



Program Executive Office, Aviation Remote Work Study

Jimmy E. Downs

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Author: Jimmy E. Downs

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Research Advisor approval: Mr. Cliff Calhoun, 01/13/2023

Research Reviewer approval: Dr. Dana Stewart, 01/15/2023

OPSEC Approval: Mr. Paul Stevenson, 03/01/2023

SSCF Huntsville Director approval and submission to DAU: Deborah DiCesare, 02/01/2023

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Abstract

The COVID-19 pandemic created a landscape for knowledge organizations to experience a new work environment. Organizations had to quickly figure out how to remain innovative and productive with most of their knowledge workers teleworking while learning and evolving new information and communication technology. Organizations that were able to embrace this technology and collaborate across their internal and external networks experienced team cohesion and a positive culture evolution. These organizations remained innovative and productive. They thrived in 2020 and 2021. Returning to the pre-pandemic work environment is now unlikely because the younger generations are challenging “the status quo with their unwillingness to accept traditional office arrangements” (Weinbaum et al., 2018, p. IX). Generations Y, known as Millennials, and Z currently make up 32% of the federal workforce, and that number is rapidly increasing. Research now shows that most organizations will adopt a hybrid work model beyond the COVID-19 pandemic. PEO Aviation has adopted a hybrid work model termed the adaptive work environment. This research examines the benefits and barriers to adding remote work into the PEO’s work model. The research shows mixed results for including remote work in the adaptive work environment. This adaptive work environment is founded on a hybrid work model which is more complex than either full on-site or full-remote models (Yoost & Miyashiro, 2022). Leader involvement is necessary for organizations to realize success using hybrid work environment with or without remote workers. In fact, research confirms that visionary leadership is important for creating the conditions for innovation regardless of the work location (van der Voet & Steijn, 2021). Research by van der Voet and Steijn (2021) revealed that visionary leadership increased team cohesion. That team cohesion becomes critical for team innovation which is the key ingredient to productivity.

Introduction

“The importance of human talent has increased tremendously as it enables organizations to share the vast amount of dispersed knowledge and to use it to adapt and innovate” (Moll & Leede, 2016, p. 95)

Corona virus disease 2019 (COVID-19) shattered the paradigm of government knowledge workers executing their job exclusively from their central government offices (Choudhury, 2020). Health and safety concerns from COVID-19 quickly made telework and other work location flexibilities necessary (Hicks, 2022). During the post-COVID-19 work environment, Department of Defense (DoD) organizations are now setting up new work strategies based on work location flexibility.

Background

Most knowledge workers value work flexibility. Hinds and Elliott (2021) reported that “16% want to be fully remote, only 12% want to return to working in the office five days a week. A clear majority of 72% want the option of working within a hybrid remote-office model” (p. 3). The Office of Personnel Management’s (OPM) Federal Work Life Survey (2018) found that more than 72% of “respondents indicated their use of work schedule flexibilities and participation in telework improved their performance, morale, and increased their intent to stay at their current agency” (p. 9). However, some organizations like PEO Aviation are debating whether to include remote work in their flexible work strategies. In this research, the author will study the evolving, important, and understudied workplace flexibility of remote work. “Here, workers are no longer required to live in the same geographic location as the firm and have

greater flexibility to choose where to live” (Choudhury et al., 2021, p. 2). The future work environment is in a state of evolution.

When technology pundits speculate about the world of tomorrow, there are some predictions that have been part of the repertoire for decades: food pills! Space elevators! Flying cars! For a long time, "telecommuting" was one such forecast. Sure, cloud collaboration companies such as Dropbox had been making remote work increasingly possible, but for most businesses, there was still a premium on workers being present at the office – and it was hard to see what it would take to change that. (Wired and Dropbox, 2021, para. 1)

The long-term effects of the work environment on the United States (U.S.) Army’s acquisition professionals and organizations from the COVID-19 pandemic are difficult to forecast (Choudhury, 2020). However, some form of working from home at least part-time within a hybrid, remote-first, or distributed team will be more common. Program Executive Office (PEO) Aviation has adopted an *Adaptive Work Environment* (AWE) policy that encourages in-person collaboration and distributed work environments (Barrie, 2022). The AWE policy and the PEO Aviation telework policy do encourage using work environment flexibilities, but those policies do not specifically address remote work and defer many work flexibilities to first line supervisors (Barrie, 2022). Because of the importance of human talent within PEO Aviation, the research will investigate remote work as a work flexibility option within the AWE policy.

“PEO Aviation (2021) is responsible for essential materiel development and delivery of aviation capability for the Army Aviation enterprise and combatant commanders worldwide” (p. 2). PEO Aviation (2021) depends on the expertise and passion from its workforce to design,

develop, deliver, and sustain state-of-the art “weapons systems, components, and capabilities that allow the Army to retain overmatch against near-peer adversaries” (p. 16). PEO Aviation executes its mission successfully by recruiting and retaining this workforce. Understanding the future work environment and how flexibilities serve the organization’s mission will enable PEO Aviation to compete for and retain the right talent.

PEO Aviation implemented a 100% telework environment in March 2020 just after the arrival of the COVID-19 pandemic (Barrie, 2021). Leaders within PEO Aviation understood how to effectively manage an on-site workforce. However, they quickly adapted at the beginning of the COVID-19 pandemic to effectively managing all workforce members, except some key personnel, in a telework environment. Over the next two years PEO Aviation implemented the AWE which has close characteristics to a hybrid work environment (Barrie, 2022). Collaboration in this hybrid environment includes all workforce members taking part on-site at a physical work location, all virtually, and a mix of on-site and virtually.

Congressional leaders and the President established the Telework Enhancement Act of 2010 to incentivize agencies to increase opportunities for federal employees to take part in telework and remote work. However, that Act has no provisions that legally entitle employees to telework or remote work. Agency heads make the decision to implement work environment flexibilities. OPM’s November 2021 guidance encouraged organizations to study increasing remote work for eligible positions (OPM, 2021a).

The Department of Defense policy supports telework to execute work, “serve as an effective recruitment and retention strategy; enhance DoD efforts to employ and accommodate people with disabilities; and create cost savings by decreasing the need for office space and

parking facilities” (Under Secretary of Defense for Personnel and Readiness [USD(P&R)], 2012, p. 2).

In a March 2022 memo, Deputy Defense Secretary Kathleen Hicks (2022) wrote that the Pentagon would implement the lessons it learned throughout the pandemic to create a more efficient and effective workforce. DoD will be a more flexible employer by using telework.

The term *telework* is a “work flexibility arrangement under which an employee performs the duties and responsibilities of such employee’s position, and other authorized activities, from an approved worksite other than the location from which the employee would otherwise work” (Telework Enhancement Act, 2010, 5 USC 6501 Definitions section). The telework term does not make a distinction of the location from where an employee works (Lopez, 2020). The location is not the organization's workplace. Remote work and work from home have the same meaning as the term *telework* within Lopez’s study.

The term *remote work* is a “work arrangement in which the employee resides and works at a location outside the local commuting area of the employer” (Lopez, 2020, p.20). Remote work is “a concept in which the employees do not commute or travel to the organization’s place of work but allows the employees to work outside of the traditional office environment” (Anand & Acharya, 2021, p. 119).

The term *eligibility* refers to the “characteristics of the job position and the employee that identify suitability for teleworking as determined by the supervisor or other appropriate management official in the employee’s chain of command” (USD(P&R), 2012, p. 24).

The term “*hybrid work* is a blended model where some employees return to the workplace and others continue to work from home” (Microsoft, 2021, p. 2). Organizations could

have hybrid work policies which allow remote work while other organizations could require all their employees to come into the office periodically.

The term *knowledge worker* is an “employee who has a responsibility for exploring and generating ideas and concepts rather than concentrating solely on implementing or managing existing processes or operations within the organization” (Martinez-Amador, 2016, p. 13). In 1999, Peter Drucker recognized that “the most valuable asset of a 21st-century institution, whether business or non-business, will be its knowledge workers and their productivity” (p. 79). In 2002 Drucker cautioned that “Knowledge-based businesses need to be focused on productivity of their capital, that is, of the knowledge worker” (2002a, para. 7)

Problem Statement

As the work environment in the federal government and private industry evolves, remote work is a strategic management tool which “...can improve employee performance and engagement, and maximize organizational mission productivity, efficiency, and government stewardship” (U.S. Office of Personnel Management [OPM], 2021a, p. 72). PEO Aviation has not adopted a remote work policy (Barrie, 2022). PEO Aviation will continue to compete with industry and other government organizations to attract and retain a skilled workforce to successfully deliver complex capabilities to the warfighter. The 2022 Gartner New Talent Landscape and Career Pathing Survey found that attracting and retaining talent is more challenging now because employees have many more opportunities with the increase in remote work jobs (Human Resources Research Team, 2022). Employees no longer must move. PEO Aviation must therefore attract and retain talent within a much broader labor market than North Alabama because individuals have more choices in employers when location is no longer a limiting factor (Even, 2021).

In August 2022 the Federal Salary Council reported a pay disparity of over 22% between private and public sector employees (Friedman, 2022). President Joseph Biden (2022a) also confirmed in a letter to Congress that Federal agencies are having recruitment and retention challenges with federal positions due to the federal employees' pay gap as compared to their industry counterparts. Federal agencies should consider human resource flexibilities from the OPM including remote work to help bridge the compensation gap between federal and private-sector employees (Friedman, 2022). Federal agencies have lessons learned from the private sector on struggles with remote work. There are good examples of companies that implemented remote work but later moved away from remote work. IBM and Yahoo set up remote work, but eventually cancelled their remote work policies because of the degradation in communication and collaboration skills (Yang et al., 2022). "On the basis of these examples, one might conclude that the current enthusiasm for remote work may not ultimately translate into a long-lasting shift to remote work for the majority of firms" (Yang et al., 2022, p. 51).

On May 31, 2022, Elon Musk informed his workforce via email to return to a Tesla office at least 40 hours per week (Kolodny, 2022). The impacts are currently unclear from this directive. Media reports indicate Tesla has declining knowledge worker morale; shortages of office equipment, space, and parking; and higher absenteeism. Remote workers who said they were not able or committed to relocating were let go in June 2022 and other remote workers who indicated a willingness to move had until September 30, 2022, to relocate. Time will reveal the true impacts of this directive and how knowledge workers value work location flexibilities. Most knowledge workers at Tesla are working two days a week in the office due to shortages in office equipment and space.

Statement of Purpose

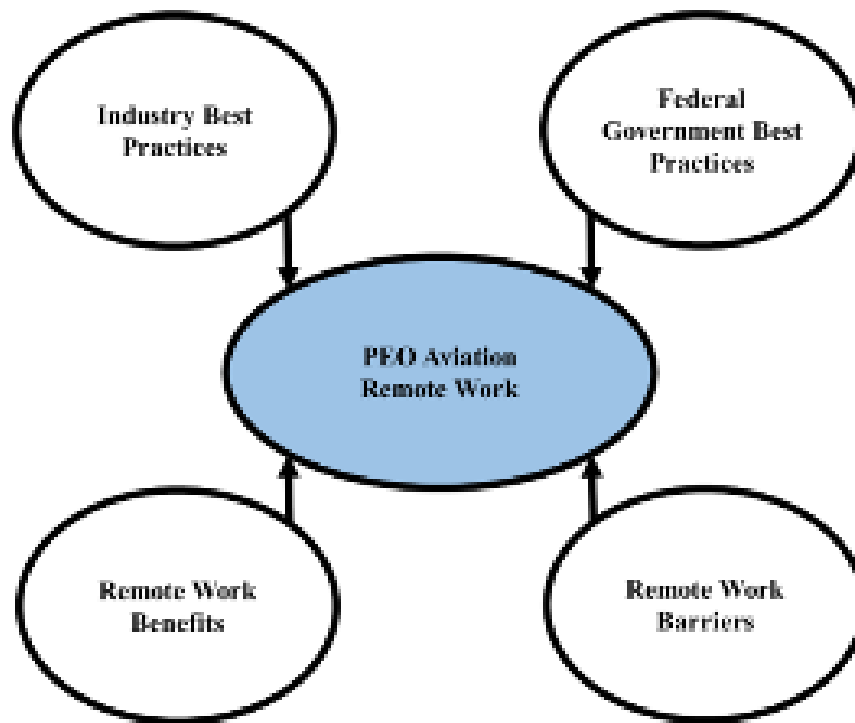
The purpose of this qualitative study is to explore the benefits and barriers of implementing remote work within PEO Aviation.

Research Questions

1. What are the best practices for remote work in the U.S. federal government?
2. What are the best practices for remote work in private industry?
3. What are the societal and organizational benefits and barriers of having remote work in an organization with knowledge workers?

Conceptual Framework

This research identifies best practices for remote work in the federal government and private industry along with remote work benefits and barriers. Implementing remote work best practices can in some cases enhance benefits and even eliminate barriers. Figure 1 provides a conceptual framework for researching remote work for PEO Aviation. The framework had four research areas. The first area is research to find remote work best practices for knowledge workers within private industry. The second area of research is to find remote work best practices for knowledge workers within the U.S. federal government. The third area of research is to find organizational and societal benefits for having remote work. Finally, the fourth area of research is to find barriers for the organization when using remote work as a workplace flexibility. Figure 1 is a pictorial depiction of how the research informs remote work opportunities within PEO Aviation.

Figure 1*PEO Aviation Remote Work Concept Model***Significance of This Research**

Knowledge worker recruitment and retention is vital to execute PEO Aviation's complex mission. Leadership gaining more understanding on best practices and organizational and societal benefits and barriers will help PEO Aviation retain and expand talent. Over the last decade, but more profoundly since the COVID-19 pandemic materialized, the way employees think, live, and create changes their view of the future work environment (Choudhury et al., 2021). From 2014 until the start of the COVID-19 pandemic, 21% of federal employees and 43% of eligible federal employees took part in telework (Lopez, 2020). Few PEO Aviation employees took part in telework during that period and none worked outside the local commuting area. Balancing employee flexibilities will drive organizational productivity (Lopez, 2020).

Productivity, retention, organizational commitment, and performance are top flexible work arrangement benefits for organizations.

