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Mitigating the Loss of Institutional Knowledge: Analyzing Knowledge Risk Management Strategies for the Office of Naval Research's Acquisition Workforce

June 2025

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Department of Defense Management

Naval Postgraduate School

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ABSTRACT

The United States federal workforce is grappling with a significant issue: the gradual loss of institutional knowledge. Over decades, accumulated expertise, practical experience, and historical insights have formed a vital backbone that supports government efficiency, continuity, and adaptability. If this knowledge isn't properly preserved and passed on, we risk undermining the very foundation of government operations. Consequently, it is crucial for government agencies to implement knowledge risk management (KRM) strategies that prioritize not only the retention but also the active transfer of this essential resource.

This capstone investigates the potential risks associated with institutional knowledge loss within the Office of Naval Research's (ONR's) acquisition workforce. A comprehensive literature review, coupled with a survey administered to ONR's acquisition personnel, revealed critical weaknesses in areas such as the current knowledge management system (KMS), offboarding procedures, and the practice of regular knowledge audits. In response, the study puts forth a series of KRM recommendations to bolster these vulnerable areas while also incorporating feedback from the survey – suggesting enhanced informal knowledge-sharing practices and a greater reliance on cutting-edge technologies like artificial intelligence.

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ABOUT THE AUTHOR

Matthew Murray graduated from the University of Maryland University College in 2013 with a degree in Business Administration. After a decade in the private sector, he entered public service as a Contract Specialist with the Office of Naval Research. After graduating from the Naval Postgraduate School in June 2025, he will continue to support the Navy as an ONR Contracting Officer in Arlington, VA. In his free time, Matthew enjoys reading, visiting family, and superhero movies.

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LIST OF ACRONYMS AND ABBREVIATIONS

AI	Artificial Intelligence
DAWIA	Defense Acquisition Workforce Improvement Act
DoD	Department of Defense
DON	Department of the Navy
DOGE	Department of Government Efficiency
DRP	Deferred Resignation Program
FAC-C	Federal Acquisition Certification in Contracting
FAR	Federal Acquisition Regulation
GAO	Government Accountability Office
GS	General Schedule
GSA	General Services Administration
HCA	Head of Contracting Activity
HHS	Department of Health and Human Services
KM	Knowledge Management
KMS	Knowledge Management System
KO	Contracting Officer
KRM	knowledge risk management
NARA	National Archives and Records Administration
NAVAIR	Naval Air Systems Command
NAVSEA	Naval Sea Systems Command
NAVWAR	Naval Information Warfare Systems Command
NRL	Naval Research Laboratory
ONR	Office of Naval Research
R&D	Research and Development
RIFs	Reductions in Force
IT	Information Technology
VERA	Voluntary Early Retirement Authority

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EXECUTIVE SUMMARY

This capstone focuses on bolstering the Office of Naval Research's (ONR) Knowledge Management (KM) practices to safeguard against the erosion of institutional knowledge. The core objective was to directly engage ONR personnel, soliciting their insights to pinpoint crucial areas needing KM improvements. By cultivating a more adaptable and collaborative work environment, the agency can remain agile amidst evolving technological landscapes and shifting workforce dynamics. Ultimately, the research identified specific challenges and opportunities for strategic interventions that could foster more informed decision-making and sustain long-term capabilities. The findings presented here are primarily derived from a comprehensive survey distributed to ONR acquisition employees, designed to capture their perspectives on current KM processes, identify existing obstacles, and gather their suggestions for positive change. The collective feedback from these respondents formed the bedrock for understanding current shortcomings and formulating practical recommendations for the agency.

The survey results yielded several significant observations. Notably, a considerable number of employees expressed a strong and renewed interest in adopting advanced digital tools, particularly those leveraging the power of artificial intelligence (AI), to streamline routine tasks, alleviate administrative burdens, and thereby free up valuable employee time for more strategic and mission-critical responsibilities. Furthermore, the survey highlighted a substantial desire among team members for more informal channels through which to share their practical experiences and day-to-day insights. This suggested a preference for collaborative settings such as peer-led discussions, small-group forums, or even digital storytelling initiatives, complementing more traditional, structured processes. A critical area demanding attention, as identified by the participants, was the need for more robust offboarding procedures and enhanced succession planning strategies. Widespread concerns were voiced regarding the potential loss of vital institutional knowledge when experienced professionals leave the agency, emphasizing the importance of implementing well-defined handover protocols and mentorship programs. Finally, the survey results pointed to a potential weakness in ONR's current practices: the absence of a formal and consistent process for reviewing

how critical information is captured and maintained, which could inadvertently lead to the gradual erosion of valuable organizational knowledge over time. This finding underscores the necessity of establishing regular knowledge audits within the agency.

The implications of these findings suggest that ONR stands at a critical juncture where strategic investments in contemporary technologies would not only streamline operations but also safeguard and preserve the critical institutional knowledge of the acquisition workforce. Moreover, a clear desire exists within the workforce for a more organic and collaborative approach to knowledge sharing, recognizing the significant value inherent in unwritten expertise and practical experience. The identified vulnerabilities in offboarding and succession planning pose a considerable risk to the continuity of institutional memory and long-term operational effectiveness, necessitating a proactive and thoughtful approach to talent and knowledge transfer. Lastly, the lack of systematic knowledge audits implies a potentially reactive stance on information management, risking the gradual loss of valuable organizational intelligence. Taken together, these insights underscore that effective knowledge management at ONR requires a comprehensive strategy that integrates technological modernization, cultivates a cultural shift towards informal collaboration, implements robust talent life cycle management practices, and establishes systematic oversight of organizational knowledge.

Based on these findings, several key actions are recommended to enhance ONR's knowledge management system and overall organizational effectiveness. Firstly, ONR should strategically invest in and integrate digital knowledge management tools into its workflows to better capture and preserve institutional knowledge. Combined with the potential usage of AI tools to help automate routine tasks, track and capture essential insights, and improve overall efficiency, employees would then be free to dedicate more time to higher-priority activities. Secondly, the agency should actively foster the development and utilization of informal knowledge-sharing platforms, such as peer-led discussions and digital storytelling initiatives, to cultivate a more collaborative environment and facilitate the natural exchange of practical insights. Thirdly, it is crucial for ONR to implement more robust offboarding procedures and comprehensive succession planning strategies, including well-defined handover protocols and mentorship programs, to effectively mitigate the loss of institutional knowledge during

personnel transitions. Finally, the establishment of a formal, recurring process for conducting knowledge audits is essential to pinpointing and addressing gaps in how institutional knowledge is captured and maintained. This process could begin with a thorough inventory of critical assets and targeted discussions with experienced personnel. Looking towards the future, further research should delve into the impact of the recent changes to the Federal Acquisition Regulation (FAR) on the recruitment, training, and retention of acquisition professionals, examine the potential effects of current workforce reductions on the preservation of institutional knowledge, evaluate how existing knowledge management systems have influenced the outcomes of past workforce reductions, and investigate potential uses for machine learning research in federal acquisition processes. These future inquiries could provide valuable insights to further refine ONR's strategies for preserving critical institutional knowledge and effectively managing organizational transitions.

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I. INTRODUCTION

The federal workforce is currently confronting a quiet yet severe crisis: the erosion of institutional knowledge. This vital resource, accumulated over decades through experience, expertise, and historical context, serves as the backbone supporting the efficiency, adaptability, and continuity of government functions. Institutional knowledge is more than information; it embodies the collective wisdom required for effective decision-making, problem-solving, and seamless policy implementation (O'Dell & Grayson, 1998). However, this resource is increasingly endangered by demographic shifts, workforce reductions, and ineffective knowledge transfer practices, a phenomenon often described as institutional amnesia (Pollitt, 2000).

The federal acquisition workforce, in particular, faces three interrelated challenges that accelerate the risk of institutional knowledge loss. First, an aging workforce is leading to an increase in retirements. Second, there is an insufficient influx of younger acquisition professionals entering the field, creating gaps in generational succession and widening skills deficits. Third, historic workforce reductions and hiring freezes orchestrated by current presidential initiatives have further strained the acquisition workforce, leaving agencies under resourced and ill-equipped to retain critical expertise. As these challenges converge, federal agencies are left grappling with what has been termed a "brain drain." This loss reverberates across public service delivery, innovation, and policy implementation, jeopardizing the stability and efficacy of government operations.

To address these pressing issues, government agencies must adopt knowledge risk management (KRM) strategies that prioritize the retention and transfer of institutional knowledge. By creating robust systems for capturing, preserving, and sharing expertise, agencies can mitigate the risks associated with workforce attrition and ensure operational resilience. Preserving institutional knowledge not only safeguards the continuity of essential services but also strengthens the government's ability to adapt to future challenges (O'Dell & Grayson, 1998).

Through this capstone, as a warranted Contracting Officer (KO) with the Office of Naval Research (ONR), I examine the potential risk areas of institutional knowledge loss within ONR's acquisition workforce. I also assess implications of the discovered risk areas and propose KRM strategies to reduce knowledge attrition. The final goal is to identify KRM solutions that can be applied not only within ONR but across the entire federal acquisition workforce.

A. RESEARCH QUESTIONS

1. Primary Research Question

- What are the most effective KRM strategies for mitigating the loss of institutional knowledge within ONR's acquisition workforce and how can these strategies be adapted to address retirements, attrition, and workforce reductions?

2. Secondary Research Questions

- How does the current organizational culture within the ONR's acquisition workforce influence knowledge sharing and collaboration and what strategies could enhance these practices to foster a more collaborative environment?
- What strategies could improve offboarding procedures within the Naval research and development R&D acquisition workforce to ensure critical knowledge is retained when employees exit the organization?

B. METHODOLOGY

This capstone employs both qualitative and quantitative research methodologies to identify the most effective strategies for mitigating institutional knowledge loss. The literature review examines existing research on current KRM challenges and evaluates proven strategies for addressing them. Additionally, it provides an analysis of the federal acquisition workforce, including its structure, culture, and other factors that may contribute to knowledge retention risks.

The primary data collection method for this study was a survey that I administered to acquisition personnel at the ONR. This survey was designed to gather insights into knowledge management practices and assess potential areas for improvement.

C. LIMITATIONS AND SCOPE

While many organizations face the risk of losing institutional knowledge, this capstone focuses specifically on the ONR's acquisition workforce. The survey was distributed to all acquisition personnel at ONR; however, since participation was voluntary, and the survey garnered roughly a 38% response rate, the data may not fully capture all of the knowledge risks facing the ONR workforce. The information collected may also be affected by the personalities of the participants, their individual interpretations of the questions, as well as their willingness to divulge any unique knowledge that they hold – also known as "knowledge hiding" (Durst & Zieba, 2019, p. 2-3).

D. ORGANIZATION OF PROJECT

This capstone is organized into six chapters. Chapter I introduces the problem statement behind the research, outlines the primary and secondary research questions, summarizes the research methodology, and frames the scope and limitations of the study. Chapter II provides the pertinent background information, explaining the structure of the federal acquisition workforce, the current state of the federal acquisition workforce and explaining the basic concepts of KRM. Chapter III presents a literature review of current KRM strategies as well as the institutional knowledge risk areas for the federal acquisition workforce. Chapter IV describes the research methodologies and data collection techniques. Chapter V presents both qualitative and quantitative analyses of the survey findings. Finally, Chapter VI summarizes the results, recommends KRM processes and strategies for the ONR acquisition workforce to combat the loss of institutional knowledge, and suggests future research.

