudes varied among participants' contributions based on the level within their organization where they had experience. Those lower within their organizations appeared optimistic that innovation was possible, whereas those higher within the organization, interacting more often with political appointees, had different responses. The differences, though, did not significantly change the leadership skills necessary for innovation.

Data Analysis Summary

Fifteen participants were interviewed. Interviews were each recorded and transcribed, which were provided to the participant for accuracy check. Review of transcriptions developed codes and refined them into categories according to Glor's (2008) substantive theory of PSO innovation. Data analysis was conducted and aligned with the research question. The case study record was compiled using NVivo software and analyzed.

Evidence of Trustworthiness

Credibility

Credibility for this research was supported by the need for the study as well as verifying the accuracy of transcriptions (Brinkmann & Kvale, 2015; Wipulanusat, 2017). Each transcribed interview was provided to the respective participant to verify the accuracy of the transcribed data and provide corrections or illuminating information. During the transcription process, information not related to the interview question was edited out. I also conducted a pilot study using two leaders, each possessing a doctoral degree in management, who verified the interview question's alignment with the research question.

Transferability

Transferability is how a qualitative study can be applicable or transferable to broader contexts while still maintaining its context-specific richness (Ravitch & Carl, 2016). For this study, participants were queried about their leadership for innovation and their ambidextrous cultures for innovation observations and experience obtained within one organization. Although all participants met and possessed the same minimum requirements, diversification within the participants was achieved based on gender, age, race, and years of experience, permitting a broader perspective of observations. However, given the limited breadth and diversity of the research participants and the federal agencies in which they currently work and have worked previously, the results of this study are not transferable (see Yin, 2018). Although each possesses lengthy work history, their collective experiences are not applicable to all PSOs. Regardless, participants' responses reflect similar leadership skills necessary for facilitating innovation in PSOs and are not specific to any agency.

Dependability

Dependability refers to data stability and consistency over time, which is supported by describing how the data are collected and answering the research question (Ravitch & Carl, 2016). My approach to data collection was dependable, with a qualitative approach identifying skills public sector leaders require to facilitate innovation and achieve efficient use of resources. To enhance dependability, I used an interview data review process and member checking. I also used a data triangulation process to compare research interview data with information found in academic research and government documents. In reviewing the data, I sought out indicators that the information was consistent, providing answers to my research question.

Confirmability

Researcher bias is often a criticism of qualitative research. But confirmability is a means for minimizing researcher bias (Ravitch & Carl, 2016). Triangulation is an approach for confirming data, where multiple approaches are used to acquire data (Merriam & Tisdell, 2016). Multiple approaches can include multiple investigators, multiple sources of data, or participants with different perspectives (Merriam & Tisdell, 2016). For this research, I compared participants' reported observations in the context of the empirical literature, field notes, and government documents.

Additionally, reducing researcher bias for a study requires the researcher to recognize personal biases (Ravitch & Carl, 2016). Reflexivity can be used to recognize their biases and effects on data (Ravitch & Carl, 2016). The researcher needs to understand who they are and how they present themselves to each participant to avoid skewing participant responses.

Study Results

The results of this study provide insight into the leadership skills needed by public sector leaders for establishing workplace environments permitting and encouraging innovation. The study considered both the social behaviors as well as the structural issues that permit innovation to occur. The research question was “What skills do public sector leaders need?” The information necessary to answer the research question was obtained via literature, subject matter expert interviews, government records, and notes. A key point to understand throughout the analysis was that leaders might not be supervisors or possess legitimate authority. Leadership skills necessary for facilitating innovation in PSOs were considered in two views, leadership for innovation and the ambidextrous culture for innovation. The ambidextrous culture refers to an organization’s shared norms and values. Themes developed in each view include (a) provide an opportunity for encouragement, (b) do not be afraid to fail, internal fortitude, and (c) manage leadership and political appointees.

Leadership for innovation

Theme 1: Provide Opportunity, Encouragement

Participants provided numerous attributes that leaders need to facilitate innovative environments within the PSO. The terms used by the research participants differed based on whether they had a military background. Each branch of the U.S. military has a leadership structure and requires leadership training. The prior military research participants appeared to use and provide formal leadership terms reflecting their branch of service (see Appendix E). Participants without formal military leadership training used generic terms when describing leadership and lacked similar application examples. However, the intent of the leadership

terminology was clear. All participants used terms that were aligned with the skills leaders need to support an innovation-accepting work environment.

Although financial rewards within PSOs are limited, leaders have other means to recognize and reward workers. Among those possible rewards available within the PSO workspace is for the worker being made to believe that they are appreciated and respected, two terms that participants also provided. Among the leader attributes for facilitating innovation were listening, seeking input, respect, and persistence. Multiple participants used these terms to describe how leaders demonstrate to their led communities that it is okay to go beyond what is necessary or think of a better way to accomplish something. One research participant provided several leadership terms: setting the example, seeking self-improvement, and effective listening.

Supporting the opportunity theme, the following participant quotes are provided.

- S8 said, “I think that for a leader to allow their people to fail and not see it as a failure, but to see it as growth is a very different kind of self-confidence that the leader has.”
- A1 provided, “Ideas are the bread and butter, and that’s essentially having ideas. I think it’s the particular area I work in is forward-thinking. And so we do really look at ideas and implementing those ideas as opposed to maintaining an existing either a platform or something that already is up and going. ... it’s putting those people in a room or in an environment where they can continue and not just generate ideas, but facilitate and change those over time. And it’s very relationship-driven.”
- A4 stated, “Well, the keyword I take out of that is risks ... I like novel initiatives and fresh perspectives.”

- T9 mentioned, “So, there are other skills that they need to have, I would think patience, flexibility, a sense of acceptance and open-mindedness, and a sense of good faith.”
- Z9 said, “You talk to me, and in my experience, leadership for innovation is a mindset. So, first, it has an open mind, enough to be willing to accept ideas brought to you that can improve the process or our way of building a better mousetrap. But many times, it’s got to fit within the culture has to embrace and nurture that.”
- Finally, N6 noted, so one of the things that I do here, and I’d like to think that I’m an innovative leader, is that I give them, say 10% of their time each week should be devoted to improving something that they see as wrong. So, they can pick whatever the processes or what the issue is, and they can work to fix things. It is my job as a leader to remove any roadblocks. So, as they’re working through a project or an improvement and they come up against somebody who is either not allowing that change to be made, it is my job to remove that roadblock or find an alternative method to get around it. You know, I may not always be able to provide funding because we’re kind of cash strapped here. So it’s trying to use this, the tools that we have in order to make things easier for the employees to help improve quality and make things faster and cheaper.”

The research participant response in developing this theme fell within Glor’s (2008) substantive theory of PSO innovation. In the categories of bottom-up, intrinsic, and minor. Comments made by research participants indicated that people need to be afforded the

opportunity and latitude to be creative supporting innovation. People cannot be forced or directed to be creative; they have to want to be creative to innovate, and that occurs when the leader respects and supports them.

Theme 2: Not Afraid to Fail, Internal Fortitude

A common leader attribute was that the leader and workers not be afraid to fail. The theme for not being afraid to fail has as much to do with organizational cultures as it has to do with leaders. The workers need to know that they have the latitude to experiment if the goal is to create new and innovative things. Innovations can be anything from an actual item to a new policy, process, or program. According to the Organization for Economic Cooperation and Development (2005), it is not always the leader or organization that caused hesitation to innovate. The Organization for Economic Cooperation and Development provided that it is an incorrect understanding of the rules that causes hesitation on public sector workers to innovate. The Organization for Economic Cooperation and Development continues by providing that the laws and regulations that provide the space for innovation are present; however, it is an incorrect interpretation of those rules and orders, or the rules and orders are not used. The OPM (2019) reported that 44% of federal workers responding to the annual survey reported that they were not rewarded or otherwise recognized for their efforts contributing to innovation development. The rationale for this hesitation to innovate within PSOs is that there is a limited upside and significant risk should the innovation effort not achieve the desired or intended results.