Overview of the Research Methodology

The author conducted a systematic literature review on *Remote Work/Telework/Hybrid/Work from Home/Work from Anywhere* in the private and public sectors, the federal government, DoD, and the Army. The author found publications during the literature review using Boolean searches within the Defense Acquisition University and Lawrence Tech libraries. The author identified publications with an advanced search between 1999 and 2022 for peer reviewed journal articles, books, government sources with the term remote or “work from home” or telework or “future of work” or hybrid or virtual or distributed or work from anywhere and (“best practice*” or position* or collaboration or team* or job* or engage* or innovat* or work* or policy or limitation* or benefit* or failure*) – 61,513 total results/2,278 peer review results/571 with other filters - in title, abstract, or keywords. The author used the asterisk (*) symbol as a wildcard to discover differences in the terms (e.g., practice, position, engage, innovate, work, limitation, benefit, and failure). To ensure applicability, the author restricted the search to publications categories of ‘economics,’ management,’ and ‘business.’ The author used this process to find 143 articles, books, and websites.

Limitations of the Study

This research is qualitative. The author did not interview any PEO Aviation leaders or workforce members within that organization. All research data is from sources published in the public domain or from the PEO Aviation intranet. The author concentrated the research on the merits of a remote work policy within PEO Aviation and did not research other flexible workplace strategies or other organizations. This study will only review benefits and barriers for

the organization and society. The study will not review the benefits and barriers for the individual employee because those will vary based on individual perspective.

Summary

PEO Aviation must execute its mission by recruiting and retaining knowledge workers who operate in a work environment that optimizes their performance in both individual and team tasks (Barrie, 2022). PEO Aviation's adaptive work environment must include leaders, a workforce, and functional and multifunctional teams who have innovation, communication, collaboration, trust, and commitment skills (PEO Aviation, 2021). The author will study expanding PEO Aviation's AWE by showing best practices and organizational and societal benefits and barriers of remote work. PEO Aviation made the transition from the traditional co-located work model with no employees teleworking to fully remote work in March 2020. The AWE policy provides work location flexibilities; however, work location decisions remain with the first line supervisor. This study will provide PEO Aviation leadership additional understanding of work environment factors impacting knowledge workers' decisions on joining or remaining in the organization.

Literature Review

Introduction

The DoD, Army, Assistant Secretary of Army for Acquisition, Logistics, and Technology (ASAALT), and PEO Aviation need knowledge workers who can design, develop, deliver, and sustain military equipment for securing and protecting the interest of the United States and its allies (PEO Aviation, 2021). This chapter is a review of flexible work environment literature to better understand how remote work fits into PEO Aviation's future work environment. The COVID-19 pandemic ushered in a much different work environment for knowledge workers than any time in the past. PEO Aviation set up the AWE to take advantage of lessons learned during the pandemic (Barrie, 2022). AWE is a hybrid work environment where employees execute their responsibilities either in-person or from an alternate work site based on first-line superior guidance and approval. The literature review includes books, journal articles, web-site articles, policies, memoranda, surveys, and other research studies on flexible work within private industry and the federal government.

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Themes for Literature Review

The literature review on work flexibility and remote work has five themes. The themes include reviewing definitions, government policies, DoD best practices, private industry best practices, and organizational and societal benefits and barriers. This chapter ends with a literature review summary on remote work.

Defining Flexible Work Patterns

Definitions of different flexible work patterns vary within the federal government and private industry. This research did not find any universal term for remote work. Work from home, work from anywhere, distributed work,

telecommuting, flexible workplace, remote work, virtual work, mobile work or telework are all terms used to refer to an arrangement in which an employee regularly works at an alternate work site such as the employee's home, a telecenter, or other location that allows him or her to accomplish work... (OPM, n.d.-a, para. 1).

The inconsistent definitions add confusion to understanding policies and leadership intent. When congressional leaders and the President established the Telework Enhancement Act (2010), telework had a broad meaning that did not differentiate between employees who came into the agency's worksite periodically or worked full time outside the agency's local area worksite. Telework included any federal employee who worked anytime away from the agency's worksite and had a written telework agreement with their supervisor, telework training, and no discipline issues. Congress tasked OPM to develop policy and guidance for telework and to establish and support a telework website. Congress also tasked each executive agency to decide employee eligibility.

OPM established clarification to Congress', 2011 term 'telework' in the *2021 Guide to Telework and Remote Work in the Federal Government* (2021a) by limiting the applicability to employees who had regularly scheduled days at the agency's worksite. OPM established *remote work* as a term for employees who worked full time at an alternate worksite from the agency's worksite and had an approved remote work agreement with their supervisor.

The Under Secretary of Defense for Personnel and Readiness (USD(P&R)) (2012) develops and implements telework policy in DoD. USD(P&R) uses *DoD Instruction 1035.01* to implement DoD's telework policy. This policy does not use the term remote work as a separate definition from telework. The policy "defines *telework* as a work arrangement where an employee or Service member performs assigned official duties and other authorized activities...at an approved alternative worksite" (USD(P&R), 2012, p. 25). The definition of telework does "include remote work where an employee resides and works at a location beyond the local commuting area of the employing organization's worksite" (USD(P&R), 2012, p. 25). This policy also fulfills Congress' requirement to set up employee eligibility for telework. *Eligibility* is where the supervisor or proper management official decides which employees and job characteristics are suitable for teleworking. (USD(P&R), 2012). The policy recommends supervisors establish positions to maximize opportunities to telework.

Two of the three military departments within DoD have set up telework policies and guides to implement OPM and USD(P&R) policies. The author's research did not find a telework policy or guide from the Department of the Army or ASAALT. The Department of the Air Force (2021) does have a comprehensive telework/remote work guide. This guide separately defines telework and remote work and those definitions align with OPM. The guide promotes work flexibilities with details on telework and remote work eligibility, procedures, and

expectations. The guide also has an embedded comprehensive remote work agreement which shows responsibilities for the agency and the remote worker. The Department of the Navy (2019) has a telework policy that closely aligns with the DoD policy. The policy does not breakout remote work from telework which makes the definition consistent with DoD's definition. This research shows that OPM and the Department of the Air Force have updated their policies and guides to reflect lessons from the COVID-19 pandemic work environment. OPM reported to Congress that "45 percent of all Federal employees and 90 percent of eligible employees teleworked in fiscal year 2020. This figure is a 34 percent increase among both populations" (2021b, p. 3). Work trends from Microsoft (2021) show there is no going back to the pre-pandemic work environment. Flexible work will be part of the future.

President Biden addressed during the March 1, 2022, State of the Union that "it's time for America to get back to work and fill our great downtowns again with people... We're doing that here in the federal government. Most federal workers will once again work in person" (2022b, COVID Tests section). Ms. Hicks' (2022) however was clear in her memo that DoD would continue to look for ways to "improve the DoD civilian employee experience and leverage innovation and productivity gained through flexible workplace policies" (p. 1). She recommends continuing to use many of the DoD's COVID-19 pandemic workplace flexibilities. These flexibilities will increase effectiveness and efficiency and attract and retain employees who can accomplish the Department's mission (Hicks, 2022). These workplace flexibilities are important for retention and recruitment based on today's economic environment where federal employee pay lags their private sector counterpart by 22.5% on average (Friedman, 2022). OPM, DoD, and the Military Departments have used the telework and remote work policies and/or guides during the pandemic to effectively conduct their mission. Microsoft's work trend analysis (2021, 2022)

shows the future with a hybrid workplace. Research did not reveal any DoD or Military Department policies or guides on hybrid work. Yoost and Miyashiro (2022) point out that hybrid work is more complex than either full on-site or full-remote models. As mentioned in the chapter introduction, PEO Aviation has a telework and AWE policy that supports a hybrid workplace (Barrie, 2021, 2022). AWE is a flexible work environment which aligns with how OPM defines a hybrid workplace. According to OPM “a hybrid workplace simply refers to a workplace that incorporates a mix of employees who are working in the office and those who are working from other locations” (2022b, para. 1). This hybrid workplace with a blend of remote workers, teleworkers, and on-site workers generates different organizational benefits and barriers than the traditional on-site work environment which is addressed later in this chapter. The research will show any differences on how remote workers and teleworkers affect the performance of hybrid work teams within PEO Aviation.

The definition of remote work in literature outside government policies and guides is even more inconsistent than within the federal government. Research articles refer to remote work much like OPM refers to telework which added to the research challenge (Sako, 2021; Indeed Editorial Team, 2018).

The definitions of collaboration, innovation, culture, and knowledge worker are part of this research, and the reader should have clarity on these terms. The research from Anthony et al. (2021) highlighted that innovation success traces back to collaborative behavior. This behavior along with a great culture encourages innovation. Literature on innovation exposes that the generation of unique ideas “come at the intersections where different mindsets and skills collide” (Anthony et al., 2021, p. 64). Great innovators understand that collaboration with multi-function team members generates the most innovative results (Anthony et al., 2021).

“Collaboration is a trusting, working relationship between two or more equal participants involved in shared thinking, shared planning and shared creation” (Montiel-Overall, 2005, “Section A: Defining” section). Very few jobs in PEO Aviation exist in a silo, thus the benefits of team collaboration are important to the employees and the organization (Barry & Wigert, 2021). “Collaborating at work allows teams to capitalize on the strengths and contributions of each person in a way that results in better performance or higher levels of productivity than is possible from the sum of individual efforts” (Barry & Wigert, 2021, Collaboration section). Yang et al. (2022) found that negative impacts on collaboration in addition to communication will negatively affect productivity and innovation. IBM and Yahoo rescinded their remote work policies because of the detrimental impact on collaboration and communication from that work environment (Wright, n.d.). However, a promising trend within the 2021 OPM Federal Viewpoint Survey found that over 72% of Army employees felt their work unit collaborated successfully either “always” or “most of the time” (OPM, 2022a). This research will look at the benefits and barriers of remote workers on collaboration.

“Innovation is broadly defined on an individual level as the creation and implementation of something new, such as ideas, products, processes, or policies” (Moll & Leede, 2016, p. 96). Innovation is important for organizational and knowledge worker success (Moll & Leede, 2016). In fact, innovation is a key determinant of organizational success. Innovation “has to be part of the work, the task and the responsibility of the knowledge workers” (Drucker, 1999, p. 84) and is crucial in knowledge-based organizations (Moll & Leede, 2016). The U.S. Army also published the *Army Innovation Strategy* to create a structure for innovation (United States Army, 2017). This strategy emphasizes the criticality of a culture that recognizes and cultivates the role of innovation itself. A great idea is nothing without knowledge workers using innovation to turn

ideas into something that creates value. The Army recognizes that rewards, professional development, recruitment and retention, policy and processes, and performance management drive innovation. This research will examine how remote work could influence innovative behaviors positively and negatively. Collaborative behavior along with a great culture encourages innovation (Anthony et al., 2021).

Schein (2010) defines *organizational culture* as a pattern of shared basic assumptions learned by the group as it solved its problems...which has worked well enough to be considered valid and, therefore, to be taught to new members as the correct way to perceive, think and feel in relation to those problems. (p. 18)

As the organization discovers its way in addressing challenges, or in creating new products or services; standard processes evolve and transform into routines that are often not visible (Schein, 2010). Culture is challenging because there is more to an organization's products or artifacts than one can see. "Below the surface of those artifacts are the ways people work, which are grounded in the assumptions, beliefs and values the group holds. Culture isn't just what you see; it is what a group does and believes" (Anthony et al., 2021, p. 63). Schein (2010) noted that organizations can change artifacts like their stated values or mission statement. However, they will not change the mental models and unspoken rules that dictate employee behavior. This research will look at whether remote and hybrid work will change the visible (e.g., dress and appearance, communication styles, and habits) and/or invisible core shared values. According to Microsoft's (2022) work trend survey, employees view a positive culture as especially important.

"Knowledge workers are those employees who have a responsibility for exploring and generating ideas and concepts rather than concentrating solely on implementing or managing

existing processes or operations within the organization” (Martinez-Amador, 2016, p. 13). The primary focus in this research is on remote workers who create, process, or use information while serving on hybrid work teams. Martinez-Amador (2016) found in his research that organizational leaders face a challenge of blending remote and on-site workers in a hybrid work environment. In 1999, Peter Drucker advised, “the most valuable asset of a 21st-century institution, whether business or non-business, will be its knowledge workers and their productivity” (p. 79). In fact, an organization’s competitive advantage comes from the knowledge generated from their knowledge workers (Ware & Grantham, 2003). PEO Aviation is a knowledge-based organization. Knowledge based organizations rely on specialized workers whom Peter Drucker (2002a) refers to as knowledge workers to generate value for the organization. The knowledge worker’s production is analogous to the assembly line worker and capital equipment producing products. Assembly line workers use their skills and equipment to turn in-process material into value for a company. The assembly line worker’s productivity is easy to measure. During a work shift, the assembly line worker will produce an objective output. A quality group will measure that output to verify that the assembly line worker produced the product correctly. Conversely, knowledge workers produce as individuals and team members. Drucker (2002) refers to the knowledge worker as capital for knowledge organizations. The knowledge worker is the capital and “most valuable asset in the PEO Aviation organization” (PEO Aviation, 2021, p. 16).