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II. BACKGROUND

A. THE FEDERAL ACQUISITION WORKFORCE

According to the U.S. Government Accountability Office (GAO) in 2023, the U.S. federal government spent over $750 billion on contracts, as detailed in Figure 1 (GAO, 2024). The responsibilities of soliciting, awarding, and managing federal contracts fall to federal acquisition personnel, specifically Contract Specialists and Contracting Officers. Contract Specialists and Contracting Officers are positions under the Contracting Series, numbered 1102, of the General Schedule (GS). Typically, these acquisition personnel are referred to as "GS-1102s" or "1102s" – the latter of which is utilized within this capstone.

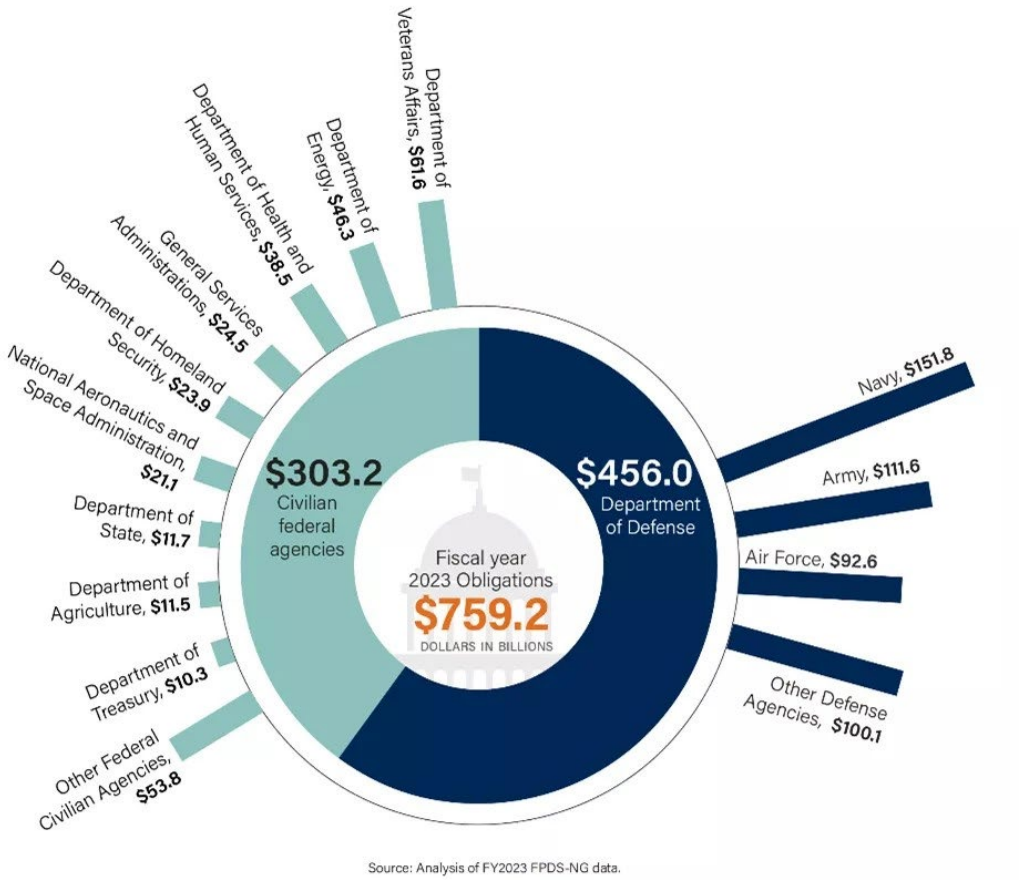

Figure 1. Fiscal Year 2023 Federal Obligations. Source: Government Accountability Office (2024).

The responsibilities of 1102s include soliciting bids, negotiating contracts, awarding agreements, and ensuring adherence to federal acquisition regulations. They are critical in securing essential goods and services for government operations, ranging from defense supplies to technological solutions. Candidates require either a bachelor's degree or at least 24 semester hours in business-related fields, such as, but not limited to, accounting, business, law, contracts, purchasing, economics, or organization and management (Office of Personnel Management [OPM], 2024). Additionally, specialized training in federal acquisition procedures and relevant certifications, such as the Federal Acquisition Certification in Contracting (FAC-C) or the Defense Acquisition Workforce Improvement Act (DAWIA) certification, are often required. The combination of these education and certification requirements aim to equip 1102s with the knowledge and experience needed to manage complex contracting processes effectively and in compliance with federal standards.

B. AN AGING WORKFORCE

The 1102 workforce is grappling with two significant challenges: an aging employee base and a lack of young professionals entering the field. Recent reports highlight that although the number of experienced 1102s is at its highest in a decade, the workforce is stretched thin, with many employees nearing retirement (Miller, 2023). At the 2023 IT Vendor Management Office Summit, Jeff Koses, General Services Administration's (GSA's) senior procurement executive, highlighted a significant age disparity among civilian agency contracting officers. He noted that only 7% of the workforce is under 30 years old and that there were "more than four times as many [1102s] over 60 than those under 30…it was clear we had more employees over 70 than under 25" (Miller, 2023).

The situation is further compounded by the fact that younger generations are less attracted to government service, often seeking roles with more immediate impact and flexibility (Obis, 2024). Consequently, agencies are struggling to fill critical positions, necessitating innovative recruitment strategies and a renewed focus on making government contracting careers more appealing to younger professionals. Discussed in a 2013 *Federal News Network* article by Jack Moore, as experienced professionals exit,

agencies risk losing critical expertise, historical insights, and nuanced understanding of complex regulations, which can hinder decision-making and operational effectiveness.

C. 2025 FEDERAL WORKFORCE REDUCTIONS

This capstone was drafted between March and May of 2025—a time of significant upheaval within the federal workforce. Since entering office in January 2025, President Donald J. Trump has aggressively pursued federal workforce reductions as part of a broader government efficiency initiative. Executive Order 14210, signed in February, mandates that federal agencies "hire no more than one employee for every four who depart," significantly shrinking the size of the federal workforce (White House, 2025). The administration has also implemented large-scale reductions in force (RIFs), leading to layoffs across multiple agencies, including the Department of Health and Human Services (HHS), which has seen a 25% workforce reduction (Katz, 2025).

Additionally, the Department of Government Efficiency (DOGE), led by advisor Elon Musk, has overseen significant layoffs, with projections indicating that federal employment could decrease by 300,000 positions by the end of the year (Devdiscourse, 2025). These reductions have sparked concerns about the long-term viability of federal programs and services, as agencies struggle to maintain operations with diminished staff.

Despite the administration's emphasis on efficiency, the workforce reductions have faced legal and political challenges. Several states have filed lawsuits arguing that the layoffs violate federal law and congressional mandates. Critics argued that the administration's approach prioritized ideological goals over practical governance, leading to disruptions in essential services such as Social Security, veterans' benefits, and food safety inspections (Berger, 2025). The administration maintained that the reductions are necessary to curb government overreach and promote fiscal responsibility.

The Department of Defense (DoD) workforce has not escaped the ongoing workforce reductions. Currently, the two primary methods affecting the DoD are the Deferred Resignation Program (DRP) and Voluntary Early Retirement Authority (VERA). DRP, which allows employees to resign in advance while remaining on paid administrative leave, has faced implementation challenges, including delays in separation

agreements and concerns over legal waivers. VERA has been used to encourage early retirements, offering financial incentives to employees who voluntarily leave before reaching full retirement age. While these strategies have helped the DoD reduce personnel costs, it has also led to gaps in institutional knowledge and expertise, particularly in specialized roles.

D. WHAT IS KNOWLEDGE?

In their book, *Knowledge Management and Risk Strategies,* authors Ishikawa and Naka define knowledge as "that which is lost unless deliberately maintained" (Ishikawa & Naka, 2007, p. 8). They further posit that with this definition of knowledge, there becomes a need for a system in which to maintain and transfer knowledge. This need is the driving force behind KRM.

It is also important to understand the two key types of knowledge –tacit and explicit (Ishikawa & Naka, 2007, p. 5). Tacit knowledge is often personal or circumstantial, which makes it difficult to formalize or share. In the case of 1102s, tacit knowledge would refer to areas such as their negotiation abilities, judgement calls during contract disputes, and their ability to navigate within the sea of federal regulations. On the flip side, explicit knowledge is easily documented and transmitted between individuals. At the federal level, the core explicit knowledge for 1102s is the Federal Acquisition Regulations (FAR) and its supplements, which were "established for the codification and publication of uniform policies and procedures for acquisition by all executive agencies" (FAR 1.1, 2025). This knowledge is reinforced through comprehensive training programs, compliance directives, and structured reporting requirements that govern procurement operations. Additionally, oral communication plays a vital role in preserving and disseminating expertise within the workplace. Mentoring, hands-on training sessions, and informal networks enable experienced professionals to share practical insights that may not be explicitly documented. Collaborative discussions and knowledge-sharing initiatives further enrich institutional understanding, ensuring continuity and adaptability in federal purchasing and contracting practices. Other examples include documented training materials, compliance guidelines, and structured reporting requirements that govern purchasing decisions. This knowledge

is often codified in official manuals, directives, and government policies, ensuring consistency and adherence to legal and ethical standards in federal procurement. Together, tacit and explicit knowledge ensure that contracting officers can perform their duties effectively, leveraging both personal expertise and established documentation to achieve optimal outcomes in federal procurement.

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III. LITERATURE REVIEW

A. INTRODUCTION TO THE LITERATURE REVIEW

Institutional knowledge—the collective expertise, documented procedures, and historical insights that accumulate within an organization—is a cornerstone for the federal acquisition workforce. This body of knowledge helps procurement professionals navigate complex regulations, maintain compliance, and ensure the continuity of contracting operations. Kaplan (2013) emphasizes that preserving institutional knowledge is critical for minimizing risks and sustaining best practices, which in turn supports the smooth functioning of government agencies.

This literature review is organized into seven sections. First, it introduces the importance of institutional knowledge. Next, it outlines the theoretical underpinnings that explain organizational learning. The third section discusses the causes and consequences of knowledge loss, followed by a section on practical retention strategies. The review then evaluates policy and organizational culture factors, presents several case studies with practical applications, and concludes with a discussion of the gaps in current research and directions for future studies.

B. FOUNDATIONS OF INSTITUTIONAL KNOWLEDGE

Understanding how organizations accumulate and sustain knowledge can provide essential insights into preserving expertise within the federal acquisition workforce. Nonaka and Takeuchi's (1995) work on the knowledge-creating company illustrates how tacit and explicit knowledge interact in a continual cycle of conversion. This framework has become a cornerstone in understanding how organizations transform personal insights into processes and codified procedures.

Federal agencies typically capture knowledge through a mix of formal documentation—such as manuals and standard operating procedures—and less tangible methods like mentorship and on-the-job learning. These practices mirror the SECI model (Socialization, Externalization, Combination, and Internalization), as shown in Figure 2, which explains how experiences are shared and formalized over time (Nonaka &

Takeuchi, 1995). This blend of tacit and explicit knowledge is crucial for sustaining operational continuity in a field as complex as federal acquisition.