Supporting the “not afraid to fail theme,” the following research participants provided:

- N6 provided: “Leadership for innovation is a style of leadership. Certain leaders, in order to be innovative, must have certain attributes or characteristics that

identify or allows them to be what I would say, more risk-tolerant. Risk-tolerant by using innovative practices and incorporating innovative ideas that have a little bit of a higher risk tolerance because there is a higher potential for failure. You're incorporating a new idea into your workplace. You have to be able to motivate the people around you because usually the innovative leader is not coming up with all the ideas and they have to be able to listen and act on what other ideas that their employees or those around them have so that they can introduce and use that innovative idea in their normal business life.”

To address these issues, research participants provided that public sector leaders need to recognize all the potential risks and counter them with courage, trust, an attitude that they are not afraid to fail. Viewing this theme via Glor's (2005) substantive theory of PSO innovation, this would be intrinsic within the workspace with the leader; however, it is the extrinsic pressures placed on the leader where the courage to accept the risk is needed.

Theme 3: Manage Leadership and Political Appointees

As with the previous theme, the risk for innovation failure is a concern. The lack of upside potential within the public sector caused many leaders to go along and not contest poor decisions. Likewise, the absence of reward and the potential for long-lasting downside risk is sufficient to cause all but the most courageous leaders to hesitate when seeking to innovate. As provided by research participants, the public sector is managed by politicians who seek to avoid anything with the potential to fail, not solely because of the failure potential but also due to possible negative criticism. Additionally, innovation within the public sector has other pitfalls. The public sector is not an entrepreneurial structure. Frequently, the decision to move forward on an idea, especially an innovative one, requires a committee decision where the blame for a failure

cannot be attributed to any one person. However, the responsibility for the decision is spread across the entire party to the decision. When an innovative idea is believed to have too much risk, the decision on the idea may never be made, and the idea just lays there until forgotten about or all the parties move to other tasks.

The public sector is unique from the private sector in several ways. Among the unique attributes are the election cycle and the potential for a leadership change. Political change can cause changes to priorities and programs to meet political campaign promises. Political appointees, those people who the politician has faith in, also change, and with them comes new ideas, behaviors, and goals. There are variations in the applicability of political appointees' influence. Political appointees typically do not last long before they are on to another assignment where they can build their careers. This presents two challenges, with the first being that they will look to make their impact quickly, disrupting current plans. As second, they may depart prior to the completion of their project. This leaves the PSO worker to re-organize and suffer any negative feedback for an incomplete or failed political appointee' program. Therefore, it is incumbent on the leader to maintain control of the workspace, retain the respect of the workers, and keep upper leaders informed of innovation projects and problems or innovation failures. Likewise, leaders need to master the art of political appointee management. Glor's (2005) substantive theory of PSO innovation recognizes the challenge that PSOs face regarding risk in operating environments where political leadership and ideology can change. Managing up and political appointees are viewed through Glor's theory as the pressure being top-down, extrinsic, with the ability to affect both major and minor projects.

Supporting the "manage leadership and political appointees" theme, research participants offered the following observations:

- A4 provided: “I think that for a leader to allow their people to fail and not see it as a failure, but to see it as growth is a very different kind of self-confidence that the leader has to drive. Sure. And at some point, they have to explain, my people failed, and yes, we lost X number of dollars or hours or months, but it was OK because we learned the following. Right. And that’s not generally accepted, nor are there many leaders who are brave enough to look up at their boss and say, you’re right, we failed. Right. But it’s not a problem. The internal fortitude to be able to, you know, to have that conversation with a boss is really quite something. And, you know, your employees watch that. When they see that you’re not just talking the talk that failure is OK, but that you’re defending them up, then they do start to build confidence that risk-taking and innovation are OK.”

Ambidextrous culture for innovation

In the following sections, themes for ambidextrous culture for innovation are discussed. These themes (a) provide a learning environment, (b) prudent risks are acceptable, and (c) provide structure and resources—keep people informed.

Theme 1: Provide a Learning Environment

Innovation is inherently risky as it contains several unknowns. One research participant provided that organizations can reduce risk to innovations by ensuring that the organization’s workers have the needed knowledge. According to the OPM (2019) survey data, the federal workspace is disinterested in innovation; 44% of the 2019 federal workforce responding to the survey believed that they are not rewarded or otherwise recognized for being innovative. Also, in this survey, approximately 67% of workers believed that the federal organization in which they work provides the workers with the opportunity to improve their skills. This information supports the information provided by another research participant that the public sector does not want

innovation which was attributed to risk and fear of failure; it is safer not to attempt something innovative and only do what is directed from above. After providing why innovation in the public sector is not conducive to innovation, the same research participant elaborated on the attributes necessary to make the public sector open to innovation. The first task is to replace the fear of failure culture with a tolerant culture. The second recommendation was to establish a rewards (bonus) system with clear guidelines for accomplishment. The current rewards system, according to the research participant, is to reward conformity, not innovation. Another research participant similarly describes a lack of innovation interest; however, occasionally, it is done out of necessity. When a solution is needed, and there is no time or limited resources, an enterprising worker finds a solution with little encouragement from the organization.

Supporting the “provide a learning environment” theme, the following research participants provided:

- B6 provided: “One of the things that we’re doing right now is we’re creating a lessons learned library, which we didn’t have before. I mean, it takes a military background, you know what you need to capture your best practices because that way, someone else is not going to fail because they didn’t understand what’s going on. So if you want to have an ambidextrous culture for innovation, you’ve got to be able to guide people and provide them parameters for which they operate so that they don’t feel uncomfortable, or they don’t feel that they’re not supported.”
- T2 provided: “Oftentimes, it’s not just fostering the atmosphere, it’s also providing the tools to facilitate innovation, and that can be as simple but

important as providing people with training and educational opportunities where they're exposed to new ideas and methods. Where they can, where they're exposed to, how do I say this sometimes, there's a theoretical aspect to innovation that doesn't have to do directly with what you do."

Theme 2: It is Acceptable to Take Risks

Innovation is inherently risky. To achieve organizational goals and meet the needs of the serviced population, Federal leaders and workers need to think creatively about solutions. Creativity leads to innovative solutions. Innovations; however, are not all successful; some fail. Minimizing innovation failures and the potential negative effects requires organizations to adopt cultures that encourage thinking and creativity that lead to successful innovations. Achieving this, the public-sector organization must provide the environment and resources necessary to minimize failed innovations. Most research participants identified risk as a key consideration when undertaking innovation tasks due to the potential for not delivering expected results or failure. To achieve the desired end-state for delivering services to governed populations, PSOs need to improve service delivery mechanisms. In doing so, those public-sector organizations need to acknowledge that achieving this expectation requires organizations to accept risk while minimizing its potential. Risk potential can be reduced by creating organizational structures that advance the knowledge of the leaders and workers, setting expectations for the organization's leaders, and keeping the media and public informed. Glor (2005) recognizes risk in the substantive theory of PSO innovation, providing that failure to maintain core activities, boundaries, and goals, which are at risk in innovation and change, is a sign of organizational death.

Supporting the “it is acceptable to take risks” theme, the following research participants provided:

- T9 provided: “Yeah, so I think it’s all those things that you talked about with this, this willingness to take risks and on the novel initiatives and fresh perspectives and things. And I think that a leader needs to inspire and influence that part of the definitions of a leader versus a manager. And they need to facilitate and empower those who are the engines of innovation.”
- N6 provided: “They have to be risk-tolerant and be willing to take those risks because, again, you’re going into the unknown. So there is a potential for failure. A lot of those who are not innovative like to maintain the status quo because knowledge is power. And so if they know how the process works, because that’s what they’ve been using for years, then then they’re smarter than a lot of other people who may not understand it inside and out—but being able to be that have that risk tolerance, that openness in order to accept new ideas. So that’s a really big skill that is needed, and they have to be very willing to take action.

Theme 3: Provide Structure and Resources—Keep People Informed

Innovation in PSOs requires commitment from the organizations’ leadership. Multiple research participants described examples of positive and negative communications observed or experienced in PSOs. The described examples of poor organizational culture had higher occurrences of absenteeism, worker turnover, poor morale, and worker discipline actions. These observations were not proven by research; however, were observed. In contrast, organizations where good communication skills were reported also had lower worker turnover, fewer

disciplinary issues, and higher morale. Research participants provided that organizations displaying better communications skills were also more creative; creativity leads to innovation.

