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KNOWLEDGE ENABLED LOGISTICS (KEL)

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14. ABSTRACT

The current research accomplished three objectives: 1) it examined the factors that influence the effectiveness of organizational change initiatives within the government, 2) it explored the relevance of novel simulation technologies in supporting organizational changes, and 3) it fostered engagement with actual organizational change projects within the Department of Defense (DoD) to reveal factors that inhibit organizational change success in military organizations. This report details specific interventions used in organizational change projects, simulation tools as they were applied in an organizational setting, and the theory behind change readiness as a facilitator of organizational change. Notably, the current research also discussed the following barriers to change in military organizations: group differences among personnel, rapid senior leader turnover, lack of communication/visioning behaviors, too much focus on technology and lack of attention toward change management, historical factors, and lack of attention to workspace design.

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1.0 EXECUTIVE SUMMARY

Military organizations, like industry, must remain agile to adapt to changing demands. In recent years, the Global War on Terror (GWOT) has forced the military to adjust to global demands, time pressure, resource constraints, and versatile adversaries. Omnipresent through these military demands, is the fact that the government is engaged in frequent organizational changes that also pull on internal resources and personnel to adjust to novel work processes, leadership changes, cultural changes, and other initiatives. The commercial sector is under similar pressure to constantly morph their operations, organizational structure, and or processes to streamline efficiency and or better align to customer needs. Sadly, many of the change initiatives within the commercial world, and speculatively within the government, fail to reach their strategic objectives. As such, the Knowledge Enabled Logistics (KEL) program was created to accomplish three objectives: 1) to examine factors that influence the effectiveness of organizational change initiatives within the government, 2) explore the relevance of novel simulation technologies in supporting organizational changes, and 3) to engage in real-world organizational change projects within the Department of Defense (DoD) to reveal factors that inhibit organizational change success in actual organizations. While the implications of this research are applicable to a variety of organizations, the current research focused on organizations with a logistics mission. The purpose of this report is to summarize some of the relevant literature on organizational behavior and change management, highlight the results of a few targeted studies conducted in conjunction with applied organizational change initiatives, and finally to discuss several barriers to organizational change effectiveness as evidenced through the Air Force Research Laboratory's (AFRL) participation in multiple DoD organizational change initiatives. This report is designed for use by Military and Civilian leaders to help foster excellence in change management for future initiatives.

2.0 INTRODUCTION

Change is a ubiquitous aspect of modern work. Globalization and cutting-edge technology are often scapegoats for driving the prevalence of change initiatives within industry. Karoly (2007) provides a cogent list of factors shaping the workforce and work conditions of the future. These factors include: a shrinking workforce, increased diversity, decentralization of work, globalization, telecommuting, emphasis on constant learning, and greater use of teams within the workplace. While these factors present challenges, organizations may engage in change management activities to support the integration of novel organizational elements into their operations. Organizations must adapt to their contextual demands through change management interventions in order to maintain effective levels of performance, and the military is no exception (Barlow & Batteau, 2000). The military is faced with the omnipresent challenges of the GWOT which are taxing its operational capabilities in ways that were never anticipated. The high operations tempo of modern warfare continues to increase and has an influence on soldiers' well-being and commitment (Huffman, Adler, Dolan, & Castro, 2005) while advances in technology create the potential for information overload and reduced situation awareness during military operations (Lichacz & Farrell, 2005). These increased demands are especially visible within military Command and Control (C2) operations. The focus of the current report is on C2 within a logistics domain.

2.1 Organizational Change

The impetus for an organization change is varied, and may include reengineering, process improvement, downsizing, mergers, acquisitions, technology implementation, or cultural changes (Pellettiere, 2006). Unfortunately, approximately 70%-80% of these changes will fail to meet their planned objectives (Cascio, 1995; Pellettiere, 2006). Thus, researchers are called to better understand the factors that influence the effectiveness or demise of organizational change initiatives. Researchers have outlined the following factors as driving failure in organizational change: lack of context/motivation for the change (Sokol, 1997), lack of vision and urgency to change, lack of leadership support for the change (Winum, Ryterband, & Stephenson, 1997), lack of attention toward the change readiness of personnel (By, 2007), and lack of attention toward training novel systems or processes (Diamond, 1996). Organizational development (OD) efforts and or work re-design programs can have a positive impact on organizational outcomes (Hackman & Oldham, 1976; Klinger & Klein, 1999; Porras & Berg, 1978). Classic organizational development literature discusses OD as a response to mismatches between organizational factors and environmental factors (Porras & Silvers, 1991). And to address this mismatch, one can focus on influencing the organizational vision or the work setting (Porras & Silvers, 1991).Thought leaders in the domain of organizational change have proposed different models of change management, however the current research incorporated Kotter's stage model (Kotter, 1996). In this model, Kotter (1996) discusses eight stages of change management that organizations may use to promote effective organizational change: 1) establish a sense of urgency, 2) develop a guiding coalition, 3) develop a vision and strategy for the change, 4)