Significant Government Flexible Work Policies

Telework Enhancement Act of 2010 and Presidential Priorities

In 2010, President Obama established the Telework Enhancement Act (Telework Enhancement Act, 2010). The Act encourages maximum telework as a workplace flexibility. The

“key objectives of the Act include: (1) Improve Continuity of Operations (COOP), (2) Promote Management Effectiveness, and (3) Enhance Work-Life Balance” (OPM, n.d.-b, “The Telework Enhancement Act” section). The Act requires agencies to consult with OPM in developing telework policies, decide which positions are appropriate for telework, notify eligible employees who can take part in telework, specifically limit certain employees due to discipline issues, have written telework agreements, provide training, and have a telework managing officer (Telework Enhancement Act, 2010). The Act also directs OPM to provide policy and guidance for telework, keep a telework website, and send “a report addressing telework programs of each Executive agency to Congress” (Telework Enhancement Act, 2010, p. 88). In support of the Act, President Biden released the President’s Management Agenda (PMA), in part, to inform federal agencies about his priorities regarding the civilian workforce including flexible work practices (General Service Administration [GSA], 2022). PMA defines management priorities for all federal agencies to improve how government works and performs. The PMA’s priority one is “strengthening and empowering the Federal workforce” (GSA, 2022, p. 16). This priority has four strategies. The third strategy is “reimagine and build a roadmap to the future of Federal work informed by lessons from the pandemic and nationwide workforce and workplace trends” (GSA, 2022, p. 22). The purpose of this strategy is to improve how the federal government recruits and retains quality talent while still being competitive with trends in how Americans work (GSA, 2022). A goal within the strategy is for OPM to add a new USAJOBS.com remote location feature to allow organizations to advertise remote positions. OPM also used President Biden’s PMA to develop and cross walk the *2022 Federal Workforce Priorities Report* (OPM, n.d.-c). The report has two priorities that align to the President’s priority one, strategy three. The priorities are “Preparedness and Resilience, and Developing an Agency Foresight Capability”

(OPM, n.d.-c, p. 14). The Preparedness and Resilience priority directs agencies to consider the *new normal* with a more flexible workplace for the future of work. The Developing an Agency Foresight Capability priority directs agencies to develop programs “to better understand emerging skills and workforce needs” (OPM, n.d.-c, p. 27).

U.S. Office of Personnel Management (OPM)

OPM is the federal government’s “chief human resources agency and personnel policy manager” (OPM, n.d.-d, para. 1). They supply telework guides, reports, and a website to help federal agencies in implementing the legislative requirements from the Act. OPM updated the *Guide to Telework in the Federal Government* in 2021 (2021a). This was the first update to the guide since 2011.

The updated guide introduced a Part II to supply remote work technical guidance and proper use for expanding “opportunities as a strategy to deliver against agency mission and attract and retain a talented and skilled workforce” (OPM, 2021a, p. 53). According to OPM (2021a), remote work opportunities within U.S. public and private employers are trending upward with over a quarter of those employers offering that opportunity. Remote work is becoming a standard business practice in many organizations to create a competitive advantage for recruiting and retaining high-quality talent and reducing real estate costs. Before an organization implements a remote work arrangement, OPM recommends that organizations assess the benefits and costs of such arrangements. They supply the *Evaluation Guide: Evidence-Based Strategies to Capture the Benefits and Costs of Work-Life Programs* to help organizations decide “if the arrangement is workable and cost effective for the Government and the organization” (OPM, 2021a, p. 62). The Government Accountability Office (GAO) found during a telework audit in 2016 that only a few agencies collected cost and benefit information to

support telework programs. Because of this, and the increase in hybrid and remote work, Congress will continue to have an interest in federal agencies' use of workplace flexibilities.

OPM (2021b) supplies Congress with an annual telework report per the 2010 Act. The latest telework report is on fiscal year 2020 data which OPM published in December 2021.

This report includes several key findings: (1) employee eligibility to participate in telework has increased; (2) total participation across all employees continues to increase; (3) agencies continue to display positive trends in telework-related goal achievement rates; and (4) the capacity to assess cost savings achieved through telework has improved. (2021b, p. 3)

The federal government has 50% of its employees eligible to telework, and 45% did telework in fiscal year 2020 (OPM, 2021b). The percent of federal workers teleworking in fiscal year 2020 was 23% higher than any previous year. Also, 44% of DoD employees teleworked, and 1% worked remotely while 56% of Army civilian employees teleworked.

OPM's (2022a) 2021 Federal Employee Viewpoint Survey (FEVS) gives updated perspectives on telework and remote work from Federal, DoD, and Army civilian employees and their agencies. OPM has administered the Governmentwide FEVS to federal employees since 2002. The 2021 survey gives employees a chance to give their opinions and feelings about work. The survey breaks out viewpoints from different generations to better understand future workforce needs. The federal workforce includes "24% *Baby Boomers* born 1945 - 1964, 43% *Generation X* born 1965 - 1980, 30% *Generation Y* born 1981 - 1996, and 2% *Generation Z* born 1997 or later" (OPM, 2022a, p. 3). The survey captures employee beliefs on how well government organizations manage human resources and systems. OPM fielded the survey while organizations were in various stages of dealing with workplace pandemic related health and

safety concerns. During this period, 36% of federal, 22% of DoD, and 18% of Army civilian employees teleworked every day compared to 2% before the pandemic due to health and safety concerns.

OPM (n.d.-b) uses their website to supply service information to organizations on telework and hybrid solutions, and they cross walk those solutions back to federal mandates in the Act. They also provide information on benefits and concerns with telework and how to overcome concerns with managers balking at granting telework or remote work privileges (OPM, n.d.-a). OPM has updated their website with recent and relevant telework and remote work lessons from the pandemic. They address the new hybrid work trend on their website to help organizations stay competitive with private industry for talent. OPM (n.d.-e) and GSA also set up telework.gov as the government's official telework website. The website gives employees access to the telework guide, future of work information, reports and studies, training resources, and legislation.

Department of Defense and Army and PEO Aviation Government Policies

DoD uses the *Department of Defense Instruction 1035.10* to establish policy, assign responsibilities, and prescribe actions for implementing telework programs (USD(P&R), 2012). The USD(P&R) manages the DoD telework policy. DoD's policy promotes maximizing regular and recurring telework positions including remote work. The USD(P&R) tasked the Director, Defense Human Resource Activity (DHRA) with DoD telework reporting responsibility. The Director, DHRA directed the subordinate Defense Civilian Personnel Advisory Services (DCPAS) organization to supply advisory and consulting services for DoD on telework planning, reporting, and policy development (DCPAS, n.d.). DCPAS oversees the DoD telework program. Most of the information on the DCPAS website links back to the OPM website and

telework.gov. DCPAS provides an email and mailing address for organizations to request telework advisory services.

The research did not discover any U.S. Army telework flow down policies from DoD to subordinate organizations. Searches on the web found that major subordinate organizations like the U.S. Army Training and Doctrine Command and Army Materiel Command had telework policies, but their policies referenced DoD and OPM policies. Also, the research did not reveal any ASAALT telework policy. The PEO Aviation Telework Policy does promote maximum use of telework and flexible work schedules if employees can continue to fulfill their responsibilities (Barrie, 2021). “Teleworking will be an encouraged and supported practice throughout the PEO” (Barrie, 2021, p. 2). The PEO Aviation Telework Policy does not, however, include any reference to remote work, even within the policy’s telework definition. This policy is also a reference within the PEO Aviation AWE policy (Barrie, 2022). The AWE policy “provides continuing guidance, assigns responsibilities, and details further definition of and participation in the Program Executive Office, Aviation (PEO AVN) Adaptive Work Environment (AWE)” (Barrie, 2022, p. 1). The PEO Aviation *Telework Policy* is the only reference in the AWE policy. The AWE policy reinforces the PEO Aviation *Telework Policy* with supplemental adaptive work information. AWE encourages in-person and distributed work environments for employees to fulfill their responsibilities. Supervisors will decide and approve which telework and schedule flexibilities employees can use and when they will use them.

Best Practices for Promoting Remote Work in the Federal Government

2021 Guide to Telework and Remote Work in the Federal Government

OPM “began tracking remote work in 2013, the frequency of its use has increased across the Federal Government as more and more agencies take advantage of this HR management

tool” (2021a, p. 52). OPM includes many best practice recommendations in their *2021 Guide to Telework and Remote Work in the Federal Government*. Organizations should define the goal of what they hope to achieve when deciding whether to adopt remote work (OPM, 2021a).

Organizations can use remote work to attract or retain high-performing personnel, reduce facility costs, and/or introduce additional work flexibility into their culture (OPM, 2021a).

Organizations should document their decision for remote work in a cost-benefit analysis.

Organizations should additionally consider how remote work affects the dynamics of the work environment like non-remote workers’ resentment. The remote work policy should have clear criteria for assessing the merits to approve or disapprove a remote work agreement and a process by which employees can make remote work requests. This guide also recommends setting up a remote work policy and agreement form separate from a telework policy and agreement form. The remote work policy and agreement form should clearly define work and communication expectations and responsibilities. Expectations would include work schedule, equipment and services, security, worker’s compensation, travel back to the organization’s workplace, and relocation ground rules.

OPM recommends the policy include within the remote work agreement situations and procedures for terminating remote work.

Terminating a remote work arrangement poses special problems not present when a telework arrangement is terminated, because the employee may no longer live within commuting distance of an agency worksite. The agency should consider how such a situation should be managed when creating a remote agreement with an employee.

(2021a, p. 55)

Organizations could set up a requirement that an employee work on-site first for a period to form relationships critical for collaboration and learn how the organization functions (OPM, 2021a). The organization should train supervisors on how to evaluate remote worker performance “based on factors such as accountability for results or quality of the work and should not be affected by whether an employee is working in the office, teleworking, based remotely, or working a flexible work schedule” (OPM, 2021a, p. 64). Organizations should develop rigorous remote work training and require employees to successfully complete that training prior to approving a remote work agreement (OPM, 2021a). OPM supplies comprehensive practices to consider for setting up a successful remote work program including example remote work agreements.

Federal Employee Viewpoint Survey (FEVS) Results

FEVS results along with supervisor and employee feedback will help agencies evaluate the success of their flexible and remote work programs (OPM, 2018). The FEVS supplies detailed information across all federal agencies. Leaders can assess their agency and how employees feel about flexible work programs compared to other organizations either within the same agency or across different agencies.

Status of Telework in the Federal Government Report to Congress Fiscal Year 2020

“The Telework Enhancement Act mandates that OPM provide an annual report to Congress addressing telework program outcomes of each Executive agency” (OPM, 2021b, p. 3). The fiscal year 2020 Congressional telework report is the latest published from OPM (OPM, 2021b). The report has telework trend information from 2012 to 2020 along with COVID-19 pandemic work environment best practices and lessons learned. The fiscal year 2020 report is the first to separate remote work positions from telework. However, this report did not have any best

practices specifically related to remote work. Future reports will allow OPM to establish remote work trends and share best practices information across the Government. As part of OPM's data call for telework information, they gave agencies an opportunity to share telework success stories. Thirty-five agencies provided telework best practices in the fiscal year 2020 report. The common themes included:

- Use of telework to support continuity of operations during emergencies, local commuting disruptions, and closures;
- Improved support from information technology systems;
- Agency-specific and/or in-person telework training;
- Increased support for telework initiatives from leadership; and
- Optimizing telework program through policy review or revision. (OPM, 2021b, p. 29)

Agencies that used deliberate planning to establish and evaluate participant goals, retention efforts, and pilot programs realized the most organizational benefits from telework (OPM, 2018).

Headquarters Air Force Telework / Remote Work Guide

The Department of the Air Force (DAF) has a telework policy that includes remote work with a separate remote work and telework agreement (DAF, 2021). Their policy includes all the recommended practices from OPM's *2021 Guide to Telework and Remote Work in the Federal Government* along with a question-and-answer section to clarify key policy features. DAF promotes remote work for five business reason:

- Retention of high performing civilian employees who must move for personal reasons and would otherwise leave the DAF;

- Recruitment of civilian employees with specialized skills, who may not want, or be able, to relocate for personal reasons;
- Achieving agency real estate and other business cost reductions;
- Reduction of costs associated with filling vacancies when employees/Service Members must relocate to fill the position; and
- Increased employee/Service Member work/life balance, resulting in increased morale. (DAF, 2021, p. 3)

Remote work is a discretionary workplace flexibility (DAF, 2021). The policy gives inclusive details on telework and remote work eligibility, procedures, and expectations. The embedded remote work agreement is comprehensive in showing responsibilities for the agency and remote worker. DAF is the only Military Department within DoD to update their telework policy to include comprehensive details on implementing and approving remote work.

Other Government Agencies

The Department of the Interior has a comprehensive remote work policy (U.S. Department of the Interior [DOI], 2021). This policy only addresses remote work arrangements with agency employees and not telework arrangements. The policy includes all the OPM best practices within the *2021 Guide to Telework and Remote Work in the Federal Government*. As a best practice, the policy requires employees to “waive any rights to moving expenses if directed to return to the regular worksite based on a decline in performance or for misconduct” (DOI, 2021, p. 8).

The GAO collected data during the COVID-19 pandemic from April 2020 to February 2022 from twenty-four federal agencies on their use of telework (U.S. Government Accountability Office [GAO], 2022). The audit revealed that agencies planned to extensively use outreach tools like surveys and focus groups to capture lessons from employees’ pandemic work

experience and expectations for the future work environment. “Based on feedback from these outreach tools, agencies are planning future changes to work arrangements such as flexible work schedules and expanded use of telework and remote work” (GAO, 2022, p.25). GAO’s audit found that “nearly all agencies are also considering developing or expanding remote work policies based on their experiences with telework during the COVID-19 pandemic” (2022, p. 27). During a U.S. Department of Defense Office of Inspector General (2021) audit , many survey respondents said that they would like to work remotely. In addition to potentially offering more flexible work arrangements, GAO (2022) found cases where agencies were actively “assessing how an increase in hybrid and remote work would change their facilities and infrastructure” (p. 32). Based on the agencies’ assessment, they planned to adjust the workspace to match the composition of the new on-site workforce. Generations Y and Z currently make up 32% of the federal workforce, and that number is increasing rapidly. A RAND study found these generations are challenging

the status quo with their unwillingness to accept traditional office arrangements, leading some agencies to consider telework and other flexible workplace practices. Such workforce changes have disrupted long-standing recruiting, hiring, education, and workplace practices and increased the demand for telework policies and processes. (Weinbaum et al., 2018, p. IX)

Work-From-Anywhere (WFA): The Productivity Effects of Geographic Flexibility

Choudhury et al. (2021) studied the United States Patent and Trademark Office (USPTO) to look at how geographic flexibility affects productivity. The study is the first to research productivity effects from an employer perspective. The study used a step analysis by comparing in-office work to telework productivity then telework to remote work productivity. USPTO

employees working remotely had job functions that required independent work without much collaboration, completed two years working at the organization's facility, and spent time working in the organization's local area away from the facility. This phased transition to remote work allowed the researchers to compare productivity. The research found productivity increased by 4.4% as compared to the telework program with no decrease in work quality. The researchers theorized that remote work was an organizational benefit for recruiting and retaining talent and "workers whose motives are triggered by choosing remote work should exert greater effort and exhibit higher productivity when they self-select to transition from a WFH to a WFA regime" (Choudhury et al., 2021, p. 10). Remote work opportunities were rare from January 2012 through December 2013 when Choudhury completed the study. Telework policies provide flexibility but require employees to be close to the office or even present in the organization's office space (Choudhury et al., 2021). The remote work program in USPTO started in January 2012 allowing employees to remote work anywhere in the United States. Employees had to return to the office periodically at their own expense which had a 12 day and/or five trip cap. The agency did not adjust remote employee wages. The reasons employees wanted to remote work included military spouses, families with specialized medical needs, being close to extended family, and lower cost of living. The study did not look at situations where employees needed to collaborate in teams to do their work. The increased coordination could offset higher productivity gains. The study also did not look at impacts on culture.