OPM (2019) survey described federal workers as willing and interested in their work and accomplishing the organization's missions. However, this statement by the OPM survey contrasts negatively as the same workers provide that the federal organization in which they work has not reciprocated. This is an example of PSOs, according to one research participant, seek conformity rather than creativity. The OPM survey continues by reporting that leaders that are not believed committed to the worker are not properly suited to survey participant's dissatisfaction with their organization's policies and practices.

Supporting the "provide structure and resources—keep people informed" theme, the following research participants provided:

- N6 provided: "So one of the things that I do here, I'd like to think that I'm an innovative leader is that I give them I say 10% of their time each week should be devoted to improving something that they see as wrong. So they can pick whatever the processes or what the issue is, and they can work to fix things. It is my job as a leader to remove any roadblocks. So as they're working through a project or an improvement and they come up against somebody who is either not allowing that change to be made, that is my job to try to remove that roadblock or find an alternative method to get around it. I may not always be able to provide funding because we're kind of cash strapped here. So it's trying to use this, the tools that we have to make things easier for the employees, to help improve quality and make things faster and cheaper."

- Z9 provided: “And we went into the culture of your group, your division, your organization. So I think that’s it works in two ways. I think it’s a top-down approach. I think it’s very helpful to see the senior leader of that organization come out and say it. The next thing is you have to embrace. The ideas that do come up from the bottom up and not be dismissive, but at the same time just sort of it’s a bit of a balancing act. And if you’ve got the bandwidth, in my estimation, if you have the bandwidth to set aside a group of people, a person or people, that’s their sole job is to look at what you do top to bottom and find new and better or innovative ways of getting things accomplished, then that is sort of the best of all worlds.”

Summary

I analyzed the research data in Chapter 4 to answer the research question. The research question is: what skills do public sector leaders need? A total of 15 research participants contributed to the research that also used the results of a government survey and an international organization focused on government policies. Due to the ongoing COVID-19 pandemic and governmental social contact restriction, all interviews were conducted via telephone and recorded. The interviews were transcribed and shared with the respective research participant. Analysis began with identifying codes, and codes were condensed during the second round of coding. Codes were assembled into categories based on similarities. The codes and categories identified six themes based on the frequency of appearance within the transcriptions.

The first three themes were associated with leadership for innovation and the second three themes were associated with the ambidextrous culture for innovation. The leadership for

innovation themes are: first, provide opportunity and encouragement; second, not afraid to fail, internal fortitude; and third, manage leadership and political appointees. The themes identified for the ambidextrous culture for innovation are: first, provide a learning environment; second, it is acceptable to take an acceptable risk; and third, provide structure and resources to keep people informed.

I re-introduce the study in Chapter 5. Included in this re-introduction is the purpose of the study, the rationale for conducting the research, a discussion of the research findings, a discussion of the limitations of the study, and recommendations for future research. Additionally, the information provided described how this study affects positive social change, affects on research design, and is followed by a conclusion.

Chapter 5: Discussion, Conclusions, and Recommendations

The purpose of this qualitative, single case study was to explore skills public sector leaders need to foster innovation. The public sector occupies a significant place within a developed nation's gross domestic product and needs to efficiently and effectively provide services to the affected populations. This study was conducted to consider how a leader's skills can positively influence the delivery of services to the affected communities based on improved innovation creation and adoption. The findings of this study were viewed via two lenses: leader inter-social skills, and leader intra-organizational skills. The leaders' inter-social skills identified three themes that suggest a leader adopt and master: (a) provide opportunity and encouragement for the workers, (b) do not be afraid to fail and internal fortitude where the leader has the moral courage and willingness to take prudent risks in a risk-averse environment, and (c) manage leadership and political appointees describe the skills a leader needs to prepare leaders and political appointees for potential risk associated with innovation processes. Additional findings uncovered three themes needed by leaders to facilitate a conducive environment for innovation: (a) provide a learning environment, (b) it is acceptable to take reasonable risks, and (c) provide structure and resources and keep your people informed.

Interpretation of Findings

The findings suggest an extension of knowledge of public sector leadership skills necessary for facilitating innovation in PSOs. The data were categorized under two views, with the first being leader interpersonal skills and the second being leader intra-organizational skills affecting culture. The participant's responses to the interview questions yielded six themes equally divided between the two views.

Leadership for Innovation

Theme 1: Provide Opportunity, Encouragement

Participants suggested that public sector workers require both the opportunity and encouragement for facilitating creativity and innovation. This finding extends the knowledge of leadership skills necessary for promoting innovative public sector work environments. Based on this theme, leaders need to inform the workers that their knowledge, skills, and abilities are recognized, capable of being creative, and capable of finding novel solutions to problems. The workers need to know that they are heard when they have relevant contributions. Leaders need to understand that public sector workers appreciate being recognized for their ability and interest to contribute. Leaders need to further understand that creativity and innovation cannot be mandated; however, they can be accomplished by respecting the workers, permitting them to contribute, and appreciating their efforts. Leaders also need to provide the workers with the resources necessary to accomplish the task, demonstrating their commitment to the workers and the task, such as training, tools, facilities, and funding.

Participants' interview contributions support the academic literature included in Chapter 2. For example, Gunzel-Jensen et al. (2018) provided four leadership behaviors that support the opportunity and encouragement theme and contribute to innovation: intellectual stimulation, inspirational motivation, idealized influence, and individualized consideration. Research also indicated that public sector workers seek recognition and respect for their knowledge and abilities, transformation and consideration leadership styles are found to create and support innovative environments (Wipulanusat et al., 2017). Limited or modest financial awards are available in the public sector in contrast to the public-sector rewards. Due to the lack of financial rewards possible, the transactional leadership style is unlikely to facilitate innovation.

Theme 2: Not Afraid to Fail, Internal Fortitude

Innovation in any context includes risk, but intrinsic motivation stimulates employees to view problems holistically, enhancing creativeness (Shereif, 2019). Leaders informing workers that it acceptable to try something new provide needed encouragement, especially because innovation is inherently risky. This theme extends the knowledge of leadership skills necessary for promoting innovative public sector work environments. Participants noted that achieving the needed safety requires leadership to accept reasonable levels of risk when in the process of developing innovative solutions to problems. Internal fortitude is required by all levels involved as each is assuming a level of risk of innovation failure for which they may be held accountable or at least have to justify. Internal fortitude in the public-sector context is associated with an entrepreneurial mindset (Arundel et al., 2019) and the ability to innovate. Several participants also indicated an entrepreneurial mindset when describing their experience in dealing with arbitrary boundaries.

Theme 3: Manage Leadership and Political Appointees

As a side set to accepting risk, leaders need to be confident when dealing with organizational leaders and political appointees in the context of innovation. This theme also extends the knowledge of leadership skills necessary for promoting innovative public sector work environments. Participants said that the public sector is unique in two ways: the absence of competition and political appointees working in the public sector (Arundel et al., 2019; Borins, 2002; Sorenson, 2017). Politicians encourage or discourage innovation based on electoral cycles and political goals (Sorenson, 2017). Within the public sector, innovation is driven from both top-down and bottom-up (Borins, 2002). Most top-down innovation initiatives are larger-scale projects whose impetus originates in political decisions, and bottom-up innovations arise from

public sector workers addressing issues uncovered with the top-down projects. Most supervisors recognize the significance of bottom-up innovations, whereas organization leadership has less interest in them (Borins, 2002). This leads to the term *frozen middle* presented by one participant. The mid-level manager needs to be supportive of their workers while also seeking to understand the negative views of bottom-up innovation by organizational leaders and politicians. It is here that the mid-level leaders need to perfect a style for interacting with organizational and political leaders that achieve the organization's goals while respecting the need to minimize risk and adverse outcomes.