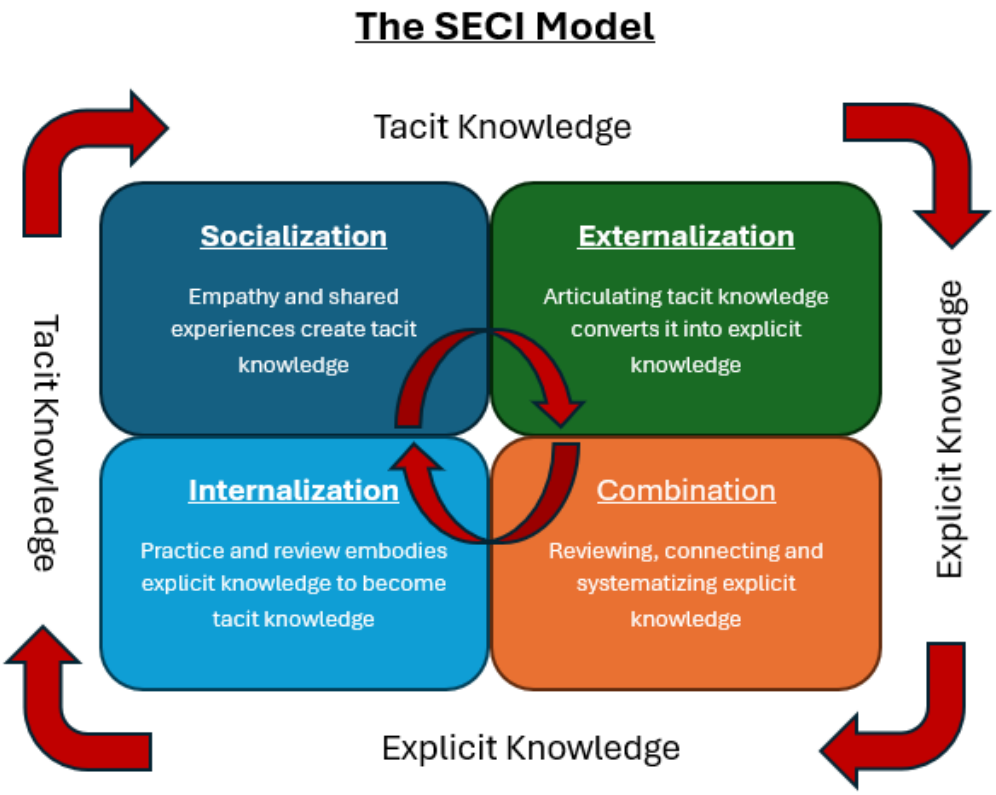

Figure 2. SECI Model. Derived from Nonaka & Takeuchi, 1995.

Kaplan (2013) asserts that institutional knowledge in the federal workforce is both a critical asset and a significant liability when not managed properly. Kaplan explains that when experienced workers retire or transfer, they often take with them a blend of hard-earned, practical know-how and formalized processes. This loss is not just about missing documents—it can lead to inefficiencies in decision-making and slower contract cycles. Unlike in the private sector, where companies may invest more aggressively in long-term knowledge management to protect their competitive edge, federal agencies often contend with budgetary pressures and bureaucratic hurdles that impede effective knowledge capture and sharing.

In Figure 3, Kaplan (2013) offers a visualization of how organizational changes can amplify the risk of losing institutional knowledge. Kaplan maps out a continuum that links the scale of changes—such as retirements, leadership shifts, and evolving regulations—to the extent of knowledge needed for smooth operations. The diagram

shows that as change becomes more pronounced, the demand for well-documented, actionable expertise grows proportionally. In other words, when a federal agency faces significant turnover or policy shifts, it must have systems in place that readily capture and share critical information to ensure decisions remain sound and procurement processes effective.

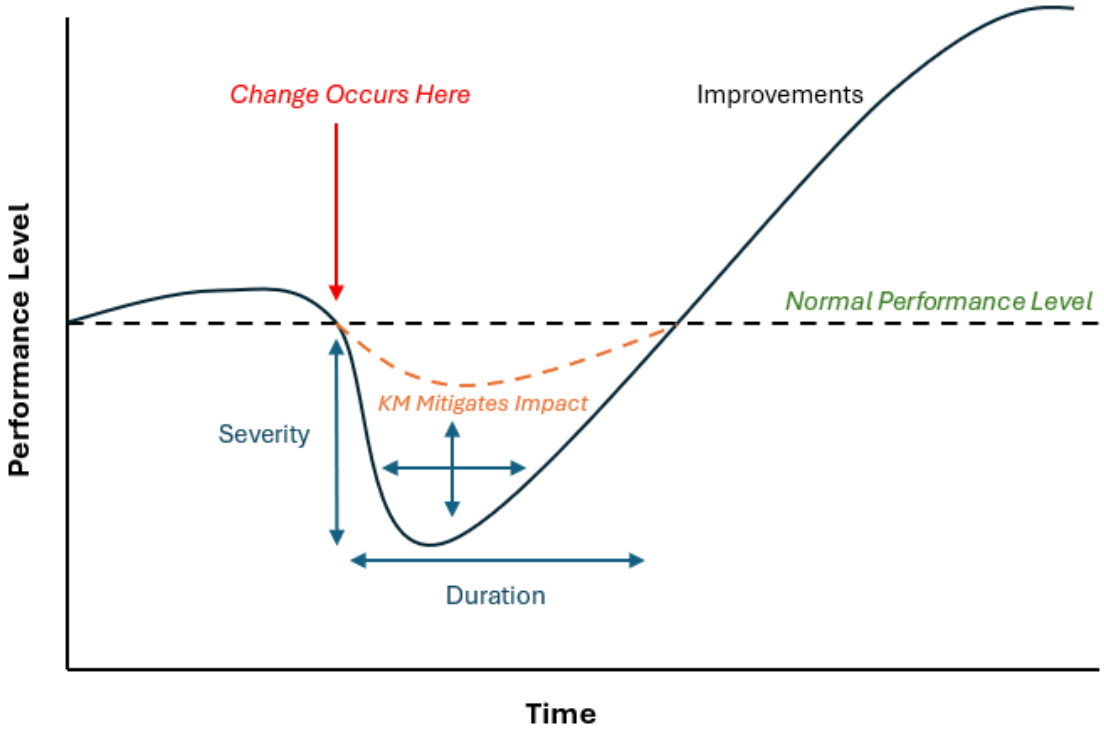

Figure 3. Visualization of KM Effects. Adapted from Kaplan (2013).

Together, these theoretical perspectives underline the importance of designing robust mechanisms for knowledge transfer. Federal agencies can learn from these theories by developing systems that not only document procedures but also nurture the subtler, experiential insights held by veteran employees.

C. CAUSES AND CONSEQUENCES OF KNOWLEDGE LOSS

A key driver of knowledge loss in federal acquisition is the natural process of employee turnover. Over the past few years, federal workforce attrition has emerged as a noteworthy concern, with key trends showing fluctuations in employee departures. For instance, data from the Partnership for Public Service (2024) indicate that attrition rates peaked at 7.6% in fiscal year 2022, when nearly 150,000 federal employees left their

positions due to a mix of retirements and voluntary resignations. Although the attrition rate dropped to around 5.9% in fiscal year 2023, this period of heightened turnover has made it increasingly difficult for agencies to preserve valuable institutional knowledge. Economic pressures, combined with an ongoing wave of retirements among long-serving employees, have amplified this challenge, prompting agencies to rethink their talent retention and succession.

In 2025, the situation has evolved further as widespread workforce reductions have been implemented across numerous federal agencies. Recent reports by FedSmith (2025) and DailyFED (2025) reveal that several agencies have begun large-scale layoffs, instituted extended hiring freezes, and rolled out voluntary separation programs as part of broader budget-cutting and efficiency measures. These actions have resulted in significant reductions—affecting tens of thousands of federal employees—through combinations of forced retirements, RIFs, and deferred resignation programs. Such measures, while aimed at streamlining operations and cutting costs, pose a critical challenge: balancing the need to downsize with the imperative to retain the deep domain expertise that supports effective federal procurement and service delivery (DailyFED, 2025; FedSmith, 2025).

In addition to retirements, federal agencies are challenged by the struggle to attract and retain qualified personnel in an increasingly complex regulatory environment. The complexity of federal procurement regulations itself contributes to knowledge attrition as the FAR has grown considerably in scope, making it a challenge for agencies to fully capture and disseminate its nuances to new employees. This regulatory complexity, combined with lengthy procurement cycles, can overwhelm less experienced staff and exacerbate the loss of critical operational knowledge. Murphy and Bouffard (2017) suggest that structured training and mentoring programs are essential to accelerate the transfer of tacit knowledge to newer employees. Without such proactive measures, the departure of experienced staff can lead to a slow and ineffective transition, which ultimately disrupts procurement cycles.

Effective succession planning also plays a critical role in safeguarding institutional knowledge within federal agencies. By identifying key positions and

preparing successors through robust mentoring, detailed documentation, and structured training programs, organizations can ensure that both formal processes and the nuanced, tacit insights of seasoned employees are preserved (Eide Bailly, 2024). This thoughtful approach helps lessen the disruptive impact of retirements and other workforce transitions, guaranteeing that valuable expertise is not lost in the process. A well-designed succession plan also captures the unwritten rules and cultural subtleties that have been honed over years of service—elements that are crucial for smooth operations (Dennison, 2024). Ultimately, by investing in structured succession planning, agencies not only maintain continuity but also nurture a resilient organizational culture capable of adapting effectively to change.

Outdated technology and inconsistent documentation practices are also to blame as many federal agencies are struggling with outdated technology and uneven documentation practices, which together make it harder to preserve institutional knowledge. Many legacy systems rely on manual processes and fragmented record-keeping, leading to critical gaps in the documentation of procedures and employee experiences. As a result, when experienced staff leave—whether through retirement or job transfers—their unwritten, tacit knowledge is often lost, leaving agencies without vital operational insights (GAO, 2025). Moreover, MeriTalk Research (2025) notes that outdated HR systems interrupt the smooth flow of information, making it difficult for agencies to make quick, informed decisions while also increasing risks of non-compliance. These issues underscore the urgent need for federal agencies to modernize their technology and standardize documentation practices, ensuring that institutional knowledge is successfully captured and retained for the future.

Finally, the absence of standardized, agency-wide knowledge-sharing protocols means that valuable insights often remain localized within individual departments. Without a cohesive framework, each unit develops its own methods for storing and transferring information, leading to fragmentation and duplication of efforts. The impact of these challenges is a marked decline in procurement efficiency, increased compliance risks, and strategic misalignments across the agency.

D. KNOWLEDGE RETENTION STRATEGIES

Io counteract knowledge loss, a variety of strategies have been proposed and implemented in both the public and private sectors. One fundamental approach is the establishment of a knowledge management (KM) framework. According to Ishaan Gupta's 2025 article, *Knowledge Management Frameworks: 6 Types & 5 Models – A Guide*, a knowledge management framework is a systematic process that helps an organization capture, organize, and share its accumulated expertise. It brings together processes, technology, and human practices to ensure that both formally documented information and the practical, everyday insights gained by employees are preserved and easily accessible. Gupta's article emphasizes that with a solid framework in place, organizations can avoid losing valuable lessons due to turnover, support better decision-making, and foster innovation by ensuring that everyone has access to the collective experience, wisdom, and data the group has built over time. In other words, it acts like a well-organized memory bank that keeps the organization's knowledge alive and ready for use when needed.

In Figure 4, Kaplan (2013) presents a streamlined knowledge management framework built on five key elements. It begins by promoting "fast learning" processes that integrate learning into every stage of work, ensuring that new insights are captured continuously. Next, he emphasizes establishing communities of practice around core business functions to facilitate the ongoing sharing and refinement of expertise. A central component is the development of a core knowledge base supported by a clearly defined knowledge architecture aligned with the organization's mission. Alongside these measures, the use of modern technology is crucial for enabling connection, collaboration, and effective knowledge sharing. Finally, Kaplan (2013) stresses the importance of cultivating a culture that embraces change and treats knowledge capture and reuse as vital to business success.