communicate the vision, 5) empower broad-based action, 6) generate short-term wins, 7) consolidate gains and produce more change, and 8) anchor new approaches in culture. Aspects of these elements of effective change have been empirically supported in the literature as noted above. Further, aspects of this model were injected into the change management approach adopted by AFRL researchers supporting an organizational change initiative within the DoD (Figure 1). Like the commercial sector, organizational change initiatives are common among military organizations (Barlow & Batteau, 2000). AFRL was engaged in supporting multiple change projects, including an organizational merger project within a major logistics C2 center, and studies of change readiness within Air Force (AF) organizations engaged in process improvement. Both of these projects will be discussed further in this report.

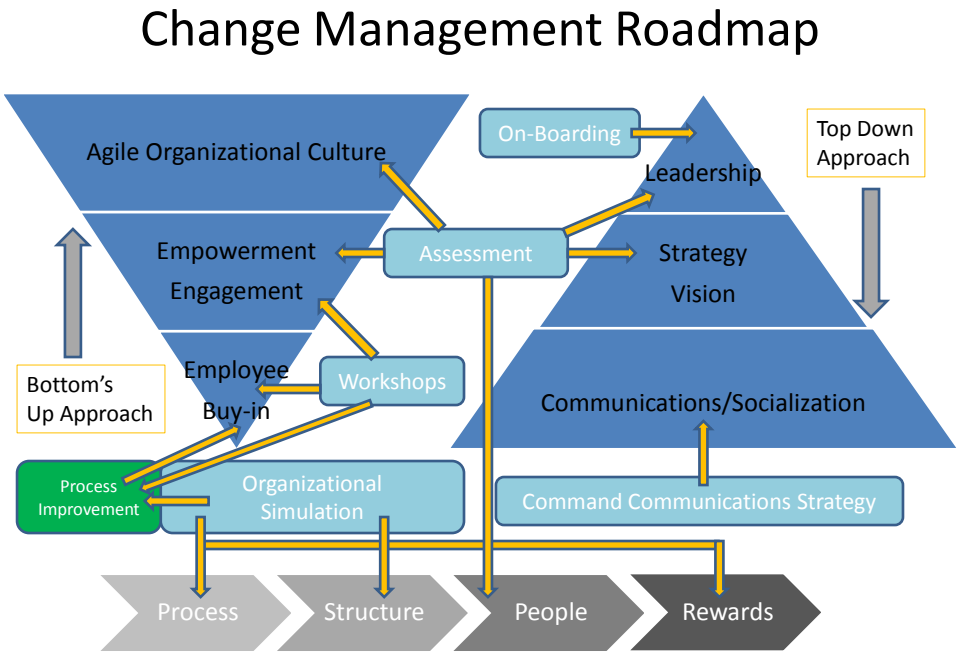

Figure 1. AFRL Change Management Roadmap

3.0 ORGANIZATIONAL MERGER PROJECT

The first project to be discussed involves a complex organizational merger project within the DoD logistics network. Ultimately, various logistics centers were asked to form a central C2 center to provide optimization and customer support to the DoD distribution process. Generally, the C2 center must provide logistics C2 support for global military operations and must be capable of rapidly responding to challenges all over the world. Such challenges may include natural disaster support, humanitarian relief efforts, and contingency military operations that may arise globally. In essence, the organization is seeking ways to improve its adaptability and efficiency without disrupting daily operations. The merger included entities from the Army, Navy, Air Force, and Marine services coming together under a single joint command center of which aspects already existed. The overall goals of the organizational change were to reduce redundancies between the different command centers, incorporate process improvement methods, and foster better collaboration between the different command centers as well as between the new command center and its customers.