Ambidextrous Culture for Innovation

Theme 1: Provide a Learning Environment

PSO leadership needs to create an organizational culture facilitating creativity and innovation. PSOs seeking to enable innovation from within their organization need to create a culture of shared norms and basic values (Wipulanusat et al., 2018), where those involved are confident that their interest and efforts are recognized. Again, this theme extends the knowledge of leadership skills focused on organizational culture necessary for promoting innovative public sector work environments. Among the numerous qualities for an organization to embrace is the understanding that for the organization to be at the forefront of new or evolving issues and trends, it must invest in its people. Organizations that invest in their workers are demonstrating their recognition of workers' importance to the organization. Establishing a learning environment is one method for organizations to acknowledge to the worker their significance to the organization and the organization's reliance on the worker to contribute in meaningful ways to innovate.

Theme 2: It is Acceptable to Take Reasonable Risks

Like other themes, this theme extends the knowledge of leadership skills focused on organizational culture necessary for promoting innovative public sector work environments. PSOs are usually monopolies with no competitive pressure to innovate (Borins & Sorenson, 2017). Additionally, the media and opposition parties' interest in exposing public sector failures contribute to risk and innovation avoidance (Borins & Sorenson, 2017). Given the significant risk and hesitation to innovate, PSOs must continue to provide services efficiently. Several participants reported that the public sector is interested in conformity, discouraging innovation and potential negative criticism. However, the public sector is responsible for meeting societal and governed populations' needs for services. The expectation is that the PSO will deliver those services in an effective and efficient manner. Therefore, PSOs need to create organizational cultures that accept reasonable risk. Risk assessment and methods for quantifying risk must be developed for common use throughout the organization where innovation is to occur. In this way, the risk-averse concerns of organizational leadership and politicians are placated while the organization takes a cautious and measured approach to innovation.

Theme 3: Provide Structure and Resources—Keep People Informed

PSOs need to provide their organizations with the resources necessary to support creativity and innovation projects. In the context of this theme, the finding extends the knowledge of leadership skills focused on organizational culture necessary for promoting innovative public sector work environments. Fernandez and Pitts (2011) described an organizational innovation model referring to it as the *garden model* where top management's role is to create an organizational structure where innovation can flourish. Within this organizational structure,

Fernandez and Pitts continued the benefits of empowering employees where the employees are consulted on important decisions, a delegation of authority, and levels of autonomy.

Communication was described by 15 of 15 research participants as being important. Communication is both between workers as well as between the organization and worker. Keeping your people informed (see Appendix H) is a term frequently used in military leadership principles; however, it is also equally applicable to all leadership disciplines. Adopting clear and complete communication processes as a core quality of an organizational structure reduces disinformation, undermines gossip, and other organization defeating means. Clear and complete communications provide a means for keeping stakeholders apprised of current and developing issues, informing them of tasks, direction, potential challenges, and opportunities.

Limitations of the Study

The focus of this study was on leader skills necessary to facilitate innovation. Although significant research and academic literature have previously been published on innovation, it is primarily describing the private sector. This study was focused on those attributes necessary for facilitating creativity and innovation in the public sector. The OPM (2019) Federal Employee Viewpoint Survey described the employee sentiments from many government agencies and other organizations. Based on the 2019 OPM survey, the U.S. federal government employed 595,000 civilian (non-military) workers.

Several limitations to this study are identified. The first is on the conceptual framework. Although a qualitative approach is still considered advantageous for developing rich context, the size of the federal public sector is too large. Additionally, the disparate functions, organizational missions, and goals existing between and among the various governmental organizations is a research challenge as to engage with sufficient research participants reflecting experience in

many governmental organizations would be too daunting. A suggested solution is to divide government missions into sectors and approach similar single case study research by the limited view of the sector. A second suggestion is that sector limited surveys to supplement or support participant interviews would add additional dimension to a study.

A second limitation is transferability. The limited size of this study limits a leader's ability to embrace this study without further investigation. The leader would have to investigate and assess whether this study's findings apply to the leader's environment. Limitations of this study in the context of trustworthiness have been considered.

Recommendations

Given the size and disparity of the U.S. federal government and the various goals and missions of the departments, agencies, and other entities along with the number of civilian employees, a single study is insufficient to capture all the possible views and differences potentially impacted by organizational culture and missions. It is recommended that additional qualitative case study research be conducted focused on the research question of this study.

This research project was focused on identifying those leader skills necessary for promoting innovation in PSOs and used a qualitative single case-study approach. The public-sector organization whose leaders were sought to contribute to this project all gained their leadership observation while working for the U.S. government. The study identified a set of criteria acceptable for this study. The physical location for each research participant was not a requirement; however, participants were located in either Washington, D.C., or California. The current research participants contributed their observations openly and thoughtfully. However, as the participants were in either D.C. or California, their views and experiences were geographically limited.

Given the limited geographically constrained views of the participants, the opportunity for a greater diversity of views was not possible. Had the research participants been more dispersed, there would have been the opportunity to obtain a broader set of observations. Additional information regarding research participants identifying characteristics presents the chance to discover views different from others. Considering additional research participant data can assist in uncovering views that are possibly unique to a geographical area, race, religion, ethnicity, or cultural heritage. A future study should broaden the geographical scope and further identify and characterize disparate research participant observations when conducting additional research. Among the disparate conditions, race, religion, and cultural ancestry or origin should be considered to capture cultural views or approaches to leadership.

Future research should add the following subjects for demographic data:

- Geographic location:
 - Urban, suburban, and rural.
 - East coast, west coast, and middle America.
- Organizational:
 - Type of organization: (service, security, emergency response) which goes to complexity and pace (Ancona et al., 2001). In their study, Ancona et al. provided that innovation refers to exploration and exploitation.
 - Due to the differences between organizations, achieving innovation requires that the leader adjust their leadership for innovation skills to the

task based on the complexity of the task and the pace in which it needs to progress.

- Where within an organization are, observations obtained: The location within the organization where the leader works can impact the complexity and pace for innovation development (Ancona et al. (2001).
- Are the workers' members of a labor union or not
- Participant's ethnic identity and race:
 - It is possible that leadership skills can be affected by heritage.
 - Variation in leadership skills may be affected by ethnic heritage. Eastern cultures are viewed as being about their community, group, or family and never about oneself.
 - Western cultures tend to be individualistic.

Obtaining sufficient observations to capture the various cultural views requires that the research participant pool significantly increase. The increased number of diverse research participants will provide the opportunity to capture sufficient views, potentially identifying additional leader skills.

I also recommend that the complexity and pace of the work being performed where the leader obtained their experience also be considered. Rosing et al. (2011) provided that leader skills supporting an organization adapt to the circumstances and organization characteristics to be successful. Due to an organization's operating characteristics, the leader skills encouraging innovation can potentially differ. An organization performing contemplative work requires a

leader with a certain set of skills that potentially differ from an organization performing routine, repetitive work.

In addition to one-on-one research participant interviews, adding internet-based surveys on *LinkedIn* to the data gathering challenge is recommended. Surveys, according to Ravitch and Carl (2016), can be an efficient way to obtain data from a range of people across locations; significant amounts of data can be collected from a larger group of people over a shorter period of time, relatively inexpensive to conduct, and individuals can remain anonymous. Selectively choosing a specific social media internet site permits the researcher to establish criteria for participant selection and survey completion.

Many variations can affect the leader's ability to encourage innovative behavior in workers. External influences can also impact innovation. It is the successful leader that will master the internal and external influences. Identifying the skills supporting innovation has the potential to increase innovation in the public sector.

Implications

Positive social change is possible because of this research. Positive social change is any act, small or large, that can improve lives. The potential for positive social change because of this study can affect several levels. In addition to the multiple levels with the potential to be involved, the effects can be found internally and externally. Positive social change requires involvement by the three entities as the absence of any entity will reduce or eliminate potential benefits. The levels include the individual or worker, the leader, the organization, and the community. Improving innovation within PSOs ultimately benefits the serviced population.