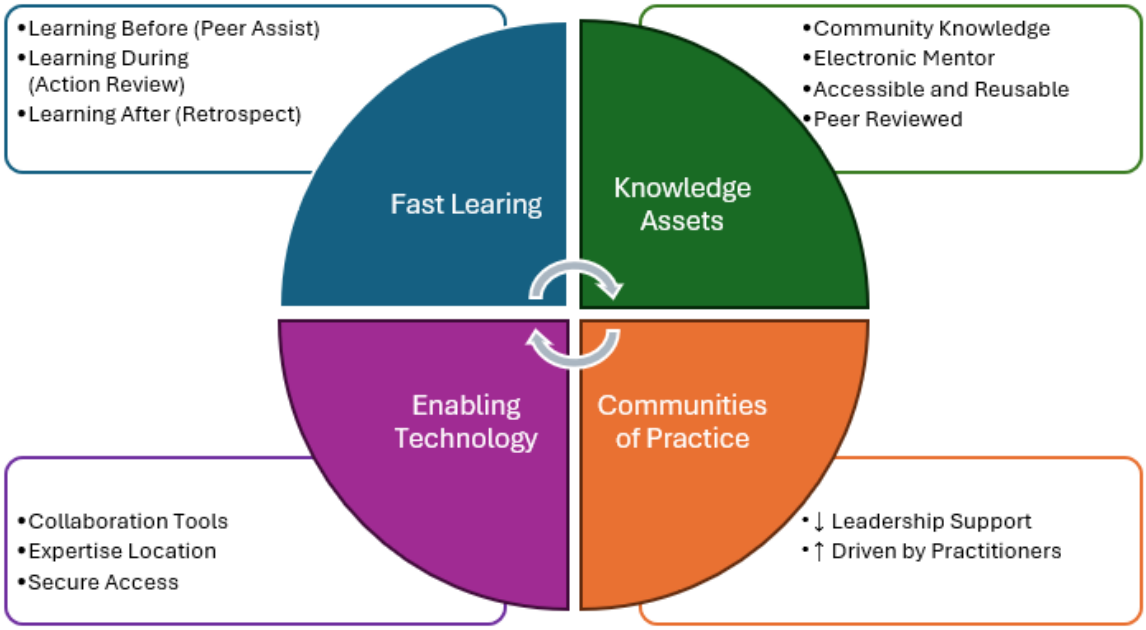

Figure 4. KM Framework. Adapted from Kaplan (2013).

As detailed in a 2025 BloomifAI article, *The Role of AI in Knowledge Retention: Keeping Institutional Wisdom Alive*, another promising strategy involves the use of evolving AI technologies to help retain vital institutional knowledge. The article asserts that many companies are now using AI tools to automatically sift through e-mails, documents, and other records to capture essential insights. The article suggests that these systems make it easier to pull out valuable information and store it in searchable databases, ensuring that the know-how and experience of longtime employees are not lost when staff leave. This practice not only preserves important lessons learned over the years, but also supports innovation and informed decision-making.

Across the federal workforce, agencies are beginning to follow suit. They are implementing AI-driven systems capable of analyzing large volumes of text and other data to automatically extract critical information from multiple sources. In their 2025 article, *Federal AI Infrastructure Requires a Smarter Foundation*, Henderson and Sybert explain that this approach speeds up information retrieval and helps ensure that the nuanced, informal knowledge embedded in day-to-day operations is not lost during workforce transitions. Moreover, these AI systems support a culture of continuous learning by providing up-to-date repositories of best practices and historical insights,

which in turn enhances collaboration and decision-making across departments (Pryon, 2025).

Finally, integrating these strategies in a cohesive framework is essential. Agencies that combine formal documentation, mentoring, and advanced digital tools are better equipped to preserve their institutional memory. When these systems are embedded into the daily workflow, they create a resilient network of shared knowledge that can adapt over time to changing operational needs.

E. POLICY AND ORGANIZATIONAL CULTURE CONSIDERATIONS

Federal policies play a crucial role in shaping how well federal agencies retain institutional knowledge. Many policies require agencies to follow standardized records management procedures during employee onboarding and offboarding. For example, the National Archives and Records Administration (NARA; 2022) emphasizes the need for systematic documentation to ensure that important insights are captured when employees leave. Such policies set clear expectations for recording knowledge, aiming to preserve both the written procedures and the unwritten insights that are built up over time. However, while these regulations help create a consistent approach to knowledge retention, their bureaucratic nature can sometimes limit the flexibility needed for dynamic information sharing.

At the same time, the rigid nature of some federal policies can have unintended consequences. A heavy emphasis on compliance and paperwork can lead to a situation where employees focus more on adhering to formal processes than on sharing their practical, day-to-day experiences with colleagues. This can result in knowledge remaining siloed or confined to static records rather than evolving with ongoing work practices. Kaplan (2013) argues that while well-designed policies are essential, they must also allow room for informal exchanges that capture the nuances of institutional memory. In this way, an overreliance on policy-driven documentation might inadvertently stifle the spontaneous sharing that is critical for maintaining a living, active knowledge base.

Federal organizational culture is another significant factor in how institutional knowledge is preserved within agencies. Many federal workplaces have long-standing

traditions that emphasize strict adherence to established procedures, which can inadvertently discourage the free flow of information. Employees in such environments often work in silos, finding little reward in deviating from formal channels to engage in informal knowledge sharing. This culture can be particularly problematic during periods of transition, such as retirements, where the loss of personal interaction further impedes the transfer of tacit knowledge (Thiel, 2023).

On the other hand, agencies that work to cultivate a more open and collaborative culture tend to fare better in retaining critical insights. When organizational norms encourage mentoring, cross-departmental teamwork, and innovation, knowledge is more likely to be shared and built upon. As Thiel (2023) points out, this type of culture makes it easier for younger employees to learn from their more experienced peers and for valuable institutional lessons to be integrated into everyday operations. In essence, organizational culture that values open communication and flexibility can significantly enhance the retention of institutional knowledge, ensuring that critical insights are not lost during workforce transitions (GAO, 2012; Thiel, 2023).

The Navy's *Get Real, Get Better* initiative, which began in 2022, has also reshaped the culture of learning within the service. By encouraging honest dialogue and self-reflection, the program challenges traditional learning paradigms and has sparked a transformation toward a more agile and collaborative environment. This shift not only supports enhanced performance in day-to-day operations but also plays a crucial role in preserving the Navy's institutional knowledge. By systematically capturing insights from both successes and setbacks, the Navy is better equipped to maintain a repository of lessons learned that inform future training and decision-making processes (Department of the Navy [DON], 2025a.; DON, 2025b).

F. CASE STUDIES AND PRACTICAL APPLICATIONS

Within the federal workforce, OPM has implemented a Learning and Knowledge Sharing Strategy aimed at capturing and disseminating valuable institutional knowledge. This initiative focuses on building communities of practice and deploying interactive platforms that enable employees to share both formal procedural information and everyday insights. By integrating these knowledge-sharing practices into the fabric of

federal operations, OPM attempted to ensure that essential information is available to guide decision-making and smooth transitions during periods of staff turnover (OPM, 2011).

Several state legislatures have also adopted strategies to keep critical institutional knowledge intact. According to the MOST Policy Initiative (2021), these legislatures have implemented robust data management systems and interagency communication channels to document procedures and legislative processes. Such measures ensure that important insights and historical perspectives remain available, enhancing policy making and safeguarding continuity despite frequent changes in staff or elected officials (MOST Policy Initiative, 2021).

The Korea Customs Service stands out as an international example of effective knowledge management in retaining institutional knowledge. The agency put in place a structured framework that organizes important procedures and captures key operational insights. By combining digital repositories with clear, collaborative practices, the Customs Service improved its ability to maintain consistent customs operations and swiftly train new hires, ensuring that the valuable experience and informal know-how of its workforce are retained during transitions (Asian Productivity Organization, 2013).

G. GAPS IN EXISTING RESEARCH

Federal research on mitigating the loss of institutional knowledge in the workforce remains notably incomplete. Many studies have adapted models from the private sector without fully accounting for the unique bureaucratic structures and regulatory constraints inherent in federal agencies. As a result, existing research often falls short in providing tailored insights on how these public organizations can effectively capture and preserve critical knowledge over time (Kaplan, 2013).

One persistent gap in the literature is the lack of quantitative analyses that measure the extent of knowledge loss during employee transitions. While numerous qualitative studies offer interesting case descriptions and anecdotal insights, few have attempted to track these changes longitudinally or provide robust data on the effectiveness of various retention strategies. This dearth of data makes it challenging for

policymakers to gauge the true impact of current practices or to design well-informed interventions (GAO, 2012).

Another significant shortcoming is the limited exploration of the distinction between explicit and tacit knowledge. Federal agencies depend not only on documented procedures but also on the informal, experience-based insights accumulated by long-serving employees. However, most research has concentrated on strategies to codify explicit knowledge, leaving a gap in our understanding of how to systematically capture and transfer the more nuanced tacit knowledge that often drives effective decision-making.

There is also a noticeable deficit of studies examining how emerging digital technologies can bolster institutional knowledge retention. While tools such as artificial intelligence, advanced analytics, and integrated collaboration platforms are increasingly being touted as potential game-changers, detailed guidance on integrating these innovations within the rigid federal framework remains sparse. This oversight leaves federal leaders with few actionable recommendations for harnessing technology to shore up their organizational memory (GAO, 2012).

Moreover, research specifically addressing knowledge retention (or knowledge sharing) within the federal acquisition workforce is particularly limited. Professionals in the acquisition field face distinct challenges—balancing specialized procurement policies, evolving market practices, and the need for business acumen—that require custom-tailored knowledge management strategies. Despite the critical role that acquisition plays in government operations, studies that delve into how to capture and retain the unique institutional knowledge in this domain are rare, highlighting an urgent need for targeted investigation (Werber et al., 2019).

Despite the widespread acknowledgment of the importance of institutional knowledge for effective federal operations, there are still notable gaps in research addressing how organizational culture, government policies, knowledge management systems, and offboarding procedures contribute to its gradual loss. Much of the current literature emphasizes the short-term operational impacts of workforce reductions rather than exploring how these systematic factors combine to erode critical, long-term

expertise across agencies (OPM, 2005; GAO, 2012). This oversight leaves us with an incomplete understanding of the mechanisms behind knowledge retention and transfer within federal organizations. To help bridge this gap, I have administered a survey to a portion of the federal acquisition workforce to capture firsthand insights into these issues, ultimately aiming to develop more effective strategies for preserving and managing institutional knowledge.

IV. DATA COLLECTION AND ANALYSIS METHODOLOGIES

A. SURVEY PARTICIPANTS

To ensure the survey results provided a comprehensive look at ONR's current institutional knowledge risks, I opted to survey ONR's entire acquisition department. The department is organized into four divisions: Acquisition Information Systems; Contracts, Grants, and Acquisition Policy; University Business Affairs; and Contracts and Grants. The Acquisition Information Systems division ensures all existing and future acquisition information technology (IT) systems meet ONR's functional and technical needs. They also look to improve automation, efficiency, and data accuracy/availability for the acquisition department. The Contracts, Grants, and Acquisition Policy division provides support in carrying out the Head of Contracting Activity (HCA) and other Acquisition Executive responsibilities; as well as providing policy support to the other divisions within the acquisition department. They also provide system administration support including user assistance, reporting, and system maintenance. The University Business Affairs division provides post award administration for DoD awards to institutions of higher education and certain non-profit research organizations. The Contracts and Grants division plans and executes awards, and exercises management control over the quality and responsiveness of ONR pre-award and award processes in support of the research and technology programs of ONR.