3.1 Approach

Organizational changes require a comprehensive approach that focuses on multiple levels of the organization and utilizes several methodologies to fully understand the issues. Researchers have suggested that multiple OD interventions are better than a one-size-fits-all approach to organizational change (Porras & Berg, 1978). A multifaceted approach was adopted for the current project (see Figure 1). In 2008, the program focused on communication, visioning, and identification of candidate processes for reengineering during the following year. These requirements were driven by data collected through interviews, focus groups, surveys, and leadership interactions. Subsequently in 2009-2010, the program focused on process improvement, collaboration between the organizations, change management, and cultural change. The methodologies described below were applied at various levels of the organization, ranging from leadership to personnel on the floor working day-to-day operations (see Figure 1). The methodologies employed/considered for this project included Integrated Project Teams (IPTs), organizational simulation, employee surveys, strategic communications, on-boarding, and workspace ecology. Swindler and colleagues (2008; 2009) provide a more detailed summary of the methodologies and the results, however, the high-level findings are discussed below.

3.2 Integrated Project Teams (IPTs)

Focused IPTs were used to better understand employee resistance factors, socialize novel processes and concepts, discuss and refine processes, and identify candidate process improvement areas. The IPT structure had proven to be beneficial in the first year of the program, thus they were continued through the second year of the program. Membership on the IPTs did fluctuate somewhat due to operational demands, availability, and interest of the personnel; however, a stable cadre of personnel (approximately 50% of the IPT) remained

constant throughout. The IPTs were a good way to involve personnel in the change process while bringing internal expertise together to solve specific developmental issues. Specifically, there were three separate IPTs conducted focusing on specific areas within the organization. The initial activity explored the goals and roles of personnel in the merged organizational unit. This served to identify areas where improvements were needed from a leadership, communications, vision, roles/responsibilities, and change management perspective.

The second IPT employed Lean Six Sigma principles (George, 2002) to begin reviewing and enhancing the Course of Action (COA) development process, including a team charter (Figure 2), SIPOC (Supplier, Input, Process, Output, Customers: a high-level map of the process), value analysis, and a root cause analysis. The team charter was used as an overall guidance document to consider "in" versus "out" of scope requirements, to ensure appropriate participation and sponsorship from the stakeholders, and to establish a psychological contract with the IPT members. The SIPOC supported conceptualization of the process. The value analysis evaluated the "valued-added" for each of the steps within the process. And finally, the root cause analysis was used to help identify causal influences driving non-value-added work. These artifacts served as the guidance for modifying the current COA process. Following the development of these materials, the remaining sessions were focused on mapping the current state of the COA Development process followed by discussions and mapping of enhancements to the process.

Team Charter	
Business Case	Opportunity Statement
•Why should we do this? •What is the current situation? •What would incite urgency?	•What do we gain by fixing this situation? •What is the business impact and/or expected ROI?
Goal Statement	Project Scope
•**ISSUE STATEMENT:** •What are our improvement objectives and targets? •What is our success criteria?	•What authority do we have? •What processes are we addressing? •What is not within scope? •What are our boundaries
Project Plan	Project Team
•How are we going to get this done? •When are we going to complete the work? •What are our activities?	•Who are the team members? •What responsibilities will they have?

Figure 2. Sample Team Charter

The third IPT incorporated the artifacts from IPT-2 into enhancing the COA development process and began a low-risk implementation of new procedures outlined in the process. The implementation was applied only initially to a small part of the C2 organization to reduce risk and ensure continuity of operations. These activities are still underway with the host organization and the new process continues to be applied across the organization.

3.3 Organizational Design and Simulation

Contemporary theorists suggest that organizations can gain strategic advantages by designing themselves in such a way as to foster their internal organizational capabilities (Galbraith, 2002). There are multiple facets of an organizational design, including structure and processes which are two fundamental aspects of organizations that can be used as inputs for simulation technologies. Organizations often discuss structural changes while neglecting the less tangible aspects (i.e., information flows, processes, decision making, etc.) which are vital to organizational functioning (Neilson, Martin, & Powers, 2008). Wagner (2000) discusses departmentation, which refers to the division of labor between work groups. Functional departmentation involves groups organized around the similarity of the work being performed, while divisional departmentation involves groups being organized based on the type of product being produced or the geographic area that they service. Research has consistently shown that functional organization schemes are best for predictable environments because they promote efficiency and interactions among key work nodes; whereas divisional schemes are best for unpredictable environments because they promote advanced skill development and compensatory behaviors among information nodes (Hollenbeck et al., 2002; Moon et al., 2004). Structural contingency theory suggests that there is no one organizational structure that is best for every situation, rather the structure must match the demands of the environment in order to be optimally effective.