The Individual or Worker

Leaders having developed or possessing the skills for fostering an innovative work environment benefit the worker in several ways. These benefits to the worker are reflective of positive social change. First, the individual or worker benefits by being motivated to perform at a higher level, according to Rosing et al. (2011). According to the research findings, a necessary leadership skill provided by all research participants was *communication*. Communication is more than simple dialog. Communication is a means for the leader to inform workers of tasks, goals, and provide knowledge on procedures and processes. At a minimum, it is *keeping the workers informed*. While providing information to the worker, the leader subconsciously sends a message to the worker that they are valued. Second, according to Fernandez and Pitts (2011), the individual or worker, believing themselves to be a valued member of the organization when included in a decision-making process, is respected for their knowledge and ability to contribute to the organization's goals. Third, individuals and workers anticipate recognition or reward for their efforts, knowing that financial rewards are small compared to the private sector. Still, the individual or worker has a good feeling when recognized for an accomplishment (Fernandez & Pitts, 2011). Lastly, Fernandez and Pitts provided that job satisfaction is positively associated with the rate of program change and that the more satisfied an employee is, the more committed they are to the organization.

Positive social change in the context of the individual or worker is present, with the beneficiaries being both the worker and the organization. The worker is made to feel that they are of value to the organization and the organization benefits by a more engaged worker.

The Leader

Leaders are affected by positive social change via two views according to the contributions of research participants. The first is that they have a positive working relationship with their workers as well as their leaders. The positive working relationship is a result of active bi-directional communication where all are informed of current and future issues. Fernandez and Pitts (2011) referred to communication as dyadic leadership which is characterized as being either high or low. High dyadic relationships reflect high trust and higher subordinate satisfaction, and stronger organizational commitment and performance. The leader benefits personally knowing that facilitating a local operating environment where workers can be creative leads to innovative ideas. The leader also benefits as the potential of innovation assists the organization in thoughtfully achieving its goals.

The leader's second view is from personal satisfaction that their organization achieves its goals and contributing to the organization's overall success (Borins, 2002). According to Borins, roughly 50% of public-sector innovations originate from middle managers. Having developed their skills sufficiently, leaders contribute to the innovation process and contribute to the organization's goal achievement. Positive social change is achieved in that the leader assists the organization in achieving its goals. As a public-sector organization, it adds to meeting the government's responsibility to the serviced population.

The Organization

Leaders having developed their leadership for innovation skills contribute to the organization's meeting its goals. When the organization is achieving its goals, it is also affecting positive social change both internally and externally. The internal view considers the leader's ability to display and use skills that foster environments facilitating innovation. Within this view,

according to the OPM (2019) Federal Employee Viewpoint Survey, creating an engaging culture occurs when leaders display behaviors including communication and workforce motivation.

Fernandez and Pitts (2011) provided that PSOs displaying cross-functional and inter-departmental communications skills can result in higher quality solutions. When horizontal communications are paired with vertical communications, all organizational personnel are equally informed where innovative ideas are shared.

When the public-sector organization is operating well internally, it is achieving its mission to the extent possible. When doing so, it is affecting positive social change to its external stakeholders as well. This achievement is demonstrated by the delivery of services to the affected population.

The Community

The serviced community is the ultimate beneficiary of PSI. The underlying reason for public sector innovation, according to Sorensen (2017), is to meet the demands of modern society. PSOs have historically been resistant to change attributed to the risk of failure and criticism by opposing parties (Borins, 2002). PSOs are concerned with the media and opposition parties' search for government failures. Many large PSOs prefer the status quo and are resistant to change. However, the significant position held by the public sector in developed nations, approximately 30% (Arundel et al., 2019) of gross domestic product, provides interest in determining new efficient means for the delivery of services. Overcoming innovation barriers requires leaders and workers sufficiently knowledgeable and able to identify problems in plans for corrective action prior to implementation.

As a result of leaders developing skills facilitating innovation and PSOs encouraging innovation within their structure, communities benefit from PSOs being more effective and

efficient. With the delivery of government services, communities experience positive social change.

Conclusion

This study provides PSOs with the tools to identify within their organizations the attributes necessary for facilitating creativity and innovation. Within this comprehensive study, a relevant research question was identified. The research question was based on recent academic literature. The results of this study indicate the significant position occupied within a developed nation's gross domestic product and reflects the number of U.S. federal employees involved. Governments are required to provide services to their respective populations. Accomplishing this task requires competence and efficiency by those in power. Achieving this goal requires thinking people willing and able to create and innovate. More importantly, organizations are willing to invest in their people with knowledge, policy, leadership, resources, and organizational culture and structure facilitating goal accomplishment.

References

- A framework for public sector innovation. (2019). <http://www.oecd.org/gov/innovative-government/a-framework-for-public-sector-innovation.htm>
- Amabile, T. M. (1996). *Creativity in context: Update to "The Social Psychology of Creativity."* Westview Press.
- Amabile, T. M., Schatzel, E. A., Moneta, G. B., & Kramer, S. J. (2004). Leader behaviors and the work environment for creativity: Perceived leader support. *The Leadership Quarterly*, *15*(1), 5–32. <https://doi.org/10.1016/j.leaqua.2003.12.003>
- Ancona, D. G., Goodman, P. S., Lawrence, B. S., & Tushman, M. L. (2001). Time: A new research lens. *Academy of Management Review*, *26*(4), 645–663. <https://doi.org/10.5465/AMR.2001.5393903>
- Arundel, A., Bloch, C., & Ferguson, B. (2019). Advancing innovation in the public sector: Aligning innovation measurement with policy goals. *Research Policy*, *48*, 789–798. <https://doi.org/10.1016/j.respol.2018.12.001>
- Baer, M., & Frese, M. (2003). Innovation is not enough: Climates for initiative and psychological safety, process innovations, and firm performance. *Journal of Organizational Behavior*, *24*, 45–68. <https://doi.org/10.1002/job.179>
- Baer, M., Evans, K., Oldham, G. R., & Boasso, A. (n.d.). The social network side of individual innovation: A meta-analysis and path-analytic integration. *Organizational Psychology Review*, *5*(3), 191–223. <https://doi.org/10.1177/2041386614564105>

- Baltaci, A., & Balci, A. (2017). Complexity leadership: A theoretical perspective. *International Journal of Educational Leadership and Management*, 5, 30–58.
<https://doi.org/10.17583/ijelm.2017.2435>
- Bass, B. M. (2010). Two decades of research and development in transformational leadership. *European Journal of Work and Organizational Psychology*, 8, 9–32.
<https://doi.org/10.1080/13594329938410>
- Bass, B. M., & Bass, R. (2009). *The Bass handbook of leadership: Theory, research, and managerial applications*. Simon and Shuster.
- Bekkers, V., Edelbos, J., & Setijn, B. (2011). *Innovation in the public sector*. Palgrave Macmillan.
- Bekkers, V., & Tummers, L. (2018). Innovation in the public sector: Towards an open and collaborative approach. *International Review of Administrative Sciences*, 84(2), 209–213.
<https://doi.org/10.1177/0020852318761797>
- Benner, M. J., & Tushman, M. L. (2003). Exploitation, exploration, and process management: The productivity dilemma revisited. *Academy of Management Review*, 28(2), 238–256.
<https://doi.org/10.5465/AMR.2003.9416096>
- Bernier, L., Hafsi, T., & Deschamps, C. (2015). Environmental determinants of PSI: A study of innovation awards in Canada. *Public Management Review*, 17(6), 834–856.
<https://doi.org/10.1080/14719037.2013.867066>
- Bloch, C., & Bugge, M. (2013) PSI – from theory to measurement. *Structural Change and Economic Dynamics*, 27, 133–145. <https://doi.org/10.1016/j.strueco.2013.06.008>