While the four divisions work in conjunction to carry out ONR's acquisition objectives, each may face unique risks related to the loss of institutional knowledge that do not apply to others. By sending the survey to the entire department, thus ideally receiving a variety of perspectives, the intention was to discover potential institutional knowledge risks to their division, and those that span department-wide.

B. SURVEY QUESTIONS

The survey was created in the Qualtrics XM platform and distributed to ONR's acquisition department using an internal e-mail list. The usage of a government distribution list was approved by ONR leadership as well as the Navy Survey Office. However, the survey was only sent to government personnel—contractors were not

included and government personnel were instructed not to share the survey with them. The text of the initial and follow-up e-mails can be found in Appendix A.

The survey was organized into three focus areas: Employee Attrition & Retention, Culture & Leadership, and Knowledge Management System (AKA "The Bridge"[1]). Each focus area contained a set of statements to be answered using a 5-point Likert scale plus the option to indicate "don't know." The table presented a list of statements about ONR's efforts to retain institutional knowledge in the respective focus area and respondents would rate each statement from 1 (Strongly Disagree) to 5 (Strongly Agree). The sixth option was available in the event that a participant did not have any experience with the presented statement. Following the Likert items in each focus area was an optional freeform text box for respondents to provide recommendations to enhance the retention of institutional knowledge in that area. The survey questions and cover page, containing instructions for respondents, can be found in Appendix B.

The final page of the survey contained two items. First, a single 5-point Likert statement asking if ONR is effective at retaining institutional knowledge. Then an optional text field invited respondents to provide any final recommendations or comments that were not addressed in the previous questions.

C. DATA ANALYSIS PROCESS

After the survey was closed, I exported the collected data for analysis using JMP, a statistical analysis software. Each survey response was linked to a corresponding variable that had been pre-coded in Qualtrics XM prior to the survey's release. Descriptive statistics were calculated, including mean and standard deviation. To identify underlying relations among responses, a factor analysis was conducted for each of the survey's focus areas. Scale reliability was assessed using Cronbach's alpha, a standard measure of internal consistency, and related items were averaged to form scales. Correlation tables were then generated to examine relationships among the variables.

[1] "The Bridge" is the nickname for ONR's internal knowledge management system. The author believed that respondents would provide more accurate responses when provided with the more familiar name rather than the term 'knowledge management system'.

Finally, text responses from optional questions were reviewed and categorized by topic. The findings from these analyses are presented in the next chapter.

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V. SURVEY RESULTS AND DATA ANALYSIS

A. SURVEY TIMEFRAME

The survey was conducted over a two-week period, from April 7, 2025, to April 18, 2025. On April 7, the survey was distributed via e-mail to all 110 members of ONR's acquisition workforce. During the first week, 35 responses were received. A follow-up reminder e-mail was sent on April 15, resulting in an additional seven responses in the second week. In total, the survey collected 42 responses, yielding a response rate of approximately 38.2%.

B. SURVEY RESPONSES

1. Likert Scale Responses (Questions 1, 3, 5, and 7)

Question 1 comprises seven statements related to Focus Area 1: Employee Attrition & Retention, as shown in Figure 5.

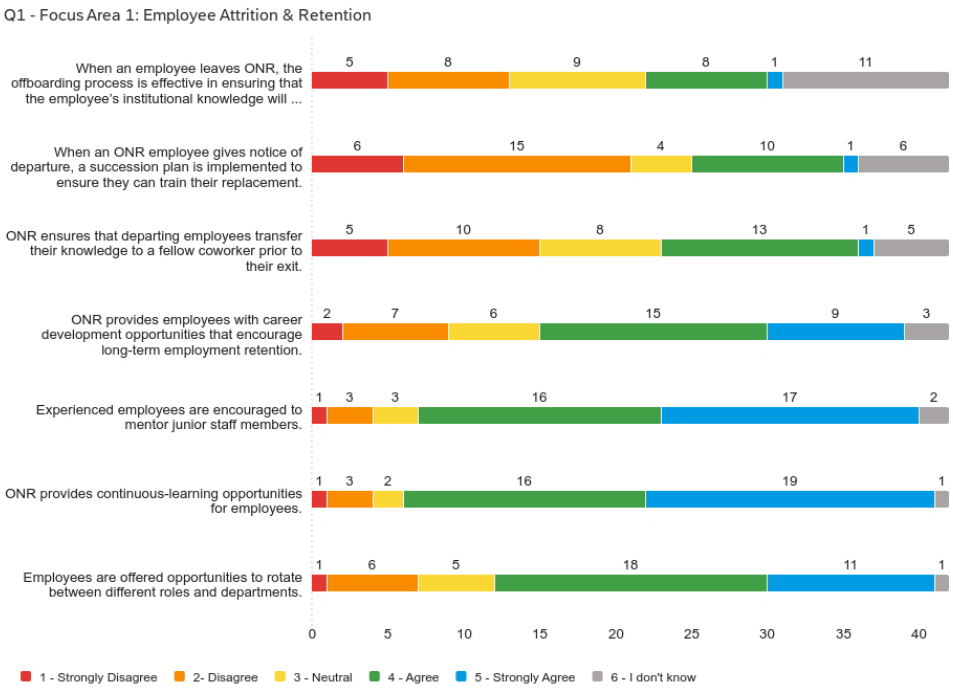


Figure 5. Survey Results: Focus Area 1

The results reveal several noteworthy patterns. Notably, the first three statements received the highest levels of disagreement, with 31%, 50%, and 36% of respondents,

respectively, selecting either “Strongly Disagree” or “Disagree.” These statements focus on knowledge management strategies associated with employee departures at ONR, including offboarding and succession planning, indicating potential areas for improvement.

The remaining four statements appear to form two distinct subgroups. The fifth and sixth statements garnered highly positive responses, with only 10% of respondents selecting “Strongly Disagree” or “Disagree.” In contrast, the fourth and seventh statements exhibited slightly higher disagreement rates at 17% and 21%, respectively. This segmentation is particularly interesting, as all four statements pertain to training and career development opportunities.

Finally, the 26% of respondents selecting “I don’t know” for the first statement is a logical outcome, given that current employees would likely have limited familiarity with ONR’s offboarding process.

Question 3 consists of seven statements related to Focus Area 2: Culture & Leadership, as shown in Figure 6.

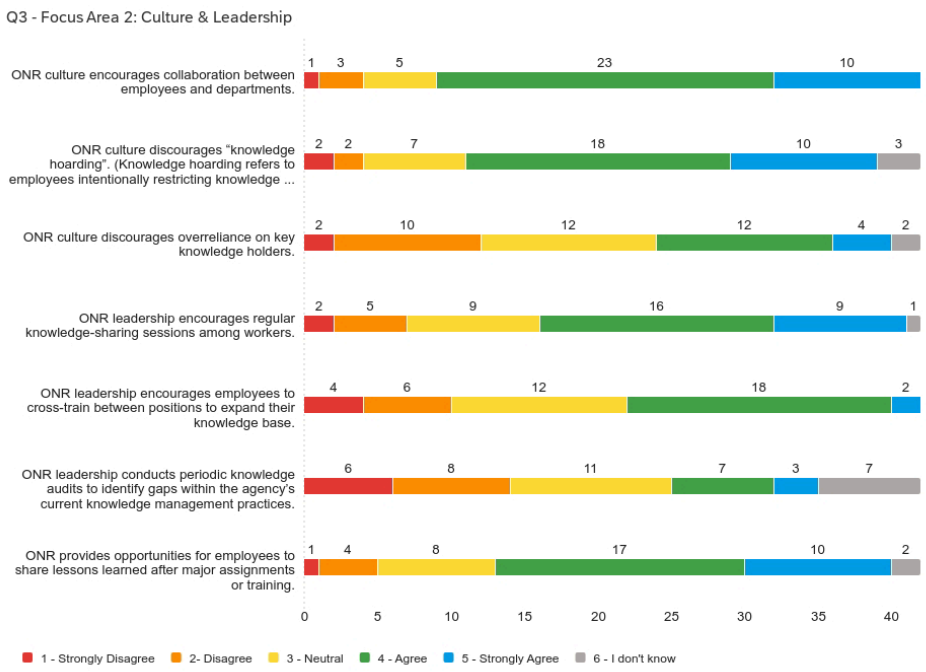


Figure 6. Survey Results: Focus Area 2

The results indicate mixed feedback, with the first two statements, as well as the fourth and seventh, receiving positive responses—79%, 67%, 60%, and 64% of respondents, respectively, selected "Agree" or "Strongly Agree." Conversely, the third, fifth, and sixth questions saw over half of respondents selecting "Neutral," "Disagree," or "Strongly Disagree," highlighting areas that may require further attention and improvement.

Unlike Question 1, no clear subgroups emerge to account for the discrepancies in responses. One particularly notable finding pertains to the sixth statement, which addresses ONR leadership's efforts to identify gaps in the agency's current KM auditing practices. With 17% of respondents having responded "I don't know" and 60% with "Neutral," "Disagree," or "Strongly Disagree," this may indicate that there is either insufficient communication from ONR leadership, a shortfall in the workforce's understanding of current KM auditing practices, or that KM audits are simply not being conducted at ONR. This appears to represent a key area for future improvement.

Question 5 comprises eight statements related to Focus Area 3: Knowledge Management System (also known as "The Bridge"), as shown in Figure 7.

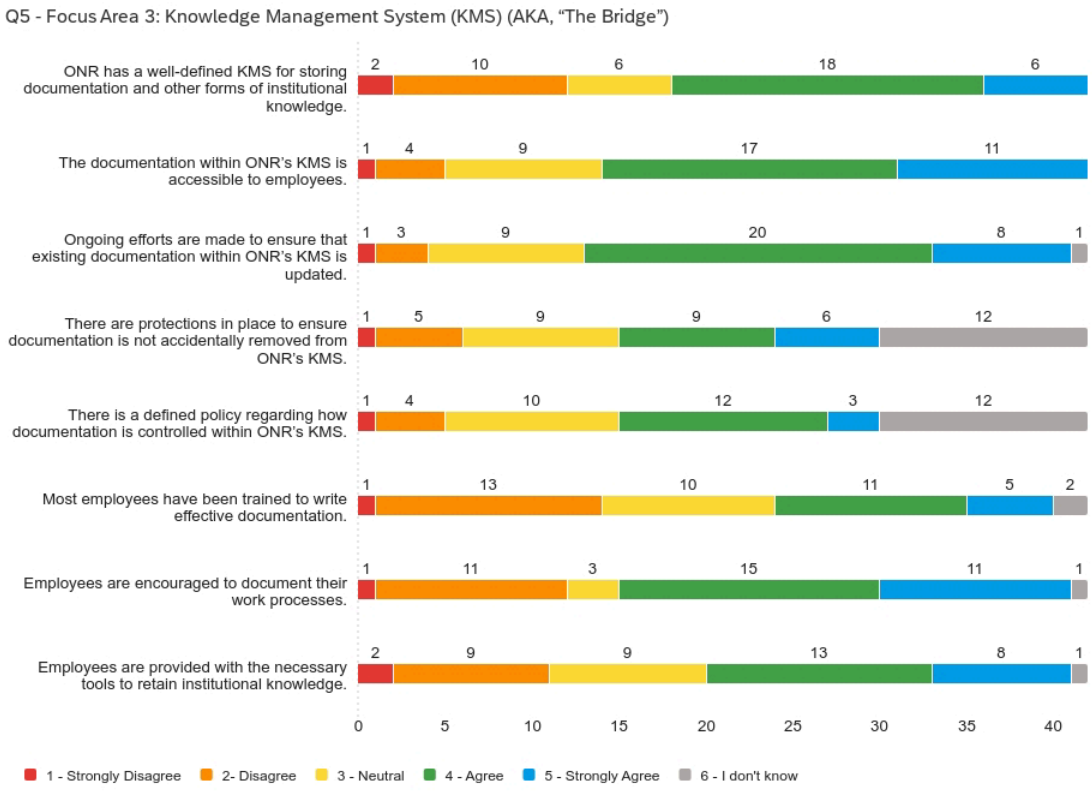


Figure 7. Survey Results: Focus Area 3

The most striking pattern in the responses is that the fourth and fifth statements received an unprecedented level of uncertainty, with 29% of respondents selecting "I don't know." These questions focus on ONR policies and procedures regarding document control and protection, highlighting a need for additional guidance and clarification in these areas.