The logistics C2 organization discussed earlier was organized in a divisional Area of Responsibility (AOR) fashion, making them resilient to novel challenges, yet inefficient in their daily operations because of the built-in redundancy that such an organization structure creates. However, an alternative organizational structure might attempt to match the demands of the environment. As part of the change management effort, AFRL researchers proposed that the current organizational structure could be modified to leverage the best of both (functional and divisional) departmentation strategies. Such an arrangement would embody structural contingency theory by creating an organizational structure that adapts to its surroundings and draws from the benefits of various departmentation strategies. Organizational simulation was used to examine the potential costs and/or benefits of different organizational structures within the context of the organizational change initiative. Recently, researchers have suggested that simulation technologies be used as one tool for organizational leaders to consider during organizational change projects (Lyons, Jordan, Faas, & Swindler, in press). Most organizations adapt and change frequently, but if they are to be successful they need to be able to evolve in a seamless fashion that doesn't disrupt their ongoing productivity (Garud, Kumaraswamy, &

Sambamurthy, 2006). Simulation technologies offer one mechanism to experiment with organizational change options without enduring the costs of an actual change (Lyons et al., in press).

The current project incorporated a simulation tool called SimVision. SimVison is an organizational modeling and simulation tool which offers users the ability to model a variety of projects. This software originated as a project management tool to aid in decision making about the timelines for various construction projects and has been refined and studied by researchers at Stanford University (Levitt, 2004; Levitt, Thomsen, Christiansen, Kunz, Jin, & Nass, 1999). The software adopts an information processing view of organizations which suggests that the speed at which information flows through an organization is driven by its structure or decision hierarchy (Galbraith, 1974). In other words, the number of management layers between decision makers and the time available for the decision makers are likely going to have a significant impact on the time it takes for the system as a whole to process information and make decisions. This supports the notion that the organizations' internal capability (i.e., its design) is the driving force that fosters speed and breadth of information flow (Galbraith, 2002).

Using SimVision, researchers can fashion a virtual rendition of the organization's structure and processes to replicate the leadership hierarchies and information processes of the organization. Critical to this process however, is close contact with the subject matter experts who must validate the overall model. Users can take the baseline design and modify inputs such as structural changes and or process changes and explore the differential impact these changes have on several outcome measures, including project risk, project timeline, and rework. This can be instrumental in identification of information bottlenecks. While the software was originally intended for use as a project management tool, the current research applied the tool to a C2 domain (Faas, Swindler, Lyons, Levitt, Ramsey, & Vincent, 2009).

Organizational Simulation was applied in the first and second year of this effort in an attempt to assist the organizational leadership with the evaluation of possible alternatives to operations, including a novel organizational structure, prior to implementing the change within the organization. Specifically, the organizational leadership was struggling with three alternatives for structuring the new C2 center. The first option, labeled light integration, maintained service-centric units which operated relatively autonomously in relation to the larger C2 center. The second option, labeled moderate integration, had service-centric teams that were matrixed to AOR units. Finally, the third option, labeled heavy integration, involved having service-centric personnel work together in fused teams. A baseline model was created to model the current structure, processes, and decision hierarchies within the organization. Then comparative models were created to emulate the three alternatives in question by leadership. The fused team option evidenced lower coordination costs and a slightly reduced rework time relative to the other options.

3.4 Assessments

Employee surveys were used throughout this project as a means to gauge psychological constructs such as attitudes about the change, awareness and acceptance of the new organizational vision, organizational change readiness, organizational culture, role identity, and key organizational behaviors relating to the goals/mission of the new command center. Initial findings from the year 1 survey indicated a lack of identification with the new organization, lack of awareness and acceptance of the vision of the new organization, poor communications regarding the change, and lack of leadership support from various stakeholders. Notable findings comparing year 1 and year 2 included: increased role identification with the new organization in year 2, and improved communications regarding the change vision and strategies as well as high levels of change readiness, job identity and organizational culture indices. Other notable findings included: an increased awareness and appreciation for the goals of the new organization. These surveys were administered through web-based media.