Best Practices for Promoting Remote Work in Private Industry

According to Hinds and Elliott (2021) 16% of workers want to work remotely full-time while only 12% of workers want to work on-site at the company's facility full-time. Seventy-two percent want to work in a hybrid work environment. De Smet et al. (2021) suggest to

organizational leaders that there is no *finish-line* for the next workplace operating model. They reported from a McKinsey survey that there are disconnects between how leaders and employees see the future work environment. Leaders want employees back in the office while employees want the flexibility they had during the pandemic (De Smet et al., 2021; Gifford, 2022). The effect of looking for a near term finish-line could drive more attrition. Over 50% of companies are either implementing or considering a hybrid work model (Microsoft, 2021, 2022). This is a more complicated working model than a model where all employees either work fully on-site or remote, therefore organizations should learn over an extended period how to preserve their workforce (De Smet et al., 2021; Gratton, 2021). A problem with a hybrid work model includes leaders being able to balance employees working remotely with those working in the office (Gratton, 2022). The challenge for leaders is to be able to balance valuing, rewarding, and communicating without having a two-tier system for on-site and remote workers. De Smet et al. recommends three actions for leaders:

Be clear that fixing the next operating model will take years and is a separate effort from the near-term return to the office,...don't just repeat what the workforce says explicitly, empathize with what they are trying to convey implicitly,... and be sincere about experimenting and learning from the outcomes of your experiments. (2021, pp. 3-4)

Gifford (2022), Gratton (2022), and Hinds and Elliott (2021) also suggest that managers experiment to discover which work model is best for the organization while focusing on work objectives instead of micro-managing inputs. By focusing on objectives, managers and their remote employees will experience better near-term outcomes in a hybrid work environment.

Gratton (2022) found the key factor for remote worker success was having a routine with a proper office set-up in the home. What made a difference for successful remote workers was

having a discrete space within the home with modern office equipment, and rituals like “dressing in work clothes and following a ‘getting ready’ routine as if they were leaving the house” (Gratton, 2022, p. 15A).

Even (2021) found that remote workers often experience social and organizational isolation by missing out on social interaction, negative work-related reaction from co-workers in the office, and being out of the loop with what is going on in the organization. Even’s research finds best practices to avoid the isolation. Four themes from the analysis:

- Employees feel organizational and social isolation when teleworking more than two times a week,
- Telework employees do not feel valued because they are out of sight,
- Telework employees do not feel they belong in the organization, and
- Active and continuous leadership communication using social activities enhance cohesion and togetherness with the organization.

Even (2021) used these themes to develop the following manager recommendations:

- Use video in the collaboration tool or meet in person at least periodically,
- Keep remote worker informed about social activities,
- Encourage knowledge sharing across the entire team whether they are in-person or remote,
- Train leaders to be effective communicators in a hybrid work environment,
- Build relationships based on trust,
- Encourage remote workers to be self-starters and self-advocates, and
- Do fun things in the virtual environment.

“Work has evolved from a place that we go to a set of tasks, goals, and objectives that an employee completes” (Even, 2021, p. 6). The focus on how employees complete work instead of

where is now more important since the pandemic because of the increased use of the hybrid work model across private industry (Even, 2021). Using the above best practices will give leaders and remote workers the tools essential for eliminating organizational and social isolation.

Building and sustaining an organizational culture is another challenge for hybrid work organizations with remote workers (Hinds & Elliott, 2021). A significant risk for organizations using the hybrid work model “is the potential for employees to have different and incompatible understandings of the company culture” (Hinds & Elliott, 2021, p. 3). But, as Salesforce discovered, organizations can use the hybrid work model with remote workers to build a more diverse and inclusive culture (Kochar, 2021). However, developing a balanced culture across the organization will entail leaders fostering an inclusive work environment by changing how and where everyone communicates information. Hinds and Elliott (2021) also suggest that company culture will still depend on getting together periodically in-person to strengthen employee bonds and socialize new employees.

Microsoft (2022) found that organizations have a competitive advantage for knowledge workers if they can create a culture that values flexibility and employee well-being. They also found that leaders must create an environment during hybrid work for cross-team collaboration and idea sharing to drive innovation (Microsoft, 2021). However, creating that flexible culture and team relationships with a remote and hybrid work environment was the biggest challenge for 43% of leaders surveyed (Microsoft, 2022). To overcome this challenge the study suggests leaders consider using promising technologies like metaverse to create an environment where people feel physically together even when they are not. In the future this technology should evolve to enhance collaboration and innovation for the hybrid work teams. This study also found that “millennials and Gen Z are more likely to envision doing some of their work in the

metaverse in the next two years” (Microsoft, 2022, p. 27). Microsoft (2021) found that using moderators and/or facilitators helped remote workers in hybrid meetings overcome the culture and team relationship challenge. The moderator helps the remote workers in a meeting feel equally included as the people physically in the meeting.

Dropbox is another company that developed a remote work strategy during the pandemic (Trueman, 2022). Dropbox conducted research into different working models. They found risk in the hybrid work model. With the hybrid model, Dropbox discovered issues with “inclusion, promotion, career growth, cliques and different norms” (Wired and Dropbox, 2021, p. 2) within teams. The work model evolved into a strategy they refer to as *Virtual First* which means an employee’s primary place of work is remote. Dropbox redesigned their workspace into studios for in-person collaboration (Trueman, 2022). Employees could do independent work at their remote work location. If employees did not want to work from home, they could get a membership pass to co-working space (Wired and Dropbox, 2021). The company plans to bring all teams together once a quarter to build team cohesion and create ideas (Trueman, 2022). They also set up four core collaboration hours where employees are available for meetings and collaboration with teammates. Employees use the other four hours of their eight-hour day to focus on their independent work tasks. To help other companies learn from their experience, Dropbox makes their Virtual First Toolkit available to the public.

Anand and Acharya (2021) found that remote work success depends on having engaged and motivated employees. They define *employee engagement* as “the mental and emotional connection the employees feel toward their place of work which when available results in increased loyalty, and satisfaction thereby leading to a highly productive contribution to the success of the organization” (Anand & Acharya, 2021, p. 120). Effective employer and

employee communication, commitment, trust, and integrity set the foundation for employee engagement (Anand & Acharya, 2021). How well employers engage remote employees is related to their job satisfaction and productivity. New digital platforms play a critical role in improving employee engagement. Remote workers can remain socially connected using digital platforms if they periodically visit the organization's physical office.

Benefits and Barriers of Remote Work to the Organization and Society

A blended workforce (on-site and remote) is mostly a benefit for employee productivity, performance, retention, and commitment. Harker Martin and MacDonnell (2012) studied remote work in 2012 to figure out its impact on these benefits. They found slight positive organizational outcomes from remote work. The outcomes from remote work included increased productivity, improved performance, enhanced retention, and strengthened organizational commitment within the organization. In other words, remote work offers marginal organizational benefits based on these employer assessments. Understanding how employers measure outcomes is important. First, employers often measure productivity by their perceived increase or decrease in work output associated with adopting remote work. Employers measure retention by whether remote work decreases an employee's intent to leave the organization. Employers expect commitment from remote workers due to having a more flexible work arrangement, but they have no objective measure. Finally, performance is an employer's assessment on the quality of a remote worker's job effort. The analysis in 2012 clearly showed no negative relationships between remote work and productivity, retention, organizational commitment, and performance. Similarly, Baruch (2000), Franken et al. (2021), and Lopez (2020) confirmed Harker Martin and MacDonnell's findings that the most predominant advantage of remote work was productivity and performance which resulted from less in-office distractions. In fact, OPM (2018) found that

67% of Federal employees did not want to work from the office to minimize interruptions and distractions and maximize productivity. Additionally, Martinez-Amador (2016) found that employees' work location preference and information and communications technology (ICT) were key factors for increased remote worker productivity levels. Ferreira's research confirmed through literature reviews and surveys that productivity was in the top three advantages for having a remote and hybrid workforce (Ferreira et al., 2021). Major et al. (2008) even estimated a 17% increase in team productivity when implementing remote and hybrid work methods. Choudhury et al. (2021) later estimated employers could realize a 4.4% increase in work output from remote workers. But, that same year, Farooq and Sultana (2021) found that ineffective communication and poor coordination decreased remote employee productivity. Also, contrary to Harker Martin and MacDonnell findings, Caillier (2012) and de Vries et al. (2019) found that remote workers reported lower organizational commitment and work motivation levels. However, organizational leaders at that time did not embrace remote work as a substitute to current work arrangements (Harker Martin & MacDonnell, 2012).

A blended workforce is mostly an organizational barrier for managers (OPM, n.d.-a). Some managers do not like employees working remotely because they have less control, extra coordination responsibility, and challenges with performance management (OPM, n.d.-a; Babapour Chafi et al., 2022). Additionally, Lott and Abendroth (2020) found in their study that 69% of employees did not telework or work remotely because their supervisor felt that presence in the workplace was important. However, 37% of U.S. jobs can be accomplished completely away from the organization's facility, but success depends on managers (Choudhury, 2020; Dingel & Neiman, 2020). Birkinshaw et al. (2021) compiled results from three surveys before and during the COVID pandemic. The surveys showed many managers struggled with virtual

work. Birkinshaw et al. (2021) highlighted in their study “that managers struggled with the transition, with many taking a narrower, more controlling view of their work, with a greater focus on analytical and task-based activities at the expense of people development and relationship management” (p. 21). The evidence from the study suggests managers struggled with their good intentions to prioritize their role in managing people (Birkinshaw et al., 2021). Managers experienced an increased burden leading remote workers. This burden was due to a rise in task and people-based problems without additional support. As a result, managers tended to prioritize solving task-based problems. Ironically though, Martinez-Amador (2016) found that manager support had little impact on remote worker productivity levels.

This is an indication that organizations continue to have a major opportunity to improve productivity of the workers by improving the relationship between managers and full-time remote workers, and this also strengthens the fact that leaders need to learn to adapt to the future workplace and need to develop new skills, behaviors that can enable [leaders] to maintain and increase the positive relationship with employees working remotely, at the same quality level as the relationship with on-site workers. (Martinez-Amador, 2016, p. 223)

PEO Aviation depends on their managers to be skillful in leading a blended workforce (Barrie, 2022). The PEO Aviation AWE policy requires their first level supervisors to decide which employees are permitted to work away from the office.

A blended workforce is a barrier to organizational communication (Kurland & Bailey, 1999; Nyberg et al., 2021). According to Horwitz et al. (2006), communication is a big problem for blended teams. Manko (2021) found that communication with peers and access to the organization’s information resources were critical for remote workers. Communication is critical

to hybrid and remote worker team success and “effective communication promotes attainment of critical mass that enables the results of the distributed-team to exceed the results of the combined members” (Hill II, 2013, p. 98). Also, instead of in-person check-ins, remote workers needed more planned meetings which made communication less spontaneous (Babapour Chafi et al., 2022). Leede and Moll (2016) also found that remote worker isolation resulted in decreased communications with other colleagues in the workplace.

A blended workforce can cause collaboration to be both an organizational benefit and barrier. Federal workers view teamwork as critical to support the agency’s mission (Monroe & Haug, 2021). This view makes effective collaboration necessary for organizational success. Manko (2021) found that collaboration in a small group with blended workers was effective on well-defined tasks. Emergence of more sophisticated information and communication technology contributes to this effective collaboration in small groups. However, large group collaboration with blended workers on complex tasks needed manager support to be effective. Yang et al. (2022) also found during their study of Microsoft that business unit groups with strong relationships collaborated more effectively. However, these smaller business groups collaborated in silos and did not communicate effectively across business units. Yang et al. expects this collaboration pattern to negatively affect productivity and innovation. Effectively collaborating across business groups “is a competitive advantage to successfully engaging in the practice of ‘knowledge transfer,’ in which experiences from one set of people within an organization are transferred to and used by another set of people within that same organization” (Yang, et al., 2022, p. 43). Successful collaboration results in teams or organizations building social capital (Jones & Harris, 2014). Social capital is the professional growth resulting from groups with shared values, understanding, and trust while engaged in collaboration. Trust seems to be the

primary challenge facing remote and hybrid workers and their leaders as they try to build social capital (Elyousfi et al., 2021). To understand *trust*, Elyousfi et al. adopted a “definition of trust as the level of confidence that one individual has in another’s competence and his or her willingness to act in a fair, ethical and predictable manner” (Elyousfi et al., 2021, p. 511).

Marissa Mayer did not see growth in social capital and directed all Yahoo employees back to the office in 2013 because she assessed collaboration challenges were affecting the speed and quality of work and the company no longer had a competitive advantage (Heatherman & O'Rourke, 2014).