On the other hand, the second, third, and seventh statements – pertaining to document accessibility, ensuring updates are maintained, and encouraging employees to document their own processes – received favorable responses. Specifically, 67%, 67%, and 62% of respondents, respectively, selected "Agree" or "Strongly Agree," indicating positive engagement with these aspects of the knowledge management system.

The final Likert scale statement, Question 7, asks respondents to provide an overall assessment of ONR's effectiveness in retaining institutional knowledge, as shown in Figure 8.

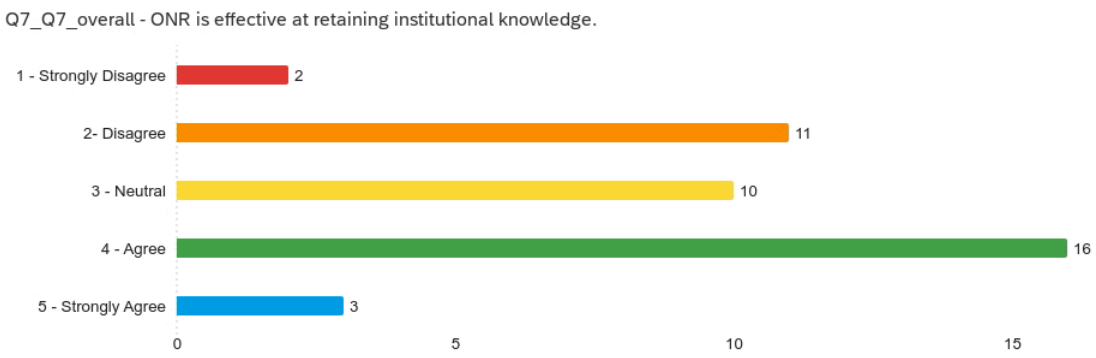


Figure 8. Survey Results: Overall Assessment

With only 45% of respondents selecting "Agree" or "Strongly Agree," the results indicate clear opportunities for improvement within ONR's knowledge management system. While this represents only a preliminary analysis based on the Likert scale data, the subsequent sections—examining long-form responses and statistical analyses—will provide deeper insights ahead of the final recommendations outlined in Chapter VI.

2. Long-Form Responses (Questions 2, 4, 6, and 8)

Questions 2, 4, and 6 allowed respondents to provide additional recommendations regarding the three Focus Areas that were not covered by the Likert scale questions. Since these questions were optional, response rates were lower than those for the Likert scale items. However, several common themes and insightful comments emerged that merit further discussion.

One of the most frequently mentioned concerns was ONR's lack of a structured succession planning process during offboarding. Respondents shared multiple anecdotes about departing employees who, due to the demands of offboarding procedures and the need to complete outstanding tasks, were unable to dedicate sufficient time to transferring their institutional knowledge.

A particularly significant issue raised by respondents was the impact of the ongoing DRP departures on institutional knowledge retention. Multiple respondents expressed concerns about the abrupt loss of many ONR acquisition employees which created substantial challenges in preserving institutional knowledge. These concerns are magnified when considering the findings from the Likert scale responses to Question 1

which indicate weaknesses in ONR's offboarding and succession planning. With an unprecedented number of acquisition professionals leaving the agency, and gaps in the offboarding process and succession planning, there is a risk of a significant decline in institutional knowledge continuity within the organization.

Additionally, several respondents identified a specific senior ONR acquisition leader whose departure would result in a considerable loss of institutional knowledge due to the absence of a formal succession plan. Notably, just weeks after the survey concluded, the individual announced their participation in the DRP and their impending departure from ONR. While the long-term impacts of the DRP on institutional knowledge remain unclear, this issue presents an opportunity for future research, as discussed in Chapter VI.

Another key theme emerging from the responses was a desire for increased collaboration between ONR acquisition employees and other government agencies. Two respondents specifically noted that other agencies have workflows and processes that could greatly benefit ONR. There appears to be strong interest in forging connections with Navy entities such as the Naval Research Laboratory (NRL), Naval Air Systems Command (NAVAIR), Naval Sea Systems Command (NAVSEA), and Naval Information Warfare Systems Command (NAVWAR) to explore best practices and enhance ONR's own acquisition processes.

Finally, respondents frequently highlighted challenges associated with ONR's Knowledge Management System (KMS), The Bridge. While documentation is reportedly kept up-to-date, many respondents described difficulty navigating the system to locate relevant materials. Several comments suggested that requesting changes to The Bridge is an arduous process, requiring extensive effort to achieve meaningful improvements. Reorganizing or streamlining The Bridge may offer a practical solution to enhancing institutional knowledge management within ONR.

C. FACTOR ANALYSES

For the questions containing a Likert scale (Questions 1, 3, and 5) factor analyses were employed to group variables that exhibited strong correlations within each

component. The most heavily loaded variables in each component were then subjected to a reliability test, utilizing Cronbach's alpha to evaluate their reliability and internal consistency. A Cronbach's alpha score above 0.7 is considered acceptable, while a score of 0.8 or higher is preferred for optimal reliability.

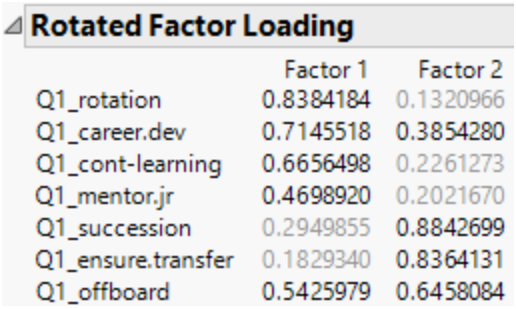
1. Question 1: Initial Factor Analysis

To facilitate discussions regarding the variables associated with Question 1, Table 1 has been provided to align variable names with the corresponding statements used in the Likert scale assessment.

Table 1. Survey Variables: Question 1

Statement	Variable Name
When an employee leaves ONR, the offboarding process is effective in ensuring that the employee's institutional knowledge will remain within the agency after their departure.	Q1_offboard
When an ONR employee gives notice of departure, a succession plan is implemented to ensure they can train their replacement.	Q1_succession
ONR ensures that departing employees transfer their knowledge to a fellow coworker prior to their exit.	Q1_ensure.transfer
ONR provides employees with career development opportunities that encourage long-term employment retention.	Q1_career.dev
Experienced employees are encouraged to mentor junior staff members.	Q1_mentor.jr
ONR provides continuous-learning opportunities for employees.	Q1_cont-learning
Employees are offered opportunities to rotate between different roles and departments.	Q1_rotation

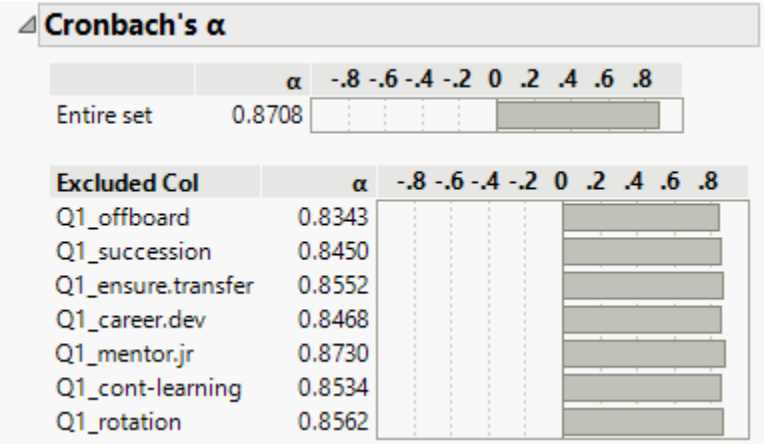
After completing a factor analysis, Question 1 was determined to contain two factors, as shown in the Figures 9 and 10. The complete set of items has a Cronbach's alpha score of 0.8708, indicating that all items are conceptually related.



Rotated Factor Loading

	Factor 1	Factor 2
Q1_rotation	0.8384184	0.1320966
Q1_career.dev	0.7145518	0.3854280
Q1_cont-learning	0.6656498	0.2261273
Q1_mentor.jr	0.4698920	0.2021670
Q1_succession	0.2949855	0.8842699
Q1_ensure.transfer	0.1829340	0.8364131
Q1_offboard	0.5425979	0.6458084

Figure 9. Factor Analysis: Question 1



Cronbach's α

	α	-.8 -.6 -.4 -.2 0 .2 .4 .6 .8
Entire set	0.8708	

Excluded Col	α	-.8 -.6 -.4 -.2 0 .2 .4 .6 .8
Q1_offboard	0.8343	
Q1_succession	0.8450	
Q1_ensure.transfer	0.8552	
Q1_career.dev	0.8468	
Q1_mentor.jr	0.8730	
Q1_cont-learning	0.8534	
Q1_rotation	0.8562	

Figure 10. Item Reliability: Question 1

2. Question 1, Factor 1: Training Opportunities

The first factor within Question 1 is titled "Training Opportunities" and comprises four variables: Q1_career.dev, Q1_mentor.jr, Q1_cont-learning, and Q1_rotation. As shown in Figure 11, the Cronbach's alpha for this subscale is 0.8071, which, while slightly lower than the alpha for the overarching factor, remains within an acceptable range. Following a qualitative analysis of the variables within this factor, I determined that utilizing two distinct factors was appropriate, even if doing so resulted in a slight reduction in reliability for one of them. Given that the alpha for "Training Opportunities" exceeds the 0.8 threshold, I have concluded that it is suitable to proceed with this subscale.

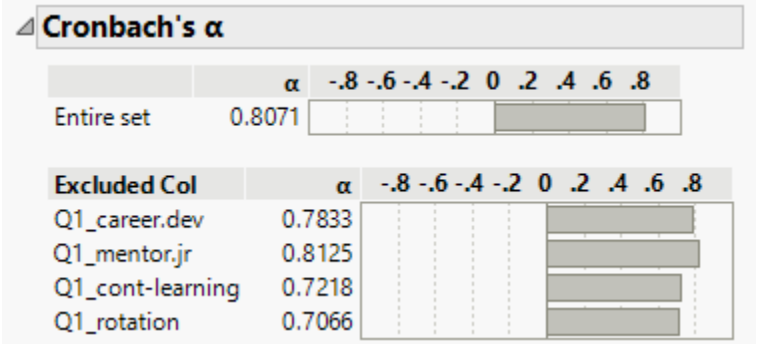


Figure 11. Item Reliability: Question 1, Factor 1

3. Question 1, Factor 2: Offboarding

The second factor within Question 1 is titled "Offboarding" and comprises three variables: Q1_offboard, Q1_succession, and Q1_ensure.transfer. The Cronbach's alpha for this subscale is 0.8965, as shown in Figure 12.