- Borins, S. (2002). Leadership and innovation in the public sector. *Leadership & Organization Development Journal*, 28(8), 467–476. <https://doi.org/10.1108/01437730210449357>
- Birt, L., Scott, S., Cavers, D., Campbell, C., & Walter, F. (2016). Member checking: A tool to enhance trustworthiness or merely a nod to validation? *Qualitative Health Research*, 26(13), 1802–1811. <https://doi.org/10.1177/1049732316654870>
- Burns, J. M. (1978). *Leadership*. Open Road Integrated Media.
- Burns, T., & Stalker, G. M. (1994). *The management of innovation*. Oxford Scholarship Online. <https://doi.org/10.1093/acprof:oso/9780198288787.001.0001>
- Chan, I. Y. S., Liu, A. M. M., & Fellows, R. (2014). Role of leadership in fostering an innovation climate in construction firms. *Journal of Management in Engineering*, 30(6), 1–7. [https://doi.org/10.1061/\(ASCE\)ME.1943-5479.0000271](https://doi.org/10.1061/(ASCE)ME.1943-5479.0000271)
- Charmaz, K. (2014). *Constructing grounded theory* (2nd ed.). Sage.
- Currie, G., Humphreys, M., Ucbasaran, D., & Mcmanus, S. (2008). Entrepreneurial leadership in the English public sector: Paradox or possibility? *Public Administration*, 86(4), 987–1008. <https://doi.org/10.1111/j.1467-9299.2008.00736.x>
- Demircioglu, M. A., & Audretsch, D. B. (2017). Conditions for innovation in PSOs. *Research Policy*, 46, 1681–1691. <https://doi.org/10.1016/j.respol.2017.08.004>.
- Denti, L. & Hemlin, S. (2012). Leadership and innovation in organizations: A systematic review of factors that mediate or moderate the relationship. *The International Journal of Innovation Management*, 16, 1–20. <https://doi.org/10.1142/S1363919612400075>

Denzin, N. K. (2017). *The research act: A theoretical introduction to sociological methods*.

Routledge.

De Vries, H., Bekkers, V., & Tuimmers, L. (2016). Innovation in the public sector: A systematic review and future research agenda. *Public Administration*, *94*(1), 146–166.

<https://doi.org/10.1111/padm.12209>

Faupel, S., & Suess, S. (2019). The effect of transformational leadership on employees during organizational change—An empirical analysis. *Journal of Change Management*, *19*, 145–

166. <https://doi.org/10.1080/14697017.2018.1447006>

Fernandez, S., and Pitts, D. W. (2011). Understanding employee motivation to innovate:

Evidence from front line employees in the United States federal agencies. *Australian*

Journal of Public Administration, *70*(2), 202–222. <https://doi.org/10.1111/j.1467->

8500.2011.00726.x

Fusch, P., Fusch, G. E., & Ness, L. R. (2018). Denzin's paradigm shift: Revisiting triangulation in qualitative research. *Journal of Social Change*, *10*(1), 19–32.

<https://doi.org/10.5590/JOSC.2018.10.1.02>

Dierks, G., Larsen, H., & Steward, F. (2018). Transformative innovation policy: Addressing variety in an emerging policy. *Research Policy*, *48*(4), 880–894.

<https://doi.org/10.1016/j.respol;2018.10.028>

Glor, E. (2001a). Innovation patterns. *The Innovation Journal: The PSI Journal*, *6*(3)

https://www.innovation.cc/scholarly-style/2001_6_3_2_glor_innovation-patterns.pdf

- Glor, E. (2001b). Key factors influencing innovation in government. *The Innovation Journal: The PSI Journal*, 6(2) 1–21. Retrieved from <https://innovation.cc/volumes-issues/key-factor-glor.pdf>
- Glor, E. (2008). Toward development of a substantive theory of public sector organizational innovation. *The Innovation Journal: The PSI Journal*, 13(3), 1–28. Retrieved from https://www.innovation.cc/scholarly-style/2008_13_3_6_glor_theory-org-concepts.pdf
- Gow, J. I. (2014). PSI theory revisited. *The Innovation Journal: The PSI Journal*, 19(2), 2–22. Retrieved from <https://www.innovation.cc/>
- Gunzel-Jensen, F., Hanson, J. R., Jacobsen, M. L., & Wulff, J. (2018). A two-pronged approach? Combined leadership styles and innovative behavior. *International Journal of Public Administration*, 41, 957–970. <https://doi.org/10.1080/01900692.2017.1303711>
- Haapasaari, A., Engstrom, Y., & Kerosuo, H. (2018). From initiatives to employee-driven innovations. *European Journal of Innovation Management*, 21(2), 206–226. <https://doi.org/10.1108/EJIM-09-2016-0085>
- Halkias, D., & Neubert, M. (2020). Extension of theory in leadership and management studies using the multiple-case study design. *International Leadership Journal*, 12(2), 48–73. <https://doi.org/10.2139/ssrn.3586256>
- Hancock, D. R., & Algozzine, R. (2017). *Doing case study research* (3rd ed.). Teachers College, Columbia University.
- Hartley, J. (2005). Innovation in governance and public services: Past and present. *Public Money and Management*, 25(1), 27–34. <https://doi.org/10.1111/j.1467-9302.2005.00447.x>

- Hülshager, U. R., Anderson, N., & Salgado, J. F. (2009). Team-level predictors of innovation at work: A comprehensive meta-analysis spanning three decades of research. *Journal of Applied Psychology, 94*(5), 1128–1145. <https://doi.org/10.1037/a0015978>
- Joksimovic, L., Manic, S., & Jovic, D. (2018). Public sector's innovativeness: Theoretical and methodological perplexities. *Management Journal of Sustainable Business & Management Solution in Emerging Economies, 23*, 53–62. <https://doi.org/10.7595/management.fon.2018.0001>
- Khan, N. A., & Khan, A. N. (2019). What followers are saying about transformational leaders fostering employee innovation via organizational learning, knowledge sharing, and social media use in public organizations? *Government Information Quarterly, 36*, 1–11. <https://doi.org/10.1016/j.giq.2019.07.003>
- Lewis, J. M., Ricard, L. M., & Klijn, E. H. (2018). How innovation drivers networking and leadership shape PSI capacity. *International Review of Administrative Sciences, 84*, 288–307. <https://doi.org/10.1177/0020852317694085>
- Mapp, T. (2008). Understanding phenomenology: The lived experience. *British Journal of Midwifery, 16*(5), 308–311. <https://doi.org/10.12968/bjom.2008.16.5.29192>
- March, J. G. (1991). Exploration and exploitation in organizational learning. *Organization Science, 2*(1), 71–87. <https://doi.org/10.1287/orsc.2.1.71>
- McMurray, A. J., Islam, M. M., Sarros, J. C., & Pirola-Merlo, A. (2013). Workplace innovation in a nonprofit organization. *Nonprofit Management & Leadership, 23*(3), 367–388. <https://doi.org/10.1002/nml.21066>

- Merriam, S. B., & Tisdell, E. J. (2016). *Qualitative research, a guide to design and implementation* (4th ed.). Jossey-Bass.
- Miao, Q., Newman, A., Schwarz, G., & Cooper, B. (2017). How leadership and public sector motivation enhance innovative behavior. *Public Administration Review*, 78, 71–81. <https://doi.org/10.1111/puar.12839>
- Min, K., Ugaddan, R., & Park, S. (2017). Is the creative tendency affected by organizational leadership and employee empowerment? An empirical analysis of the U.S. Federal employees. *Public Performance & Management Review*, 40, 382–408. <https://doi.org/10.1080/15309576.2016.1230503>
- Misuraca, G., & Viscusi, G. (2015). Shaping PSI theory: An interpretative framework for ICT-enabled governance innovation. *Electronic Commerce Research*, 15, 303–322. <http://doi.org/10.1007/s10660-015-9184-5>
- Moore, M. H., & J. Hartley. (2008). Innovations in governance. *Public Management Review* 10(1), 3–20. <https://doi.org/10.1080/14719030701763161>.
- Moussa, M., McMurray, A., & Muenjohn, N. (2018a). A conceptual framework of the factors influencing innovation in PSOs. *The Journal of Developing Areas*, 52, 231–241. <https://doi.org/10.1353/jda.2018.0048>
- Moussa, M., McMurray, A., & Muenjohn, N. (2018b). Innovation and leadership in public sector organizations. *Journal of Management Research*, 10(3), 14–30. <https://doi.org/10.5296/jmr.v10i3.13101>
- Moussa, M., McMurray, A., & Muenjohn, N. (2018c). Innovation in PSOs. *Cogent Business & Management*, 5, 1–12. <https://doi.org/10.1080/23311975.2018.1475047>