A blended workforce is a barrier to organizational culture (Kurland & Bailey, 1999; Nyberg et al., 2021). Leaders often believe that the organization’s workplace is the physical entity needed to establish and sustain their organizational culture (Brower, 2021). Leaders can see this when employees enter the workplace. A remote or hybrid environment cannot duplicate the visual in-person experience. This is a sensible concern because even employees perceive the organizational culture from their physical environment. Nevertheless, leaders should look for the deeper set of implicit values and beliefs that exist within their organizational culture when considering their post COVID-19 work environment. A culture can evolve from a change in the work environment. “Leadership creates changes; if those changes produce success for a group and the leader’s vision and values are adopted, a culture evolves and survives” (Schein, 2010, p. 131). Leadership is key for culture evolution. Leaders building and sustaining an innovative culture is vital for PEO Aviation. The Army’s Innovation Strategy recognizes that culture is an organizational characteristic and indicator of innovation maturity (United States Army, 2017). The most optimized organizational culture encourages collaborative innovation efforts.

A blended workforce is a barrier to team innovation. In 2017 IBM announced plans to merge thousands of employees back into office facilities (Kessler, 2017; Simons, 2017). IBM executives believed that in-person collaboration works best to drive innovation. Creative ideas materialize when teams work close to each other (Kessler, 2017). In fact, “the value of innovation is so strong that it trumps any productivity gain [from remote work]” (Kessler, 2017, “The march back” section). However, since the pandemic, IBM executives now estimate never having more than 60% of their workforce in the office at any given time, but they would not have remote work because of the need to physically meet (Cifuentes, 2022). Visionary leadership is important for innovation (van der Voet & Steijn, 2021). Research by van der Voet and Steijn (2021) reveals “that visionary leadership strengthens internal team cohesion” (p. 1276). Team cohesion is a concept with multiple dimensions. Its main dimensions are task commitment and interpersonal attraction. Additionally, researchers found that team “cohesion is a crucial condition for team innovation” (van der Voet & Steijn, 2021, p. 1279).

A hybrid or remote workforce reduces organizational cost (Collins & Moschler, 2009; Manko, 2021; OPM, n.d.-a; Wright, n.d.; Ferreira et al., 2021; Lister, 2021). Ferreira’s research found through literature reviews and surveys that cost reduction was in the top three advantages for having a remote and hybrid workforce (Ferreira et al., 2021). In fact, Major et al.’s (2008) research revealed that a bottom-line benefit of hybrid and remote work was a potential 35% reduction in an organization’s facility cost.

The percentage of the United States employees remotely working increased from 4.8% to 6.6% between 1997 and 2010 (U.S. Census Bureau, 2013). During this same period, remote work in science, computer, and engineering, professions increased by 69%. The availability of better Wi-Fi, virtual collaboration technology with digital whiteboards via secure internet, and

employees' desire for more work flexibility are creating annual growth in remote and hybrid jobs. Wright estimates that "employers can save over \$11,000 per half-time telecommuter per year" (Wright, n.d., Impact of Telecommuting section). When considering the current remote work population, that is a savings of approximately \$44 billion.

A hybrid and remote workforce improve the organization's ability to recruit and retain talented employees (OPM, n.d.-a). Workplace flexibilities like remote work are important for government agencies because of the 22.5% pay gap with private sector jobs (Friedman, 2022). President Biden confirmed this issue in his correspondence to the Speaker of the House of Representatives where he wrote, "Federal agencies have witnessed growing recruitment and retention challenges with Federal positions experiencing eroded compensation" (Biden, 2022a, para. 5). According to Gartner, employees have more job opportunities when employers do not require relocation, which reduces the time and money to start a new job and increases the probability of accepting the job offer (Human Resources Research Team, 2022). This same study found that 43% of employees seeking a new job wanted more flexibility. This is a 13% increase from 2021. Remote work also allows employees to continue working long after they had intended to retire due to the opportunity to move to their desired retirement location. Remote work also helps organizations hire individuals who cannot work in a traditional environment due to disabilities (Collins & Moschler, 2009). Notably, Major et al. (2008) found that organizations that had remote or hybrid work methods reduced employee turnover by 20%. Hill and Haug (2021) discovered during their study that federal workers view remote and hybrid work as a great benefit for recruitment and retention. Finally, Nyberg et al. (2021) confirmed that organizations that embrace remote and hybrid work methods will more likely attract, retain, and motivate the best talent.

A hybrid or remote workforce is a barrier to organizational efforts to support information security (Collins & Moschler, 2009). Some organizations are now relying on personal devices (BYOD) [Bring Your Own Device], cloud networks and remote access technology, [which requires] employees now operate outside the IT safety net. This can expose private information to bad actors through common scams that are likely to increase in prevalence. (Curran, 2020, p. 11)

Training employees on cyber security is important to minimize security risks while working remotely (Nurse, et al., 2021). The training should address how “to protect privacy, how to protect devices in public spaces, [and] use non-corporate networks” (Nurse, et al., 2021, p. 6). Additionally, training should focus on approved file transfer options and access to company resources.

Society benefits from a decrease in traffic congestion, accidents, air pollution, and energy consumption when organizations allow hybrid and remote work (Babapour Chafi et al., 2022; Kurland & Bailey, 1999; OPM, n.d.-a; Lister, 2021). The U.S. Census Bureau found average commute times through their surveys is 26.9 minutes in the United States and 19.3 minutes in the Huntsville, AL area (U.S. Census Bureau, 2022). Remote workers make up 7.3% of the employees in the United States and 6.7% of the employees in the Huntsville, AL area. Hybrid and remote work are also increasing ten times quicker than the growth in the labor force itself over the last decade which makes this societal benefit larger every year (Wright, n.d.).

Remote work will reduce time spent on the road and dependence on fuel which means less automobile-created air pollution and traffic congestion (OPM, n.d.-a). This reduced time on the road will mean fewer vehicles on the road and could reduce the number of road expansion projects (Collins & Moschler, 2009). According to the Environmental Protection Agency (EPA),

transportation activities created 27% of greenhouse gas in the United States. Light-duty vehicles generated the largest amount of greenhouse gas emission within transportation activities accounting for 57.1% (U.S. Environmental Protection Agency [EPA], 2022).

From 1990 to 2020, total transportation emissions from fossil fuel combustion increased by approximately 4.8 percent. From 1990 to 2019, emissions increased by 20.9 percent, followed by a decline of 13.3 percent from 2019 to 2020. The increase in transportation emissions from 1990 to 2019 was due, in large part, to increased demand for travel. (EPA, 2022, p. 2-35)

The literature does not reveal any agreement on the value of remote versus on-site work or blended teams with no remote work. Effective remote work depends on four simultaneous factors (Baruch, 2000):

- The available technology and job characteristics,
- If the organization has leaders and managers who support a culture with trust for remote workers,
- The available working space and supportive relationships at home, and
- The individual's fit for remote work.

Summary

The five themes included in the literature review are definitions, government policies, DoD best practices, private industry best practices, and organizational and societal benefits and barriers. The literature review includes books, journal articles, web-site articles, policies, memorandums, surveys, and other research studies on flexible work within private industry and the federal government. The first theme includes sources on critical terms and why they are important in the study. The terms are remote work, telework, eligibility, hybrid workplace,

collaboration, innovation, organizational culture, and knowledge worker. The second theme includes sources on significant U.S. Government flexible work policies. The review includes Congressional legislation; OPM policies, reports, and guides; and DoD, Army, and PEO Aviation policies. The third theme includes sources of best practices for promoting remote work in the Federal Government. This theme includes reviews of reports, surveys, websites, and guides from OPM, DAF, and other government agencies including the DOI and GAO. The fourth theme includes sources of best practices for promoting remote work in private industry. This theme includes examples of companies who implemented remote work and actions they took to overcome challenges. The fifth theme includes sources which reveal organizational and societal benefits and barriers. The review of sources within these themes are the foundation for the Chapter 4 analysis and Chapter 5 conclusions and recommendations.

Research Methodology

Statement of Purpose

The purpose of this qualitative study is to explore the benefits and barriers of implementing remote work within PEO Aviation.

Research Question

1. What are the best practices for remote work in the U.S. federal government?
2. What are the best practices for remote work in private industry?
3. What are the societal and organizational benefits and barriers of having remote work in an organization with knowledge workers?

Research Methodology

The author used a qualitative research method to conduct a systematic literature review on Remote Work/Telework/Hybrid/WFH (Work From Home)/WFA (Work From Anywhere) in the private sector, the federal government, DoD, and the U.S. Army. The literature review resulted in extensive data collection. This literature review generated more inquiries about past research and data to address the research questions beyond the initial search results. The author emphasized search strategies on remote work best practices, benefits, and barriers. In this qualitative research, the questions serve to improve remote work knowledge by allowing the author to “interpret the meaning of the information, draw on personal reflections and past research. The final structure of the report is flexible and displays the researcher’s biases and thoughts” (Creswell & Guetterman, 2019, p. 627).

The author found publications during the literature review using Boolean searches within the Defense Acquisition University and Lawrence Tech libraries, Google Scholar, and U.S. Government internet websites. The literature review used key terms from the research questions

and key aspects of a knowledge organization. The author identified published information using an advanced search between 1999 and 2022 for peer reviewed journal articles, surveys, U.S. Government documents and web-sites with the term remote or “work from home” or telework or “future of work” or hybrid or virtual or distributed or “work from anywhere” and “best practice*” or position* or collaboration or team* or job* or engage* or innovat* or work* or policy or limitation* or benefit* or failure*. The search found 61,513 total results/2,278 peer review results/571 with other filters in keywords, title, or abstract. The author used the asterisk (*) symbol as a wildcard to discover differences in the terms (e.g., practice, position, engage, innovate, work, limitation, benefit, and failure). To ensure applicability, the author restricted the search to publications categories of ‘economics,’ management,’ and ‘business.’ The author used this process to find 143 articles, books, and websites.

The literature research began with an understanding of the various telework and remote work environments and trends. The author analyzed key definitions to inform context to remote and hybrid work best practices, benefits, and barriers for PEO Aviation. The research then led to finding best practices in the federal government and industry. Lastly, the research ended by identifying the benefits and barriers to remote work.

Limitations

The author did not interview any PEO Aviation leaders or workforce members within that organization. All research data is from sources published in the public domain or from the PEO Aviation intranet. The author concentrated the research on the merits of a remote work policy within PEO Aviation and did not research other flexible workplace strategies or other organizations. This study will only review benefits and barriers for the organization and society.

The study will not review the benefits and barriers for the individual employee because those will vary based on individual perspectives.

Summary

This research is qualitative. Research findings are in the next chapter. This chapter describes the research method. The author did not interview any PEO Aviation leaders or workforce members within the organization. All research data is from 97 sources published in the public domain or from the PEO Aviation intranet. The sources include 40 peer-reviewed articles and reports; 31 government reports, policies, and websites; three books; and 23 non-peer reviewed reports, articles, and websites. These sources provide information on the feasibility of a remote work policy within PEO Aviation and does not research other flexible workplace strategies or organizations. Remote work arrangements are often part of hybrid workplace policies. Therefore, much of the research includes reviewing remote work within a hybrid work arrangement. This research also reviewed sources on remote work best practices and the benefits and barriers for the organization and society.

Findings

“The task of leadership is to create an alignment of strengths in ways that make the systems’ weaknesses irrelevant.” (Drucker, 2011)

Introduction

This chapter presents analysis from the information and data collected during the Chapter 2 literature review. The author frames the analysis and findings by restating the study research purpose and questions. Next, the author reviews the post COVID-19 pandemic remote work environment and identifies the top benefits and barriers of remote work. Finally, the author summarizes the remote work best practices that further enhance benefits or help overcome barriers. The conclusion provides a summary of the findings from this chapter. During the literature review, research predicts that many organizations will adopt a hybrid future work environment within private industry and the federal government (Microsoft, 2021; OPM, 2021b). However, the research shows mixed results for including remote work in future work environments. This is even clearer within the federal government where fewer than 2% of federal jobs advertised on USAJOBS.gov are remote.

Statement of Purpose

The purpose of this qualitative study is to explore the benefits and barriers of implementing remote work within PEO Aviation.

Research Questions

1. What are the best practices for remote work in the U.S. federal government?
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Remote Work Environment

The laws, policies, and leaders from Congress, OPM, and DoD support hybrid and remote work methods (Telework Enhancement Act, 2010; OPM, 2021a; USD(P&R), 2012). Congressional leaders and the President established the Telework Enhancement Act of 2010 (2010) to encourage federal agencies to expand opportunities for federal employees to take part in telework and remote work. However, that Act has no provisions that legally entitle employees to telework or remote work. Agency heads make the decision to allow their organizations to implement work environment flexibilities through agency policy (OPM, 2021a). However, OPM's guidance encourages organizations to study increasing remote work opportunities for eligible positions (OPM, 2021a). The federal government also recently added a filter for remote jobs on USAJOBS.gov to increase visibility on remote job opportunities as part of the President's Management Agenda (GSA, 2022).

Knowledge worker recruitment and retention are vital to execute PEO Aviation's complex mission (Barrie, 2021; PEO Aviation, 2021). Leadership gaining more understanding on best practices, and organizational and societal benefits and barriers, will help PEO Aviation retain and expand talent. Over the last decade, but specifically since the COVID-19 pandemic materialized, the way employees think, live, and create changes their view of the future work environment (Choudhury et al., 2021). From 2014 until the start of the COVID-19 pandemic, 21% of federal employees and 43% of eligible federal employees took part in telework (Lopez, 2020). Few PEO Aviation employees took part in telework during that period and none worked outside the local commuting area.

“One thing is clear: We’re not the same people that went home to work in early 2020” (Microsoft, 2022, p. 2). Most knowledge workers now value work flexibility. Hinds and Elliott (2021) reported that “16% want to be fully remote, only 12% want to return to working in the office five days a week. A clear majority of 72% want the option of working within a hybrid remote-office model” (p. 3). Microsoft’s work trend analysis (2021, 2022) shows the future with a hybrid workplace. Success of a hybrid workplace with or without remote workers will depend heavily on leader involvement because the hybrid work model is more complex than either full on-site or full-remote models (Yoost & Miyashiro, 2022).

The OPM Federal Work Life Survey (2018) found that more than 72% of “respondents indicated their use of work schedule flexibilities and participation in telework improved their performance, morale, and increased their intent to stay at their current agency” (p. 9). While many organizations find value in establishing a hybrid work environment to address employee feedback, they are still debating whether to include remote work in their flexible work strategies.