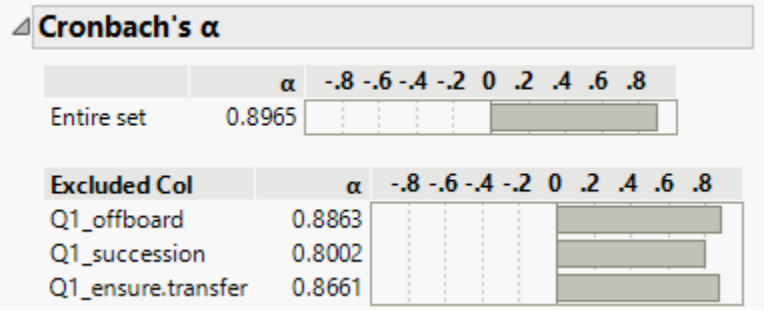


Figure 12. Item Reliability: Question 1, Factor 2

4. Question 3: Initial Factor Analysis

To facilitate discussions regarding the variables associated with Question 3, Table 2 has been provided to align variable names with the corresponding statements used in the Likert scale assessment.

Table 2. Survey Variables: Question 3

Statement	Variable Name
ONR culture encourages collaboration between employees and departments.	Q3_collab
ONR culture discourages "knowledge hoarding." (Knowledge hoarding refers to employees intentionally restricting knowledge to themselves or a select few.)	Q3_k.hoarding
ONR culture discourages overreliance on key knowledge holders.	Q3_overreliance.key

ONR leadership encourages regular knowledge-sharing sessions among workers.	Q3_k.sharing.sess
ONR leadership encourages employees to cross-train between positions to expand their knowledge base.	Q3_cross-train
ONR leadership conducts periodic knowledge audits to identify gaps within the agency's current knowledge management practices.	Q3_k.audits
ONR provides opportunities for employees to share lessons learned after major assignments or training.	Q3_lessons.learned

After completing the factor analysis depicted in Figure 13, Question 3 was determined to contain one factor and a Cronbach's alpha score of 0.8649, as shown in Figure 14.

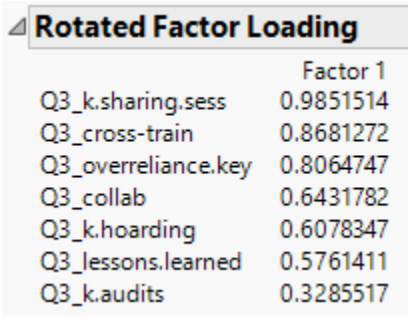


Figure 13. Factor Analysis: Question 3

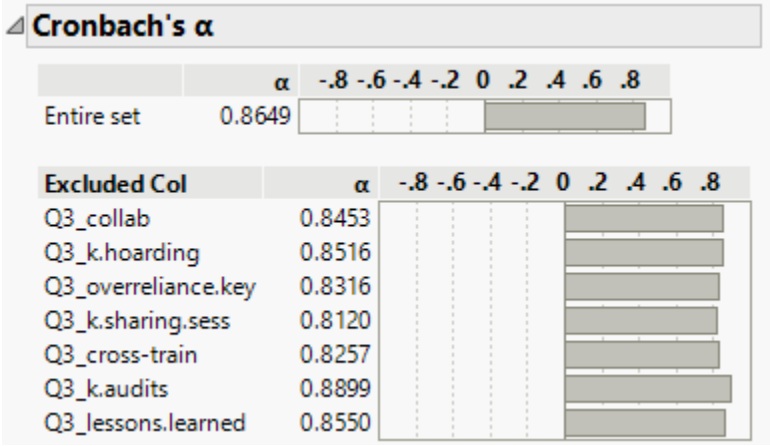


Figure 14. Item Reliability: Question 3

5. Question 3, Factor 1: CultureLeadership

As shown in Figure 15, the sole factor within Question 3, aptly titled "CultureLeadership," represents the results from the survey statements focused on KM strategies influenced by ONR's culture and leadership except the variable k.audits, which read "ONR leadership conducts periodic knowledge audits to identify gaps within the agency's current knowledge management practices." This item had a weak factor loading and exclusion of the item increased the Cronbach's alpha for the scale to 0.89, per Figure 16.

Rotated Factor Loading

	Factor 1
Q3_k.sharing.sess	0.9891591
Q3_cross-train	0.8657441
Q3_overreliance.key	0.8037959
Q3_collab	0.6399086
Q3_k.hoarding	0.6021091
Q3_lessons.learned	0.5725367

Figure 15. Factor Analysis: Question 3, Factor 1

Cronbach's α

	α	-.8 -.6 -.4 -.2 0 .2 .4 .6 .8
Entire set	0.8897	

Excluded Col	α	-.8 -.6 -.4 -.2 0 .2 .4 .6 .8
Q3_collab	0.8788	
Q3_k.hoarding	0.8836	
Q3_overreliance.key	0.8643	
Q3_k.sharing.sess	0.8397	
Q3_cross-train	0.8585	
Q3_lessons.learned	0.8920	

Figure 16. Item Reliability: Question 3, Factor 2

6. Question 5: Initial Factor Analysis

To facilitate discussions regarding the variables associated with Question 5, Table 3 has been provided to align variable names with the corresponding statements used in the Likert scale assessment.

Table 3. Survey Variables: Question 5

Statement	Variable Name
ONR has a well-defined KMS for storing documentation and other forms of institutional knowledge.	Q5_well-defined.kms
The documentation within ONR's KMS is accessible to employees.	Q5_doc.access
Ongoing efforts are made to ensure that existing documentation within ONR's KMS is updated.	Q5_updated.docs
There are protections in place to ensure documentation is not accidentally removed from ONR's KMS.	Q5_deletion.protection
There is a defined policy regarding how documentation is controlled within ONR's KMS.	Q5_doc.control.policy
Most employees have been trained to write effective documentation.	Q5_doc.training
Employees are encouraged to document their work processes.	Q5_doc.encourage
Employees are provided with the necessary tools to retain institutional knowledge.	Q5_tools

Following a factor analysis, Question 5 was found to comprise a single factor with a Cronbach's alpha score of 0.9230, as illustrated in Figures 17 and 18. This factor, titled "KMS," represents the statements related to ONR's KMS, "The Bridge."

Rotated Factor Loading

	Factor 1
Q5_updated.docs	0.8999052
Q5_well-defined.kms	0.8909573
Q5_tools	0.8247270
Q5_deletion.protection	0.8197314
Q5_doc.control.policy	0.7973496
Q5_doc.access	0.7954702
Q5_doc.training	0.6465606
Q5_doc.encourage	0.5642504

Figure 17. Factor Analysis: Question 5

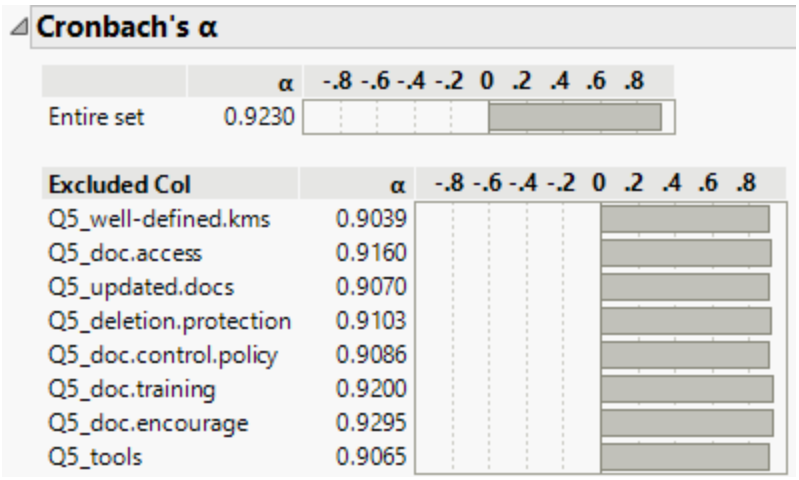


Figure 18. Item Reliability: Question 5

7. Question 5, Factor 1: KMS

After reviewing Figure 17 and 18, I determined that all variables should remain within the scale. The variable with the weakest loading, Q5_doc.encourage, still demonstrated a reasonable factor loading, and its removal would result in only minimal improvements to the Cronbach's alpha score. Therefore, I concluded that retaining all variables was the most appropriate approach.

D. CORRELATIONS

Using JMP, I calculated univariate statistics for the four subscales described earlier – Training Opportunities, Offboarding, CultureLeadership, and KMS – as well as for Question 7 and the variable excluded from the Question 3 factor (Q3_k.audits). The process provided key descriptive measures including the mean, median, standard deviation, minimum, and maximum, as summarized in Figure 19. Upon review, I noted that while the results appear fairly neutral overall, Offboarding and Q3_k.audits represented lower statistics than the other four subscales.

Univariate Simple Statistics

Column	N	Mean	Std Dev	Sum	Minimum	Maximum
Q7_overall	42	3.1667	1.0573	133.000	1.0000	5.0000
Training Opportunities	42	3.9643	0.8723	166.500	1.7500	5.0000
Offboarding	37	2.7387	1.0567	101.333	1.0000	4.6667
CultureLeadership	42	3.5738	0.8431	150.100	1.1667	5.0000
Q3_k.audits	35	2.8000	1.2078	98.0000	1.0000	5.0000
KMS	42	3.4982	0.8872	146.924	1.3750	5.0000

Figure 19. Subscale Statistics

Using Question 7 – the single Likert statement assessing ONR's overall effectiveness in retaining institutional knowledge – along with the subscales developed in the previous section, the correlation table in Table 4 was generated.

Table 4. Correlation Table

Correlations

	Q7_overall	Training Opportunities	Offboarding	CultureLeadership	Q3_k.audits	KMS
Q7_overall	1.0000	0.6281	0.7666	0.4756	0.5196	0.7933
Training Opportunities	0.6281	1.0000	0.5479	0.6321	0.4954	0.5496
Offboarding	0.7666	0.5479	1.0000	0.5281	0.3650	0.5631
CultureLeadership	0.4756	0.6321	0.5281	1.0000	0.3697	0.4917
Q3_k.audits	0.5196	0.4954	0.3650	0.3697	1.0000	0.4442
KMS	0.7933	0.5496	0.5631	0.4917	0.4442	1.0000

The analysis indicates that the two subscales most strongly correlated with overall competence are Offboarding and KMS. Notably, this finding is particularly significant, as respondents previously identified offboarding and The Bridge as areas in need of improvement. Given the strong respondent engagement with these two processes and the recognized need for enhancements, addressing Offboarding and KMS should be ONR's top priorities in its efforts to improve institutional knowledge retention.

VI. CONCLUSIONS AND RECOMMENDATIONS FOR FUTURE RESEARCH

The perception of survey respondents highlighted three critical areas needing immediate attention within ONR. First, ONR's current KMS is underperforming, indicating it may not effectively support the rapid and secure dissemination of essential information. Second, the evident lack of structured offboarding processes and succession plans raises concerns about potential knowledge loss and the continuity of operational expertise. Lastly, the absence of routine knowledge audits suggests that we are missing key opportunities to assess and enhance our knowledge practices. Addressing these issues is imperative to strengthen ONR's organizational resilience and ensure long-term operational success.

A. RECOMMENDATIONS

Given these challenges, it is clear that improvements are needed both within ONR's KMS as well as offboarding procedures. Strengthening these areas will help ensure that the institutional knowledge embedded within departing employees is effectively transferred to their successors, thereby supporting a more resilient and adaptive workforce.

Based on the long-form survey responses, a number of respondents make it clear that ONR's current KMS is not cutting it when it comes to getting critical information into employees' hands. Many colleagues shared frustrations about its clunky navigation and limited search options, which often leave them sifting through outdated files just to find what they need. They propose a move toward a more user-friendly interface, better tagging with relevant metadata, and an upgraded search function that delivers faster, more accurate results. Additionally, they stressed the importance of regular updates and training so the platform remains both relevant and easy to use. In short, overhauling ONR's KMS is not just about updating technology; it is about ensuring every team member can access the knowledge they need, right when they need it.