- Murphy, J., Rhodes, M. J., Meek J. W., & Denyer, D. (2017). Managing the entanglement: Complexity leadership in public sector systems. *Public Administration Review*, 77, 692–704. <https://doi.org/10.1111/puar.12698>
- Office of Personnel Management (2019). *Federal employee viewpoint survey 2019*. Washington, D.C. <https://www.opm.gov/fevs/reports/governmentwide-reports/governmentwide-management-report/governmentwide-report/2019/2019-governmentwide-management-report.pdf>
- Organization for Economic Cooperation and Development (2005). *The measurement of scientific and technological activities: Guidelines for collecting and interpreting innovation data*. Oslo Manual (3d ed.) OECD. https://www.oecd-ilibrary.org/science-and-technology/oslo-manual_9789264013100-en
- Organization for Economic Cooperation and Development. (2018). *Guidelines for collecting, reporting, and using data on innovation*. Oslo Manual (4th ed.). <https://www.oecd.org/science/oslo-manual-2018-97892643046-4-en.htm>
- Orazi, D. P., Turrini, A., & Valotti, G. (2013). Public sector leadership: New perspective for research and practice. *International Review of Administrative Sciences*, 79, 486–504. <https://doi.org/10.1177/0020852313489945>
- Osborne, S. P., & Brown, K. (2005). *Managing change and innovation in PSOs*. Routledge.
- Osborne, S. P., & Brown, L. (2013). Introduction: Innovation in public services. In *Handbook of Innovation in Public Services*, edited by S. P. Osborne and L. Brown, 1–28. Edward Elgar.
- Osborne, S. P., & Brown, K. (2012). *Managing change and innovation in public service organizations*. Routledge.

- Osborne, D., & Plastrik, P. (2000). *The reinventor's fieldbook*. Jossey-Bass
- Papaioannou, T., & Srinivas, S. (2018). Innovation as a political process of development: are neo-Schumpeterian value-neutral? *Innovation and Development*, 9, 141–158.
<https://doi.org/10.1080/2157930X.2018.1535872>
- Panuwatwanich, K., Stewart, R. A., & Mohamed, S. (2008). The role of climate for innovation in enhancing business performance: The case of design firms. *Engineering, Construction, and Architectural Management*, 5, 407–420. <https://doi.org/10.1108/09699980810902712>
- Patton, M. Q. (2015). *Qualitative research and evaluation methods* (4th ed.). Sage.
- Ravitch, S. M., & Carl, N. M. (2016). *Qualitative research: Bridging the conceptual, theoretical, and methodological*. Sage.
- Ravitch, S. M., & Riggan, M. (2017). *Reason and rigor. How conceptual frameworks guide research* (2nd ed.). Sage.
- Rainey, H. (1999). Using Comparisons of Public and Private Organizations to Assess Innovative Attitudes among Members of Organizations. *Public Productivity & Management Review*, 23(2), 130–49. <https://doi.org/10.2307/3380775>
- Rogers, E. M. (2003). *Diffusion of innovation* (5th ed.). Simon and Shuster
- Rosing, K., Frese, M., & Bausch, A (2011). Explaining the heterogeneity of the leadership-innovation relationship: Ambidextrous leadership. *The Leadership Quarterly*, 22, 956–974. <https://doi.org/10.1016/j.leaqua.2011.07.014>

- Ryan, R. M., & Deci, E. L. (2020). Intrinsic and extrinsic motivation from a self-determination theory perspective: Definitions, theory, practices, and future direction. *Contemporary Educational Psychology*, (61). <https://doi.org/10.1016/j.cedpsych.2020.101860>
- Saldana, J. (2016). *The coding manual for qualitative researchers* (3rd ed.). Sage.
- Saroghi, H., Libaers, D., & Burkemper, A. (2015). Examining the relationship between creativity and innovation: A meta-analysis of organizational, cultural, and environmental factors. *Journal of Business Venturing*, 30(5), 714–731.
<https://doi.org/10.1016/j.jbusvent.2014.12.003>
- Sherief, M. (2019). Key organizational climate elements influencing employees' creativity in government. *The Innovation Journal: The PSI Journal*, (24), 2–16.
https://innovation.cc/discussion-papers/2019_24_1_1_sherief_org_climate-creativity.pdf
- Simon, M. (2011). Dissertations and scholarly research: Recipes for success. *Dissertation Recipes*. <http://www.dissertationrecipes.com/guides-tools-worksheets-slideshows/>
- Sledzik, K. (2013). Schumpeter's view on innovation and entrepreneurship. *Management Trends in Theory and Practice*, 89–95. <https://doi.org/10.2139/ssrn.2257783>
- Slimane, M. (2015). Relationship between innovation and leadership. *Procedia Social and Behavioral Sciences*, 181, 218–227. <https://doi.org/10.1016/j.sbspro.2015.04.883>
- Schumpeter, J. A. (1942) *Capitalism, socialism, and democracy*. Harper and Brothers.
- Sorenson, O. (2017). Innovation policy in a networked world. *National Bureau of Economic Research*. <https://www.nber.org/w23431>

- Starzyk, A., & Sonnentag, S. (2019). When do low-initiative employees feel responsible for change and speak up to managers? *Journal of Vocational Behavior*, *115*, 1–16.
<https://doi.org/10.1016/j.jvb.2019.103342>
- Strauss, A. L. (1987). *Qualitative analysis for social scientists*. Cambridge University.
- Tan, C. S. L., Smyrniotis, K. X., & Xiong, L. (2014). What drives learning orientation in fast growth SMEs? *International Journal of Entrepreneurial Behaviour & Research*, *20*(4), 324–350. <https://doi.org/10.1108/IJEER-02-2013-0032>
- Tollison, R. D., & Buchanan, J. M. (1984). *The theory of public choice*. University of Michigan.
- Torfiging, J. (2019). Collaboration innovation in the public sector: The argument. *Public Management Review*, *21*, 1–11. <https://doi.org/10.1080/14719037.2018.1430248>
- Torfiging, J., & Ansell, C. (2017). Strengthening political leadership and policy innovation through the expansion of collaborative forms of governance. *Public Management Review*, *19*(1), 37–54. <https://doi.org/10.1080/14719037.2016.1200662>
- Torugsa, N., & Arundel, A. (2016). Complexity of innovation in the public sector. *Public Management Review*, *18*, 392–416. <https://doi.org/10.1080/14719037.2014.984626>
- Torugsa, N., & Arundel, A. (2017). Rethinking the effect of risk aversion on the benefits of service innovations in public administration agencies. *Research Policy*, *46*, 900–910.
<https://doi.org/10.1016/j.respol.2017.03.009>
- Uhl-Bien, M., & Arena, M. (2017). Leadership for organizational adaptability: A theoretical synthesis and integrative framework. *The Leadership Quarterly*, *29*, 89–104.
<https://doi.org/10.1016/j.leaqua.2017.12.009>

- Uhl-Bien, M., Marion, R., & McKelvey, B. (2007). Complexity leadership theory: Shifting leadership from the industrial age to the knowledge era. *The Leadership Quarterly*, 18, 298–318. <https://doi.org/10.1016/j.leaqua.2007.04.002>
- Van Wart, M. (2011). *Dynamics of leadership in public service* (2nd ed.). M. E. Sharpe.
- Wang, P., & Zhu, W. (2011). Mediating role of creative identity in the influence of transformational leadership on creativity: Is there a multilevel effect? *Journal of Leadership & Organizational Studies*, 18, 25–39. <https://doi.org/10.1177/1518103685494805>
- Walker, R. M. 2006. Innovation type and diffusion: An empirical analysis of local government. *Public Administration*, 84(2), 311–335. <https://doi.org/10.1111/j.1467-9299.2006.00004.x>
- West, M. A. (2002) Sparkling fountains or stagnant ponds: An integrative model of creativity and innovation implementation in workgroups. *Applied Psychology*, 51 (3), 355–387. <https://doi.org/10.1111/1464-0597.00951>
- Wipulanusat, W., Panuwatwanich, K., & Stewart, R. A. (2017). Exploring leadership styles for innovation: An exploratory factor analysis. *Engineering Management in Production and Services*, 9, 7–17. <https://doi.org/10.1515/emj-2017-0001>
- Wipulanusat, W., Panuwatwanich, K., & Stewart, R. A. (2018). Pathways to workplace innovation and ambidextrous relationships in public service: The role of leadership. *International Journal of Organizational Analysis*, 26, 890–914. <https://doi.org/10.1108/IJOA-03-2018-1376>

Wolgemuth, J. R., Hicks, T., & Agosto, V. (2017). Unpacking assumptions in research synthesis: a critical construct synthesis approach. *Educational Researcher*, 46(3), 131–139.