As the work environment in the federal government and private industry evolves, remote work is a strategic management tool which “...can improve employee performance and engagement, and maximize organizational mission productivity, efficiency, and government stewardship” (OPM, 2021a, p. 72). The 2022 Gartner New Talent Landscape and Career Pathing Survey found that attracting and retaining talent is more challenging now because employees have many more opportunities with the increase in remote work jobs (Human Resources Research Team, 2022). Thirty one percent of CEOs estimate that attracting and retaining talented knowledge workers will be a key challenge in 2023. Employees no longer must move. For PEO Aviation, this means they must attract and retain talent within a much broader labor market than

North Alabama because individuals have more choices in employers when location is no longer a limiting factor.

Employers need knowledge workers serving on teams to generate innovative outputs (Moll & Leede, 2016). In fact, an organization's competitive advantage comes from the innovation generated from their knowledge workers (Ware & Grantham, 2003). The right work environment built on teamwork, trust, collaboration and organizational culture will set conditions for innovation and employee wellbeing (Barry & Wigert, 2021). The output from the innovation and employee wellbeing is organizational productivity, retention, and recruitment. Leaders who can create the work environment where the inputs can drive the best outputs will be the most productive (Drucker, 2002b).

Innovation is important for organizational and knowledge worker success (Moll & Leede, 2016). In fact, innovation is a key determinant of organizational success. Innovation "has to be part of the work, the task and the responsibility of the knowledge workers" (Drucker, 1999, p. 84) and is crucial in knowledge-based organizations (Moll & Leede, 2016). The United States Army also published the *Army Innovation Strategy* to create a structure for innovation (2017). This strategy emphasizes the criticality of a culture that recognizes and cultivates the role of innovation itself. A great idea is nothing without knowledge workers using innovation to turn those ideas into something that creates value. The Army recognizes that rewards and recognition, professional development, recruitment and retention, policy and processes, and performance management drive innovation. This research shows that remote working has the potential to influence innovative behaviors positively and negatively (Anthony et al., 2021).

The research from Anthony et al. (2021) highlighted that innovation success traces back to collaborative behavior. This behavior along with a great culture encourages innovation.

Literature on innovation exposes unique ideas “come at the intersections where different mindsets and skills collide” (Anthony et al., 2021, p. 64). Great innovators understand that collaboration with multi-function team members generates the most innovative results (Anthony et al., 2021). Very few jobs in PEO Aviation exist in a silo. That is why the benefits of team collaboration are so important to the employees and the organization (Barry & Wigert, 2021). “Collaborating at work allows teams to capitalize on the strengths and contributions of each person in a way that results in better performance or higher levels of productivity than is possible from the sum of individual efforts” (Barry & Wigert, 2021, Collaboration section). Yang et al. found that anything with a negative impact on collaboration and communication will negatively impact productivity and innovation (2022).

PEO Aviation implemented a 100% telework environment in March 2020 just after the arrival of the COVID-19 pandemic. Over the next two years PEO Aviation implemented the AWE which has close characteristics to a hybrid work environment (Barrie, 2022). Collaboration in this hybrid environment includes all workforce members taking part on-site at a physical work location, all virtual, and a mix of on-site and virtual. PEO Aviation has adopted an AWE policy that encourages in-person collaboration and distributed work environments (Barrie, 2022). The AWE policy and the PEO Aviation telework policy encourage using work environment flexibilities, but those policies do not specifically address remote work and defer many work flexibilities to first-line supervisors.

“PEO Aviation (2021) is responsible for essential materiel development and delivery of aviation capability for the Army Aviation enterprise and combatant commanders worldwide” (p. 2). PEO Aviation (2021) depends on the expertise and passion from its workforce to design, develop, deliver, and sustain state-of-the art “weapons systems, components, and capabilities that

allow the Army to retain overmatch against near-peer adversaries” (p. 16). PEO Aviation executes its mission successfully by recruiting and retaining this workforce. Understanding the future work environment and how flexibilities serve the organization’s mission will enable PEO Aviation to compete for and retain the right talent.

Top Benefits Impacting Remote Work Arrangements

As shown in Table 1, many studies from the literature review consistently show five organizational and societal benefits as having positive impact on remote and hybrid work methods. This study does not segregate the benefits of remote and hybrid work. The key difference of a hybrid work environment with or without remote workers is the limited opportunities to physically meet for teamwork and social activities (Anand & Acharya, 2021; Microsoft, 2021; OPM, n.d.-b). The sources in Table 1 support the idea that the benefits are better when including remote work within a hybrid work model.

Table 1*Top Organizational and Societal Benefits when Implementing Remote Work as a Workplace Flexibility*

Top benefits from remote work:	Positive sources:
Increase in individual productivity	Baruch (2000), Brittiny & MacDonnell (2012), Caillier (2012), Choudhury (2020), Choudhury et al. (2021), Ferreira et al. (2021), Franken et al. (2021), Kurland & Bailey (1999), Lister (2021), Lopez (2020), Major (2008), Martinez-Amador (2016), OPM (2018), OPM (2021b), OPM (n.d.-a)
Cost savings to the government	Caillier (2012), Collins & Moschler (2009), Ferreira et al. (2021), Kurland & Bailey (1999), Lister (2021), Major (2008), Manko (2021), OPM (n.d.-a), Wright (n.d.)
Recruit and retain workforce	Brittiny & MacDonnell (2012), Caillier (2012), Choudhury (2020), Choudhury et al. (2021), Collins & Moschler (2009), EEOC (2003), Even (2021), Hill & Haug (2021), Human Resources Research Team (2022), Kurland & Bailey (1999), Lister (2021), Major (2008), Microsoft (2021), Monroe & Haug (2021), Nyberg et al. (2021), OPM (2018), OPM (n.d.-a)
Reduction in air pollution by eliminating commute	Caillier (2012), Babapour Chafi et al. (2022), Choudhury (2020), Collins & Moschler (2009), EPA (2022), Kurland & Bailey (1999), Lister (2021), OPM (n.d.-a), U.S. Census Bureau (2022), Wright (n.d.)
Reduction in traffic congestion and accidents	Caillier (2012), Kurland & Bailey (1999), OPM (n.d.-a), U.S. Census Bureau (2013)

The research shows from the sources in Table 1 that a hybrid workforce with and without remote workers is a benefit for employee productivity. Harker Martin and MacDonnell (2012) studied remote work in 2012 to understand its impact on productivity and three other benefits. They found remote work has a positive relationship to organizational outcomes. The outcomes from remote work included increased productivity along with enhanced retention, strengthened organizational commitment, and improved performance within the organization. The analysis in 2012 clearly showed no negative relationships between remote work and productivity. Similarly, Baruch (2000), Franken et al. (2021), and Lopez (2020) confirmed Harker Martin and MacDonnell's findings that the most predominant advantage of remote work was productivity along with performance which resulted from fewer in-office distractions. In fact, OPM (2018) found that 67% of federal employees wanted to work away from the office to minimize

interruptions and distractions and maximize productivity. Additionally, Martinez-Amador (2016) found that employees' work location preference and ICT were also key factors for increased remote worker productivity levels. Ferreira's research confirmed through literature reviews and surveys that productivity was in the top three advantages for having a remote and hybrid workforce (Ferreira et al., 2021). Major et al. (2008) even estimated a 17% increase in team productivity when implementing remote and hybrid work methods. Choudhury et al. (2021) later estimated that employers could realize a 4.4% increase in work output from remote workers. Kurland and Bailey (1999) and Lister (2021) showed that employees working remotely were absent from work less which could realistically result in three days of additional annual productivity.

Some studies, however, found that remote work did not increase productivity. Farooq and Sultana (2021) found that ineffective communication and poor coordination decreased remote employee productivity. Also, contrary to the Harker Martin and MacDonnell findings, Caillier (2012) and de Vries et al. (2019) found that remote workers reported lower organizational commitment and work motivation levels.

The research shows from the sources in Table 1 that a hybrid workforce with and without remote workers is a benefit for reducing organizational cost. Ferreira's research found through literature reviews and surveys that cost reduction was in the top three advantages for having a remote and hybrid workforce (Ferreira et al., 2021). In fact, Major et al.'s (2008) research revealed that a bottom-line benefit of hybrid and remote work was a potential 35% reduction in an organization's facility cost. The percentage of the United States employees remotely working increased from 4.8% to 6.6% between 1997 and 2010 (U.S. Census Bureau, 2013). During this same period, remote work in science, computer, and engineering professions increased by 69%.

The availability of better Wi-Fi, virtual collaboration technology with digital whiteboards via secure internet, and employees' desire for more work flexibility are creating annual growth in remote and hybrid jobs. Lister (2021) estimated that 10% of Americans "were remote before the pandemic" (p. 7), and that number will likely continue growing along with a growing population of hybrid workers who will work at least some time at home. Wright estimates that "employers can save over \$11,000 per half-time telecommuter per year" (Wright, n.d., Impact of Telecommuting section). Lister (2021) cited this same estimate and concluded an \$11M employer financial benefit per 1,000 employees.

The research from the sources in Table 1 shows that a hybrid workforce with and without remote workers is a benefit for recruiting and retaining the workforce. Nyberg et al. (2021) confirmed that organizations that embrace remote and hybrid work methods will more likely attract, retain, and motivate the best talent. Remote work additionally enables organizations to grow diverse teams from an unlimited talent pool. Workplace flexibilities like remote work are also important for government agencies for recruiting because of the 22.5% pay gap with private sector jobs (Friedman, 2022). A Gartner study found that 43% of employees seeking a new job wanted more flexibility (Human Resources Research Team, 2022). This is a 13% increase from 2021. Remote work also helps organizations hire individuals who cannot work in a traditional environment due to disabilities (Collins & Moschler, 2009).

Major et al. (2008) found that organizations that had remote or hybrid work opportunities reduced employee turnover by 20%. Employee turnover can cost the organization between 10% to 213% of salary, time to find a replacement, training, lost productivity, and team disruption (Lister, 2021). "Companies that offer remote work options see 25 percent less turnover than those that don't" (Lister, 2021, p. 16). Hill and Haug (2021) discovered during their study that

federal workers view remote and hybrid work as a great benefit for recruitment and retention. Remote work also allows employees to continue working long after they had intended to retire due to the opportunity to move to their desired retirement location.

The research from the sources in Table 1 shows that a hybrid workforce with and without remote workers is a benefit for reducing air pollution, traffic congestion, and accidents. The U.S. Census Bureau found through their surveys that average commute times are 26.9 minutes in the United States and 19.3 minutes in the Huntsville, AL area (U.S. Census Bureau, 2022). Remote workers make up 7.3% of the employees in the U.S. and 6.7% of the employees in the Huntsville, AL area. In the last decade, hybrid and remote work increased ten times faster than the workforce itself (Wright, n.d.).

Remote work reduces time spent on the road and dependence on fuel which means less automobile created air pollution and traffic congestion (OPM, n.d.-a). This reduced time on the road means less vehicles on the road and creates an opportunity to reduce the number of road expansion projects (Collins & Moschler, 2009). A study on traffic in Japan showed that having remote and hybrid work could reduce congestion somewhere between 6.9% to 10.9% (Manochehri & Pinkerton, 2003). According to the EPA, transportation activities created 27% of greenhouse gas in the United States. Light-duty vehicles generated the largest amount of greenhouse gas emission within transportation activities accounting for 57.1% (EPA, 2022).

From 1990 to 2020, total transportation emissions from fossil fuel combustion increased by approximately 4.8 percent. From 1990 to 2019, emissions increased by 20.9 percent, followed by a decline of 13.3 percent from 2019 to 2020. The increase in transportation emissions from 1990 to 2019 was due, in large part, to increased demand for travel. (EPA, 2022, p. 2-35)

Top Barriers Impacting Remote Work Arrangements

As shown in Table 2 below, studies from the literature review consistently show five organizational barriers for remote work success. This study does not segregate the barriers to remote and hybrid work. The key difference in a hybrid work environment with or without remote workers is the limited opportunities to physically meet for team projects and social activities (Anand & Acharya, 2021; Microsoft, 2021; OPM, n.d.-b). The sources in Table 2 do support that the barriers are a greater challenge when including remote work within a hybrid work model.

Social aspects of work are among the major challenges of remote work, which is why we can expect that the offices of the future will focus more on filling that gap, becoming places for building relationships, creative forms of collaboration, and strengthening a sense of shared purpose and culture. (Babapour Chafi et al., 2022, p. 18)

Table 2

Top Five Organizational Barriers to Implementing Remote Work as a Workplace Flexibility

Top barriers from remote work:	Negative sources:
Managers' resistance of remote and hybrid workers due to competencies and control of performance	Birkinshaw et al. (2021), Babapour Chafi et al. (2022), Choudhury (2020), Dingel & Neiman (2020), Gifford (2022), Gratton (2021), Horwitz et al. (2006), Lott & Abendroth (2020), Kurland & Bailey (1999), Major (2008), Martinez-Amador (2016), Monroe & Haug (2021), OPM (n.d.-a)
More complex team collaboration and communication	Barry & Wigert (2021), Babapour Chafi et al. (2022), Choudhury (2020), Dixon (2019), Elyouski et al. (2021), Franken et al. (2021), Gifford (2022), Heatherman & O'Rourke (2014), Hill II (2013), Horwitz et al. (2006), Jones & Harris (2014), Kurland & Bailey (1999), Leede & Moll (2016), Monroe & Haug (2021), Nyberg et al. (2021), Yang et al. (2022), Yoost & Miyashiro (2022)
Building and sustaining an organization's culture	Barry & Wigert (2021), Brower (2021), Choudhury (2020), Even (2021), Gifford (2022), Hinds & Elliott (2021), Horwitz et al. (2006), Kochar (2021), Kurland & Bailey (1999), Nyberg et al. (2021), Schein (2010), Yoost & Miyashiro (2022)

Team cohesion which includes remote workers feeling like a valued, equal members of the team and negative team relationships (proximity bias)	Barry & Wigert (2021), Even (2021), Franken et al. (2021), Gifford (2022), Gratton (2022), Microsoft (2021, 2022), Monroe & Haug (2021), Trueman (2022), van der Voet & Steijn (2021), Yoost & Miyashiro (2022)
Individual and team innovation	Anthony et al. (2021), Kessler (2017), Microsoft (2021), Simons (2017), van der Voet & Steijn (2021)

The research from the sources in Table 2 shows that manager resistance is a barrier for a hybrid workforce with and without remote workers. Some managers do not like employees working away from the office because they have less control, extra coordination responsibility, and challenges with performance management (OPM, n.d.-a; Babapour Chafi et al., 2022). Additionally, Lott and Abendroth (2020) found in their study that 69% of employees did not work away from the office because their supervisor felt that presence in the workplace was important. However, 37% of U.S. jobs can be accomplished remotely, and managers are the key to making remote work successful (Choudhury, 2020; Dingel & Neiman, 2020). Birkinshaw et al. (2021) compiled results from three surveys before and during the COVID-19 pandemic. The research shows that many managers and leaders struggled with virtual work. Managers experienced an increased burden leading remote workers. This burden was due to an increase in task-based and people-based problems. As a result, managers tended to prioritize solving task-based problems. Ironically though, Martinez-Amador (2016) found the lack of manager support had little impact on remote worker productivity levels. Therefore organizations have an opportunity to further improve productivity by challenging manager resistance when implementing remote work.