Expanding on improving ONR's KMS, employees expressed a desire for advanced digital tools, particularly those powered by artificial intelligence. Respondents

highlighted that AI technology could simplify routine tasks, reduce paperwork, and free up time for more critical activities. By embracing these modern solutions, ONR could foster a more agile work environment that not only drives better decision-making but also positions the agency to keep pace with an ever-changing technological landscape.

Additionally, the survey revealed that team members are keen to have more informal forums to exchange their real-world experiences and day-to-day insights rather than relying solely on structured, formal processes. Respondents suggested creating recurring opportunities such as small-group discussions, peer roundtables, or even digital storytelling sessions where employees can share lessons learned and practical tips. This informal exchange of ideas would contribute to a more collaborative organizational culture and enhance operational efficiency.

Another important area for improvement identified by survey participants is the need for stronger offboarding procedures and more robust succession planning. Numerous employees voiced concerns over the loss of critical institutional knowledge when seasoned professionals leave the agency. They recommended implementing structured handover protocols, including mentoring programs and detailed documentation of key processes, to ensure that valuable experience is not lost during personnel transitions. Such proactive measures would help maintain continuity and strengthen the agency's long-term capability.

Finally, the survey results raise the concern that ONR lacks a formal process to routinely review how we capture and maintain critical information, which can lead to valuable insights being lost over time. To address this, I recommend establishing routine knowledge audits that help us identify and plug gaps in our knowledge management strategy. One practical example of this process would be to start with a thorough inventory of essential documents and digital assets from various departments. This could be followed by targeted interviews or focus groups with experience staff to capture both documented procedures and informal, unwritten insights. The results would then be compiled into a report outlining existing gaps and offering actionable recommendations.

B. FUTURE RESEARCH

Looking ahead, additional research should investigate the effects of the recent overhaul of the FAR on the hiring, training, and retention of acquisition employees. Understanding how these regulatory changes influence workforce dynamics will be vital for designing policies that enhance employee development and long-term retention.

Another important area for future inquiry lies in examining the impact of the 2025 workforce reductions on institutional knowledge retention. A closer analysis of how these staffing cuts affect the continuity of expertise within the acquisition workforce could provide valuable insights for managing organizational transitions more effectively.

Finally, further research is needed to assess how existing knowledge management systems have influenced the outcomes workforce reductions. This analysis could identify best practices and areas for improvement, ultimately guiding ONR and similar organizations toward more effective strategies for preserving critical institutional knowledge.

C. SUMMARY

In conclusion, this capstone highlights the urgent need for ONR to develop strategies that safeguard its institutional knowledge. With an aging acquisition workforce eyeing retirement, shorter job tenures, workforce reductions, and a growing acknowledgment of the value of hands-on experience, the loss of institutional knowledge is a critical risk. By adopting knowledge management practices, such as thorough documentation, structured mentoring programs, advanced digital tools, and regular knowledge audits, ONR can preserve the legacy of its seasoned professionals and maintain the continuity of operations.

Moreover, the challenges faced by ONR are not isolated. Across the military, government, and our society at large, similar trends are emerging: key acquisition workers retire while fewer young professionals enter the field. As these demographic shifts continue, agencies must find innovative ways to capture, store, and transfer institutional knowledge. The lessons learned at ONR can serve as a model for other institutions striving to bridge the gap between past expertise and future innovation.

APPENDIX A. SURVEY E-MAILS SENT TO THE ONR ACQUISITION DEPARTMENT

A. INITIAL E-MAIL—SENT ON APRIL 7, 2025

Subject: (*Action Requested*) Quick Code 02 Survey for Matt Murray's Grad School Thesis

Good morning Code 02!

BLUF: I'm sincerely asking for your assistance in the completion of a quick, anonymous survey (no more than 10 minutes). Your responses will assist me in completing my Naval Postgraduate School thesis paper that aims to explore the extent of any existing knowledge management challenges within ONR's acquisition department, assess their implications for the acquisition process, and propose strategic solutions to mitigate the risks associated with institutional knowledge loss.

Survey Link: https://navalpostgradfedramp.gov1.qualtrics.com/jfe/form/SV_cu0BtWQC9frDXnw

As some of you are aware, I am currently a student at the Naval Postgraduate School and am currently working on my thesis paper, as mentioned in the BLUF. In order to find any current knowledge management challenges within our department, I need to ask all of Code 02 for a quick favor. I would be extremely grateful if everyone could find just a few minutes in the next two weeks to complete the survey provided at the top of this e-mail. I need as many responses as possible so I can gather enough data for analysis.

How much time will this take?: This is a very quick survey and should take no more than 10 minutes! There are optional text fields that you can spend more time on, if you wish, but the core survey is less than two dozen multiple choice questions.

Is this survey anonymous?: This survey is hosted by the Naval Postgraduate School, not ONR, and is completely anonymous. The data that you provide will not be linked to any personal identifiers nor will any of the questions ask for personally identifiable information.

Was this approved?: Yes! The survey was reviewed and approved by 02 leadership and the Navy Survey Office.

Is there a deadline?: The survey will close in two weeks - at midnight on Friday, April 18th.

Who can take the survey?: The survey is for Code 02 Government personnel only. Contractor support staff have been excluded from this e-mail – please do not forward it to them. Also, please do not forward this e-mail to Government employees outside of Code 02. The scope of my thesis is specifically limited to Code 02.

If you have any questions or problems accessing the survey, please let me know!

Thank you so, so much!
Matt

B. FOLLOW-UP E-MAIL—SENT ON APRIL 14, 2025

Subject: RE: (*Action Requested*) Quick Code 02 Survey for Matt Murray's Grad School Thesis

Good afternoon Code 02!

Currently, I do not have enough responses to my thesis survey. In order to reach my target response rate so I can conduct a meaningful data analysis, I need to ask for more responses from my fellow acquisition teammates. To those that have yet to respond, please be assured that the survey is very quick (no more than 10 minutes) and anonymous. The full details can be found in my previous e-mail (see below).

Please, if you can spare 10 minutes to complete this survey, I'd be extremely thankful!

Survey Link: https://navalpostgradfedramp.gov1.qualtrics.com/jfe/form/SV_cu0BtWQC9frDXnw

Thank you very much to those who have already responded! Your responses are providing invaluable insights into ONR's knowledge management framework and are very much appreciated!

Thank you again!
Matt

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APPENDIX B. SURVEY QUESTIONS

A. COVER PAGE

Introduction: Thank you so much for taking the time out of your day to complete this survey! The data gathered here is critical for my thesis paper which aims to explore the extent of any knowledge management challenges within ONR, assess their implications for the acquisition process, and propose strategic solutions to mitigate the risks associated with institutional knowledge loss. Code 02 Leadership has approved this anonymous survey and is interested in the results.

Background: "Institutional knowledge" refers to the collective understanding, skills, experiences, and insights accumulated by an organization over time. Preserving this knowledge is crucial to maintaining operational effectiveness and ensuring seamless transitions of responsibilities within the federal workforce.

Confidentiality: This survey is hosted by the Naval Postgraduate School, not ONR, and is completely anonymous. The data that you provide will not be linked to any personal identifiers nor will any of the questions ask for personally identifiable information. Please provide complete and honest responses.

Distribution: My thesis paper will be Distribution Statement A (Approved for public release). As such, please **do not** include any sensitive or classified information in the freeform text fields.

Instructions: This short survey is divided into three (3) focus areas with each focus area containing two sections: 1.) A list of statements related to actions taken by ONR in the respective focus area. Please rate the accuracy of each statement using the options provided, and 2.) An optional freeform text box where you can provide recommendations to improve the focus area as it relates to the retention of institutional knowledge.

There will also be a final overall rating at the end of the survey along with an optional text field for you to provide any additional recommendations that were not covered by the focus areas.

B. FOCUS AREA 1: EMPLOYEE ATTRITION & RETENTION

Q1

Focus Area 1: Employee Attrition & Retention

	1 - Strongly Disagree	2- Disagree	3 - Neutral	4 - Agree	5 - Strongly Agree	6 - I don't know
When an employee leaves ONR, the offboarding process is effective in ensuring that the employee's institutional knowledge will remain within the agency after their departure.	○	○	○	○	○	○
When an ONR employee gives notice of departure, a succession plan is implemented to ensure they can train their replacement.	○	○	○	○	○	○
ONR ensures that departing employees transfer their knowledge to a fellow coworker prior to their exit.	○	○	○	○	○	○
ONR provides employees with career development opportunities that encourage long-term employment retention.	○	○	○	○	○	○
Experienced employees are encouraged to mentor junior staff members.	○	○	○	○	○	○
ONR provides continuous-learning opportunities for employees.	○	○	○	○	○	○
Employees are offered opportunities to rotate between different roles and departments.	○	○	○	○	○	○

Q2

Provide any recommendations to help ONR retain institutional knowledge through better employee retention and offboarding practices.

C. FOCUS AREA 2: CULTURE AND LEADERSHIP

Q3

Focus Area 2: Culture & Leadership

	1 - Strongly Disagree	2- Disagree	3 - Neutral	4 - Agree	5 - Strongly Agree	6 - I don't know
ONR culture encourages collaboration between employees and departments.	○	○	○	○	○	○
ONR culture discourages "knowledge hoarding". (Knowledge hoarding refers to employees intentionally restricting knowledge to themselves or a select few.)	○	○	○	○	○	○
ONR culture discourages overreliance on key knowledge holders.	○	○	○	○	○	○
ONR leadership encourages regular knowledge-sharing sessions among workers.	○	○	○	○	○	○
ONR leadership encourages employees to cross-train between positions to expand their knowledge base.	○	○	○	○	○	○
ONR leadership conducts periodic knowledge audits to identify gaps within the agency's current knowledge management practices.	○	○	○	○	○	○
ONR provides opportunities for employees to share lessons learned after major assignments or training.	○	○	○	○	○	○

Q4

Provide any recommendations to help ONR leadership foster a culture that preserves institutional knowledge.

D. FOCUS AREA 3: KNOWLEDGE MANAGEMENT SYSTEM

Q5

Focus Area 3: Knowledge Management System (KMS)
(AKA, "The Bridge")

	1 - Strongly Disagree	2- Disagree	3 - Neutral	4 - Agree	5 - Strongly Agree	6 - I don't know
ONR has a well-defined KMS for storing documentation and other forms of institutional knowledge.	○	○	○	○	○	○
The documentation within ONR's KMS is accessible to employees.	○	○	○	○	○	○
Ongoing efforts are made to ensure that existing documentation within ONR's KMS is updated.	○	○	○	○	○	○
There are protections in place to ensure documentation is not accidentally removed from ONR's KMS.	○	○	○	○	○	○
There is a defined policy regarding how documentation is controlled within ONR's KMS.	○	○	○	○	○	○
Most employees have been trained to write effective documentation.	○	○	○	○	○	○
Employees are encouraged to document their work processes.	○	○	○	○	○	○
Employees are provided with the necessary tools to retain institutional knowledge.	○	○	○	○	○	○

Q6

Provide any recommendations to help improve ONR's acquisition Knowledge Management System (AKA, "The Bridge").

E. OVERALL ASSESSMENT

Q7

Overall Assessment

	1 - Strongly Disagree	2- Disagree	3 - Neutral	4 - Agree	5 - Strongly Agree
ONR is effective at retaining institutional knowledge.	○	○	○	○	○

Q8

Provide any final recommendations or comments that were not addressed in the previous questions.

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