<https://doi.org/10.3102/0013189X17703946>

Yin, R. K. (2018). *Case study research: Design and methods* (6th ed.). Sage.

Appendix A: Interview Protocol

Greetings,

The development of successful innovation projects is very important to PSOs, and I would like to thank you for your willingness to participate in this study. This interview should take no longer than 60 minutes where I will ask questions regarding your perceptions of leadership skills supporting innovation and facilitating and innovative organizational culture. The purpose of this qualitative single case study is to explore skills public sector leadership needs to foster innovation. With your permission, I would like to record this interview for post-interview transcription accuracy. As a reminder, your identity and that of your organization will remain confidential, not shared with anyone or entity. Are you ready to begin?

Questions for Participants

What is your current series and grade?

Supervisor?

Non-supervisory?

Team leader?

What is your current job title?

Job Title?

Time in this position?

Do you have a previous supervisor/leader experience, and for how long?

Leadership for innovation is defined as the willingness of leaders to take risks on novel initiatives and adopt fresh perspectives. The ambidextrous culture for innovation is defined as an organization's shared norms and basic values to establish innovative practices, procedures, policies, and structures in the work environment. What is your understanding of leadership for innovation?

How do you characterize leadership for innovation within your workspace?

What leadership skills are needed to facilitate innovation?

How do these leadership skills influence workers encouraging them to innovate?

How do you characterize the organizational culture (shared norms and basic values) for innovation within your workspace?

Are leadership for innovation and the ambidextrous culture for innovation related in your workspace?

If related:

What is your understanding of the relationship?

How is this relationship enhanced within your organization?

If not related:

Can both still be present in an organization?

Please describe how they are both present, but unrelated?

Can an organization be innovative lacking either or both leadership for innovation and ambidextrous culture for innovation?

How is this possible?

Thank you very much for assisting me with this research project. I will transcribe our recorded conversation and provide you with a copy for your review. During your review, you will have 72 hours to notify me of corrections and changes to your information. Along with the transcribed notes, I will provide you with my Walden University contact information. Providing I have not heard from you within the 72 hours of the review period, I will consider the record accurate for my research.

Appendix B: Initial Codes

Initial Code																
Leadership for Innovation	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Code Count
Accepting of criticism			x	x			x	x		x				x		6
Agility	x					x										2
Courage	x		x	x	x	x	x		x		x	x				9
Comunication	x	x	x	x	x	x	x	x	x	x		x	x	x	x	14
Dialog encouragement											x					1
Energetic					x											1
internal fortitude										x						1
listening		x			x	x			x	x			x			6
Manage up														x	x	2
Not afraid to fail	x		x	x	x	x		x	x	x			x	x	x	11
persistant			x			x		x				x				4
resilient												x				1
Risk	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	15
seeking input		x						x				x				3
Setting the example			x						x							2
trustworthy	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	15
You have their backs			x													1
having ideas													x			1
forward thinking													x			1
strong leadership			x													1
Invest in your people									x				x			2
family values	x															1
open mind, willing to accept ideas													x			1

Initial Code																
Ambidextrous Culture for Innovation	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Code Count
Frozen middle		x														1
Trustfactor		x		x	x	x		x	x	x	x	x	x	x	x	12
Empowerment		x				x										2
Layer and timidity	x															1
Policy and resources		x		x		x	x	x			x	x	x	x	x	10
Supportive structure		x														1
Facilitate and change over time														x		1
Collaboration		x				x	x	x	x		x		x	x	x	9
Create courage, trust		x		x		x	x	x	x	x	x		x	x	x	11
Healthy communication	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	15
Agile framework	x			x												2
Natural permitting cyclical, repetitive													x			1
Culture has to nurture and embrace													x			1
Appoint a person responsible for improvement													x			1

Appendix C: Codes: 2nd Round

Leadership for Innovation			
Accepting of criticism	Personal values		
family values			
Agility	Leader traits		
Setting the example			
Energetic			
internal fortitude			
persistant			
trustworthy			
You have their backs			
resilient			
having ideas	Thinking		
forward thinking			
Invest in your people			
open mind, willing to accept ideas			
Comunication	Communication		
Dialog encouragement			
listening			
seeking input			
Courage	Courage		
Manage up			
Not afraid to fail			
Risk			

Ambidextrous Culture for Innovation		
policy and resopurces appoint a person responsible for improvement	Policy	
Empowerment supportive structure facilitate and change over time natural permitting cyclical, repetitive, culture has to nurture and embrace	Culture	
collaboration healthy communication agile framework	Communicate	
create courage, trust trustfactor layer and timidity Frozen middle	Courage	

Appendix D: Categories to Themes

Leadership for Innovation						
Codes		Categories	Themes			
Personal values		Leader Values	Theme 1	Provide opportunity, encouragement		
Leader traits						
Thinking						
Courage		Courage	Theme 2	Not afraid to fail, internal fortitude.		
Communication		Communication	Theme 3	Manage leadership and political appointees		

Ambidextrous Culture for Innovation						
Code		Category	Theme			
Policy		Organizational structure	Theme 1	Provide a learning environment.		
Culture						
Courage		Courage	Theme 2	It's okay to take acceptable risk.		
Communicate		Communication	Theme 3	Provide structure and resources – keep people informed		

Appendix E: U.S. Military Leadership Principles

1. United States Army.

a. ADP 6-22 Army Leadership and the Profession

- i. Source: https://armypubs.army.mil/epubs/DR_pubs/DR_a/ARN20039-ADP_6-22-001-WEB-0.pdf

Loyalty

Duty

Respect

Selfless service

.Honor

.Integrity.

Personal courage

2. United States Navy

- a. Source: <https://www.startupgrind.com/blog/the-navys-11-leadership-principles/>

Know your people and look out for their welfare.

Keep your people informed.

Know yourself and seek self-improvement.

Be technically and tactically proficient.

Seek responsibility and take responsibility for your actions.

Make sound and timely decisions.

Set the example.

Develop a sense of responsibility in your subordinates.

Ensure that the task is understood, supervised, and accomplished.

Train your people as a team.

Employ your unit in accordance with its capabilities.

3. United States AirForce

- a. Source:
https://www3.nd.edu/~jthomp19/AS100/Lesson%2019%20The%20Air%20Force%20Leader/The_Air_Force_Leader_V2.pdf

- b. Traits
 - Integrity
 - Loyalty
 - Commitment
 - Energy
 - Decisiveness
 - Selflessness

- c. Principles
 - Take care of your people
 - Motivate people
 - Be a follower
 - Know your job
 - Know your self
 - Set the example
 - Communicate
 - Educate yourself and others
 - Equip your troops
 - Accept responsibility
 - Develop teamwork

4. United States Marine Corps

- a. <https://www.tecom.marines.mil/Portals/120/Docs/Student%20Materials/CREST%20Manual/RP0103.pdf>

Leadership Traits

The fourteen leadership traits can be remembered with the acronym JJDIDTIEBUCKLE:

Justice –

Judgment –

Dependability –
Initiative –
Decisiveness –
Tact –
Integrity –
Enthusiasm –
Bearing –
Unselfishness –
Courage –
Knowledge –
Loyalty –
Endurance

Leadership Principles

Know Yourself and Seek Self Improvement -
Be Technically And Tactically Proficient
Know Your People And Look Out For Their Welfare
Keep Your Personnel Informed
Set The Example
Ensure That The Task Is Understood, Supervised, and Accomplished
Train Your Marines And Sailors As A Team
Make Sound And Timely Decisions
Develop A Sense Of Responsibility Among Your Subordinates
Employ Your Command Within its Capabilities
Seek Responsibilities And Take Responsibility