The research from the sources in Table 2 show that communication and collaboration are a barrier for a hybrid workforce with and without remote workers. Federal workers view teamwork as critical to support the agency's mission (Monroe & Haug, 2021). This view makes

effective communication and collaboration necessary for organizational success. The author combined communication and collaboration because both include information sharing but in a unique way. Collaboration is two or more individuals actively sharing information that “results in the generation of new knowledge, new options, or new products. Communication, on the other hand, need not be creative; rather, it may simply be the sharing of information that already exists” (Jackson, 2010, p. 316) potentially involving a passive receiver.

According to Horwitz et al. (2006), communication is a big problem for hybrid work teams with and without remote workers. “Communication is critical to distributed-team success, and effective communication promotes attainment of critical mass that enables the results of the distributed-team to exceed the results of the combined members” (Hill II, 2013, p. 98).

Manko (2021) found that collaboration in a small group with hybrid and remote workers was effective on well-defined tasks. Emergence of more sophisticated information and communication technology contributes to this effective collaboration in small groups. However, large group collaboration with blended workers on complex tasks needed manager support to be effective. Yang et al. (2022) also found during their study of Microsoft that business unit groups with strong relationships collaborated more effectively. However, these smaller business groups collaborated in silos and did not communicate effectively across business units. Yang et al. expects this collaboration pattern to negatively affect productivity and innovation. Effectively collaborating across business groups “is a competitive advantage to successfully engaging in the practice of ‘knowledge transfer,’ in which experiences from one set of people within an organization are transferred to and used by another set of people within that same organization” (Yang, et al., 2022, p. 43). Successful collaboration results in teams or organizations building social capital (Jones & Harris, 2014). Marissa Mayer did not see growth in social capital and

directed all Yahoo employees back to the office in 2013 because she assessed that collaboration challenges were affecting the speed and quality of work and the company no longer had a competitive advantage (Heatherman & O'Rourke, 2014).

The research from the sources in Table 2 shows that building and sustaining culture is a barrier for a hybrid workforce with and without remote workers. Leaders often believe that the organization's workplace is the physical entity needed to establish and sustain their organizational culture (Brower, 2021). Leaders can see this when employees enter the actual physical workplace. This presence in the workplace is a unique point and place in time for which there is no direct remote or hybrid equivalent. This is a sensible concern because some employees perceive the organizational culture apart from their physical environment. Nevertheless, leaders should look for the deeper set of implicit values and beliefs that exist within their organizational culture when considering their post COVID-19 work environment. A culture can evolve from a change in the work environment. "Leadership creates changes; if those changes produce success for a group and the leader's vision and values are adopted, a culture evolves and survives" (Schein, 2010, p. 131). Leadership is key for culture evolution. However, the members within an organization also share assumptions about "who they are" which become elements of the organization's culture (Schein, 2010). "Culture is an interconnected set of assumptions, not isolated elements of how groups work" (Schein, 2010, p. 203). These elements of the culture can limit change options for an organization like fostering innovation when implementing remote work (Schein, 2010). In fact, Schein pointed out that even with the desire to change culture, organizations often outrun their ability to make the changes.

Leaders building and sustaining an innovative culture is vital for PEO Aviation (PEO Aviation, 2021). The Army's Innovation Strategy recognizes that culture is an organizational

characteristic and indicator of innovation maturity (United States Army, 2017). The most optimized organizational culture encourages collaborative innovation efforts.

The research from the sources in Table 2 show that achieving team cohesion is a barrier for a hybrid workforce with and without remote workers. Building team cohesion is a challenge because remote workers do not feel like valued, equal members of the team (Barry & Wigert, 2021). Leaders, managers, and on-site co-workers may not include remote workers in important discussions between team members because they are out of sight. The on-site workers could also accidentally forget to include the remote worker in spontaneous engagements. “Leaders and team members must create new ‘virtual first’ norms that ensure remote workers are intentionally brought into key moments of collaboration” (Barry & Wigert, 2021, The challenge section). Even (2021) and de Vries et al. (2019) also found that remote workers experienced social isolation, no sense of belonging, and less organizational commitment which had negative impacts on the organization and realizing team cohesion. Even’s (2021) study showed that remote workers also feared exclusion from important team engagements.

Leaders are essential to helping remote workers overcome these feelings by communicating often and increasing the visibility by promoting the remote workers’ value to the organization (de Vries et al., 2019). Leaders of remote workers also need to develop trusting relationships with their remote workers to offset “greater professional isolation and less organizational commitment” (de Vries et al., 2019, p. 585). Leaders need to take intentional action to connect “remote employees into the fabric of the organization” (Microsoft, 2022, p. 29). Franken et al. (2021) found that when leaders model not working from the office, they better appreciate remote work challenges and legitimize remote work for their entire team. “Before the pandemic the office was considered critical to productivity, the culture, and winning the war for

talent” (Yoost & Miyashiro, 2022, p. 2) That focus is now the work instead of the office. Now leaders need to develop work arrangements “that accentuates rather than depletes productivity” (Gratton, 2022, “The Goal” section). Gifford (2022) found that teams were most productive with managers who focused “on objectives instead of micro-managing inputs” (p. 109).

Remote workers face the real challenge of feeling isolated (Microsoft, 2021). This is because on-site co-workers often do not include or engage remote workers. Microsoft (2022) found that managers and co-workers did not take any actions to include 43% of remote workers in meetings. However, etiquette to ensure remote workers felt included in meetings was foundational within only 27% of companies. Farooq and Sultana (2021) found that ineffective communication and poor coordination decreased remote employee productivity confirmed by the data. Additionally, teamwork, which depends on communication, is essential for knowledge organizations to accomplish their mission (Monroe & Haug, 2021). One solution to better connect remote and in-office workers is to develop office space that meets the needs of those working in the office with those in the digital world.

Communication is important to team effectiveness (Gifford, 2022). Communication influences a team’s shared understanding of their tasks and objectives which impacts effectiveness. In the recent past, remote workers did not have the communication tools to enjoy the same rich interaction that was possible when face-to-face. In the last five years, advances and familiarization with information and communication technology enables a richer platform for communication to help overcome remote work barriers.

The research from the sources in Table 2 shows that team innovation is a barrier for a hybrid workforce with and without remote workers. In 2017 IBM announced plans to merge thousands of employees back into office facilities (Kessler, 2017; Simons, 2017). IBM

executives reported they have a strong “belief that innovation works better when people collaborate in person” (Manko, 2021, p. 120). Creative ideas materialize when teams work close to each other (Kessler, 2017). In fact, “the value of innovation is so strong that it trumps any productivity gain [from remote work]” (Kessler, 2017, “The march back”). However, since the pandemic, IBM executives now estimate never having more than 60% of their workforce in the office at any given time, but they would not adopt remote work because of the need to physically meet (Cifuentes, 2022). However, research confirms that visionary leadership is important for creating the conditions for innovation regardless of the work location (van der Voet & Steijn, 2021). Research by van der Voet and Steijn (2021) revealed that visionary leadership increased team cohesion which is a vital element for team innovation. “The vision of the team leader unites the team members by creating shared understanding which in turn helps the team to innovate” (van der Voet & Steijn, 2021, p. 1288).

Top Remote Work Practices to Enhance Benefits and Overcome Barriers

Organizations can realize the benefits of remote workers on hybrid teams by overcoming the barriers listed in Table 2 (Manochehri & Pinkerton, 2003). Analysis on remote work best practices give valuable information on overcoming barriers as well as enhancing remote work benefits. The literature review showed organizations in the federal government and private industry that adopted practices which they used to enhance benefits and/or mitigate barriers to remote work. Table 3 merges the thirty-nine best practices from the literature review and further categorizes the practices. The author categorized the practices as manager behavior, policy, process, or team/individual behavior based on best judgement. The categories allowed the author to sort practices for further analysis. Next, the author identified the effects of the benefits and barriers when adopting the practices based on best judgement, literature review, experience, and

observation. The benefits are productivity, cost savings, recruitment, and retention, and societal. The societal benefit combined the two benefits of reducing air pollution and traffic congestion and accidents. The barriers are managers, collaboration / communication, culture, team cohesion, and innovation.

Table 3

Remote Work Best Practices with Which Benefits are Enhanced, and Barriers are Mitigated from the Practices

Characterization	Best practices:	Sources:	Best practices impact	
			Benefits enhanced	Barriers mitigated
Manager behavior	Avoid having a two-tier system for on-site and remote workers.	Gratton (2022)	Productivity	Culture, team relationships, & innovation
Manager behavior	Have managers focus on work objectives rather than inputs. Focus on how employees complete work instead of where should be important.	Gifford (2022), Gratton (2022), Hinds & Elliott (2021)	Productivity	Managers, culture, & team cohesion
Manager behavior	Keep remote worker informed about social activities	Even (2021)	Productivity & Recruit and retain	Culture & team cohesion
Manager behavior	Create a culture that values flexibility and employee well-being.	Microsoft (2022)	Productivity & recruit and retain	Culture, team cohesion, & innovation
Manager behavior	Create an environment during hybrid work for cross-team collaboration and idea sharing	Microsoft (2021)	Productivity	Communication / collaboration, culture, & innovation
Policy	Define goals to achieve before adopting remote work.	DAF (2021), OPM (2021a)	Productivity, cost savings, & recruit and retain	All barriers mitigated
Policy	Establish a remote work policy with clear criteria for evaluating whether to approve/disapprove a remote work agreement.	DAF (2021), OPM (2021a)	Recruit and retain	Manager
Policy	Establish a remote work policy and agreement form separate from a telework policy and agreement form.	DAF (2021), OPM (2021a)	Recruit and retain	Manager
Policy	Clearly define work and communication expectations and responsibilities in remote work policy.	DAF (2021), OPM (2021a)	Productivity	Communication / collaboration

Characterization	Best practices:	Sources:	Best practices impact	
			Benefits enhanced	Barriers mitigated
Policy	Address terminating remote work within the remote work agreement.	DAF (2021), OPM (2021a)	Productivity	Communication / collaboration
Policy	Establish a requirement that employees work on-site first for a period to learn about the organization and establish relationships.	OPM (2021a), Choudhury et al. (2021)	Productivity	All barriers mitigated
Policy	Develop remote work training and require employees to successfully complete that training prior to approving a remote work agreement.	OPM (2021a)	Productivity	Communication / collaboration
Policy	Require employees “to waive rights to moving expenses if directed to return to the regular worksite based on a decline in performance or for misconduct” (p. 8).	DOI (2021)	Productivity	Communication / collaboration
Policy	Require employees to return to the office periodically at their own expense which has a 12 day and/or five trip cap.	Choudhury et al. (2021)	Productivity	Communication / collaboration, culture, & team cohesion
Policy	Do not adjust remote employee wages except to locality pay.	Choudhury et al. (2021)	Cost savings	Team cohesion
Policy	Use video in the collaboration tool and meet in person at least periodically.	Even (2021)	Productivity	Communication / collaboration, culture, team cohesion, & innovation
Policy	Develop a strategy of Virtual First which means an employee’s primary place of work is remote.	Wired and Dropbox (2021)	Cost savings & societal	Culture, & team cohesion
Process	Complete a cost and benefit analysis before implementing remote work.	OPM (2021a)	Productivity, cost savings, & societal	None
Process	Assess how remote work affects the dynamics of the work environment like non-remote workers’ resentment.	OPM (2021a)	Productivity	Communication / collaboration, culture, & team cohesion
Process	Establish a process by which employees can make remote work requests.	DAF (2021), OPM (2021a)	Recruit and retain	Communication / collaboration
Process	Train supervisors on how to evaluate remote	Even (2021), OPM (2021a)	Productivity	All barriers mitigated

Characterization	Best practices:	Sources:	Best practices impact	
			Benefits enhanced	Barriers mitigated
	worker performance. Train leaders to be effective communicators in a hybrid work environment.			
Process	Evaluate the success of a remote work program through the FEVS.	OPM (2018)	Productivity	Manager & team cohesion
Process	Use deliberate “planning to measure retention efforts, implement pilot programs, and set and evaluate participation goals” (p. 20)	OPM (2018)	Productivity & recruit and retain	All barriers mitigated
Process	Develop a question-and-answer section to clarify key remote work policy features.	DAF (2021)	Recruit and retain	Communication / collaboration, culture, & team cohesion
Process	Use outreach tools like surveys and focus groups to capture lessons from employees’ pandemic work experience and expectations for the future work environment.	GAO (2022)	Recruit and retain	All barriers mitigated
Process	Assess how an “increase in telework and remote work will affect facilities and infrastructure” (p. 28).	GAO (2022)	Cost savings	Collaboration / communication
Process	Experiment to discover which work model is best for the organization. Be transparent with the workforce on the results of the experiment.	Gifford (2022), Gratton (2022), Hinds & Elliott (2021)	Productivity & recruit and retain	Manager & team cohesion
Process	Bring all teams together once a quarter to build team cohesion and create ideas.	Hinds & Elliott (2021), Trueman (2022)	Productivity & recruit and retain	Communication / collaboration, culture, team cohesion, innovation
Process	Use technologies like metaverse to create an environment where people feel physically together.	Microsoft (2022)	Productivity	Communication / collaboration & innovation
Process	Use of moderators and/or facilitators helped remote workers in hybrid meetings.	Microsoft (2021)	Productivity	Communication / collaboration, culture, team cohesion, & innovation
Process	Redesign workspace into studios for in-person and hybrid collaboration.	Trueman (2022)	Productivity & recruit and retain	Communication / collaboration, culture, team cohesion, & innovation

Characterization	Best practices:	Sources:	Best practices impact	
			Benefits enhanced	Barriers mitigated
Process	Provide membership pass to co-working space.	Wired and Dropbox (2021)	Recruit and retain & societal	Communication / collaboration & team cohesion
Process	Establish four core collaboration hours where employees are available for meetings and collaboration with teammates. Employees use the other four hours to focus on their independent work tasks.	Wired and Dropbox (2021)	Productivity	Communication / collaboration, team cohesion, & innovation
Process	Continue to investigate and implement the emergence of more sophisticated information and communication technology.	Anand & Acharya (2021)	Productivity & recruit and retain	Communication / Collaboration & innovation
Team/Individual behavior	Employees should have a separate space in the home with superior quality office equipment and habits like getting dressed in work clothes and following a routine.	Gratton (2022)	Productivity	Communication / collaboration & innovation
Team/Individual behavior	Encourage knowledge sharing across the entire team whether they are in-person or remote.	Even (2021)	Productivity	Communication / collaboration, culture, team cohesion, & innovation
Team/Individual behavior	Build relationships based on trust.	Even (2021)	Productivity & recruit and retain	Culture, team cohesion, & innovation
Team/Individual behavior	Encourage remote workers to be self-starters and self-advocates.	Even (2021)	Productivity & recruit and retain	Collaboration / communication, culture, team cohesion
Team/Individual behavior	Do fun things in the virtual environment	Even (2021)	Recruit and retain	Culture & team cohesion

The information from Table 3 includes twenty-nine practices or 74% of the practices which enhance productivity and seventeen practices or 43% of the practices which enhance recruitment and retention. Ten practices or 25% of the practices can potentially mitigate managers as a barrier. This holistic and specific research from Franken (2021), Gifford (2022), Gratton (2022), de Vries et al. (2019), and van der Voet & Steijn (2021) emphasizes the importance of managers and leaders for having an effective hybrid work environment with remote workers. Because managers and leaders are so critical in overcoming the other four

barriers, the author assesses that remote work will not be effective without overcoming managers as a barrier.

Table 3 has twenty-six practices or 66% of the practices mitigate communication / collaboration and team cohesion barriers, twenty-three practices or 58% of the practices mitigate culture barriers, and eighteen practices or 46% of the practices mitigate individual or team innovation. Organizations which are considering implementing a hybrid work environment with or without remote workers can expect better organizational outcomes from adopting many of the practices in Table 3.

Summary

This chapter provides findings from the literature review on the most important benefits and barriers for organizations to implement an effective hybrid work environment with remote workers. The author organizes remote work best practices by category and shows which benefits offer enhancement and how to mitigate barriers by adopting the practice. The findings support that organizations can realize benefits of remote workers on hybrid teams by adopting practices to overcome the barriers listed in Table 2 (Manochehri & Pinkerton, 2003). The findings also support what Horwitz et al. concluded in 2006 and van der Voit and Steijn concluded in 2021. They found that the most significant contributing factor for effective hybrid teams with remote workers was visionary leaders and managers. These were the leaders and managers who were supportive of establishing remote work policies and processes while being involved in building and maintaining team cohesion. The second most significant contributing factor was periodically meeting face-to-face to develop relationships and cohesion between team members and managers (Horwitz et al., 2006).

The findings do not reveal any agreement on the value of remote versus on-site work or blended teams with no remote work. Effective remote work depends on four simultaneous factors (Baruch, 2000):

- The available technology and job characteristics,
- If the organization has leaders and managers who support a culture with trust for remote workers,
- The available working space and supportive relationships at home and from co-workers, and
- The individual's fit for remote work.

The next chapter will show the research conclusions, recommendations, and areas for future research. The last chapter will give leaders information to make informed decisions on implementing remote work opportunities.

Conclusions and Recommendations

Introduction

This chapter contains research conclusions and recommendations, suggested future areas for research, and summary. The author derived the conclusions and recommendations from exploring the benefits and barriers of implementing remote work within PEO Aviation. Three research questions help draw out the conclusions and recommendations. The questions are:

1. What are the best practices for remote work in the U.S. federal government?
2. What are the best practices for remote work in private industry?
3. What are the societal and organizational benefits and barriers of having remote work in an organization with knowledge workers?

Conclusions

The research shows that the main contributing factor for successful hybrid teams with remote workers is visionary leaders and managers who are supportive of establishing remote work policies and processes while being involved in building and maintaining team cohesion (Horwitz et al., 2006; van der Voet & Steijn, 2021). The second most significant contributing factor was periodically meeting face-to-face to develop relationships and cohesion between team members and managers (Horwitz et al., 2006).

For knowledge organizations, the visionary leaders should seek to discover what will drive innovation and productivity as a team output. When developing an organization's work environment, there are factors that will improve productivity and innovation. The inputs to drive innovation and productivity are team cohesion, collaboration, and culture. These inputs result in collaborative team capacity and teamwork which further results in talent recruitment and

retention. The combined effects of the inputs and the results give organizations an outcome of innovation and productivity.

Whatever work environment PEO Aviation adopts, it will affect knowledge worker productivity. Mission success for knowledge-based employers depends on having productive teams for knowledge workers to generate innovative processes, products, or people solutions. Knowledge worker productivity will depend on innovation which further depends on team cohesion, collaboration, and organizational culture.

Figure 2 highlights the potential individual, team, and organizational results when PEO Aviation leadership implements AWE along with other workplace flexibilities like remote work. The Chapter 4 findings highlight the importance of leaders and the work environment to the success in recruiting and retaining knowledge workers, organizational productivity, saving organizational costs, decreasing traffic congestion, accidents, air pollution, and energy consumption. The success in saving cost, decreasing traffic congestion, accidents, air pollution, and energy consumption results directly from leaders and managers not requiring their employees to come into the office. The success in recruitment, retention, and productivity results from innovative, committed, and high performing individual employees and teams (Moll & Leede, 2016). These individuals serve effectively on multifunctional teams and are committed to the mission. They are collaborative, high performers who are effective communicators (Anthony et al., 2021). The teams have a culture of trust and respect within and across teams in the organization and with their stakeholders. The teams' success further leads to mission success within PEO Aviation with a culture built on innovation, communication, and collaboration (Moll & Leede, 2016).

Figure 2

Results from Visionary Leaders and Managers when Incorporating Workplace Flexibilities



Recommendations

In researching remote work, the author has four recommendations for PEO Aviation to consider for evolving its AWE policy:

Recommendation 1: Senior leadership should sponsor the development of a remote work policy separate from the telework policy. The policy should include many of the best practices within Chapter 4, Table 3. The one practice leadership should consider establishing is a requirement that employees work on-site first for a period to learn about the organization and establish relationships. Including remote work within the adaptive work environment will allow PEO Aviation to realize many of the benefits in Table 1 and fully overcome barriers with a policy that clearly defines expectations.

Recommendation 2: Senior leaders should work to establish a virtual first culture as part of the AWE policy. A virtual first culture in this case means that all controlled unclassified information (CUI) and below meetings and collaboration sessions have a virtual tie, and those

participating virtually are valued just as much as those participating in person. The virtual first culture will also inform leaders how to arrange employees who work permanently or part-time within the PEO's footprint. The employee seating arrangements should focus on including virtual employees in both synchronous and asynchronous conversations. The virtual first culture is important with AWE regardless of implementing remote work.

Recommendation 3: Senior leaders should establish consistency in AWE regardless of including remote work. They can achieve AWE consistency by training and coaching supervisors on best practices for creating team cohesion, culture, and collaboration. Also, leaders should learn through training how to shape the social aspects of work if remote work is introduced into the AWE model. Babapour Chafi et al. (2022) found that the "social aspects of work are among the major challenges of remote work, which is why we can expect that the offices of the future will focus more on filling that gap, becoming places for building relationships" (p. 18).

Recommendation 4: PEO Aviation should invest in maximizing and making their facilities efficient for in-person and virtual collaboration. They should also invest in continuous upgrades to information and communication technologies especially for the collaboration spaces within the facilities. Additional technology investments could be funded by any operating cost reductions realized from reducing office space square footage.

Areas for Future Research

The author limited this research to the review of existing literature on telework, hybrid work, and remote work. This limitation is significant because of the evolution for the topic since 2020, and the author not including feedback from a large population sample of leaders, supervisors, and knowledge workers within PEO Aviation. The future of work remains unclear

with most research estimating some type of hybrid work environment in the future. However, companies like Tesla have a much different expectation. Elon Musk expects all employees back in the office and has eliminated remote work opportunities (Kolodny, 2022). PEO Aviation leaders would benefit from additional research on how Elon Musk's directives impact knowledge workers' commitment, culture, retention, recruitment, innovation, and productivity especially from those remote workers who relocated to keep their job with Tesla.

One of the remote working best practices for organizations was to have employees work an undetermined amount of time at the organization's facility prior to getting approval to work remotely. The USPTO employees working remotely completed two years working at the organization's facility, then spent time working in the organization's local area away from the facility (Choudhury et al., 2021). PEO Aviation leaders could benefit from additional research on how much time, if any, could help employees eliminate or minimize remote work barriers.

Summary

This chapter provides the author's conclusions from the research, recommendations for PEO Aviation leaders for AWE with or without remote work, and areas for future research to improve hybrid and remote work environments. This research along with the supporting literature predicts that many organizations will adopt a hybrid future work environment within private industry and the federal government. However, the research shows mixed results for including remote work in future work environments. For remote work to be successful, leaders must understand the key barriers that negatively impact innovation and productivity. This research shows that visionary leaders can successfully eliminate remote work barriers by creating the conditions for innovation regardless of the work location (van der Voet & Steijn, 2021).

These visionary leaders set the right conditions for culture, collaboration, and team cohesion which leads to innovation and productivity.

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Appendix A – Glossary of Acronyms

ASAALT	Assistant Secretary of the Army for Acquisition, Logistics, and Technology
AWE	Adaptive Work Environment
COOP	Continuity of Operations
COVID-19.....	Corona Virus Disease 2019
CUI.....	Controlled Unclassified Information
DAF.....	U.S. Department of the Air Force
DAU	Defense Acquisition University
DCMA.....	Defense Contract Management Agency
DCPAS.....	Defense Civilian Personnel Advisory Services
DHRA	Defense Human Resources Activity
DoD.....	Department of Defense
DODIG.....	Department of Defense Office of Inspector General
DOI	U.S. Department of the Interior
EPA	Environmental Protection Agency
FEVS.....	Federal Employee Viewpoint Survey
GAO	Government Accountability Office
GSA.....	General Service Administration
HR.....	Human Resources
IBM.....	International Business Machines
ICT	Information and Communication Technology
NATO	North Atlantic Treaty Organization
OPM.....	U.S. Office of Personnel Management
OPSEC	Operational Security
PEO.....	Program Executive Office
PMA.....	President’s Management Agenda
SSCF	Senior Service College Fellowship
U.S.	United States
USD(P&R).....	Under Secretary of Defense for Personnel and Readiness
USPTO.....	U.S. Patent and Trademark Office
WFA.....	Work-From-Anywhere

WFH.....Work-From-Home

Appendix B – Author Biography

Mr. Jimmy Downs was born and raised in the Mississippi delta where he worked on his family's farm until beginning his military career in October 1986. His basic branch of service was Aviation with a functional area in the Army Acquisition Corps. His assignments while on active duty included: Aero Scout and Attack Platoon Leader, 2-17 Cavalry, 101st Airborne Division, Fort Campbell, KY where he deployed in support of Desert Shield/Storm; Executive Officer and Division Aviation Maintenance Officer, 127th Aviation Support Battalion, 1st Armored Division, Hanau, Germany; Troop Commander, 1-1 Cavalry, 1st Armored Division, Bidingen, Germany where he deployed to Bosnia in support of NATO Operations; Depot Procurement Officer, Red River Army Depot, TX; Comanche Procurement Officer, PEO Aviation, Redstone Arsenal, AL; Chief Close Combat Team for Foreign Military Sales, Defense Contract Management Agency (DCMA) Middle East, Riyadh, Saudi Arabia; Systems Integration Officer for the Comanche Helicopter program, DCMA Boeing Philadelphia, East District; and as Administrative Contracting Officer supporting 4th Infantry Division (Tikrit), DCMA Iraq, International District. Jimmy finished his military career as the Deputy Product Manager for Aviation Rockets and Missiles in the PEO for Missiles and Space.

In December 2007, Mr. Downs retired from the United States Army after 21 years of service. Mr. Downs began his career as an Army civilian in November 2007 serving initially as Deputy for the Kiowa Warrior Product Office, PEO Aviation, located at Redstone Arsenal, AL. In 2012 he assumed the duties of Deputy Project Manager, Armed Scout Helicopter (ASH) Project Office. As a result of the Aviation Restructure Initiative, Mr. Downs lead the dis-establishment of the ASH Project Office. In 2016 he assumed the duties of Deputy Project Manager, Aviation Systems Project Office where he served 10 months as Acting Project

Manager. In 2019 he entered his most recent assignment as Deputy Project Manager, Future Long Range Assault Aircraft Project Office.

Mr. Downs holds a Master of Science Degree in Procurement and Acquisition Management from Florida Institute of Technology and a bachelor's degree in Aerospace Management from Delta State University, Cleveland, MS. He is a Certified Acquisition Corps Member with Advanced certification in Program Management.

Mr. Downs received numerous awards while on active duty including the Legion of Merit, Bronze Star, two Defense Meritorious Service Medals, Three Meritorious Service Medals, two Air Medals and Senior Aviator Badge.