3.5 Communications and Socialization

Due to the perceived lack of communication regarding the change initiative, a communications plan was established. The Strategic Communications Plan is a living document, updated every year, and is designed to integrate and incorporate the relevant news, updates, and progress of the new organization into the distribution information network. The plan outlines several aspects of the communication strategy including the mission, goals, objectives, and strategies for communications about the new organization. Target audience requirements, communication tools, themes and messages, and evaluation mechanisms were also discussed in the plan. In 2009, a gamut of communication tools were established to support the change, including a novel newsletter specifically designed to share information regarding the new organization, briefings associated with training and other development activities, a web portal, and a SharePoint site. Subjective feedback indicated that the communication plan was reaching the desired audience and that it was conveying useful information that was otherwise not available.

3.5.1 In-processing/On Boarding

The entry of new employees represents one opportunity to shape the attitudes and values of employees in order to modify the existing organizational culture. Thus, activities were engaged to develop a leadership In-processing/On Boarding program. The process targeted new leaders within the organization. This mirrors efforts within industry to socialize and train new organizational leaders. Research has reported that such activities can have a positive impact on organizations by shortening productivity curves among new leaders, increasing employee engagement, and reducing turnover (Dai & De Meuse, 2007). The On boarding activity suggested that the organization develop a newcomer brief and incorporate checklists that will

help to foster shared awareness of social networks, required activities for new leaders, and can help to shape the perceptions of the ongoing organizational change.

3.6 Summary of Results

Below are some overall observations & opportunities identified in year 1 of the effort. These are described in more detail in Swindler and colleagues (2008).

Observations:

- Lack of acceptance/agreement with the new organization's vision, mission, and strategies
- Lack of guidance on how to execute the new mission
- Uncertainty regarding roles and responsibilities
- Lack of communication regarding the new vision, mission, and strategies
- Little to no urgency/lack of a business case for the change
- Lack of new processes
- Low identification with the new organization
- Need for a mechanism to foster lessons learned and provide feedback to the new organization
- Need to build an infrastructure/culture for process improvement
- Leadership within the stakeholder organizations (not the host organization) were resistant to the change

Opportunities:

- Personnel were psychologically ready to engage in the change, they just needed the information on how specifically to do so
- The goals of the new organization were accepted
- Leadership within the host organization was perceived as supportive of the change
- Personnel identified with and were attached to their jobs
- Information sharing between key logistic stakeholders was occurring, and this was aligned to the goals of the new organization

- There were some success stories involving collaboration to share
- The environment was ripe for process refinement/ improvement

Below are some overall observations & opportunities identified in year 2 of the effort. These are described in more detail in Swindler and colleagues (2009).

Achievements:

- Helped garner leadership and employee support for an accepted vision of the new organization
- Fostered key leadership exchanges between various stakeholders involved in the merger
- Created a Course of Action Development process through the use of IPT meetings that was tested and implemented
- Developed an Operating Instruction (OI), which provided clarity about roles and responsibilities for the personnel within the new organization
- Continued the communications plan via multiple avenues including a newsletter, website, and training briefings
- The survey indicated increased understanding of why the change was brought about and increased understanding the new mission/vision
- The survey indicated increased collaboration and information sharing within the new organization due, in part, to ongoing process improvement efforts

Organizational Barriers:

- Persistent lack of identification with the novel organization among personnel
- Lack of a framework to incorporate lessons learned and get feedback regarding the products of the new organization
- Lack of infrastructure and ownership for process improvement
- High turnover of change agents and senior leadership
- Disparate leadership expectations for the new organization and the personnel within the new organization – i.e., lack of shared expectations
- Disconnect between this change initiative and other relevant change initiatives throughout the organization

4.0 CHANGE READINESS PROJECT

The second project to be discussed in this report involves an applied study of change readiness within a logistics C2 center. This particular C2 center was in the process of a culture change to integrate continuous process improvement into its daily operations. AFRL researchers were asked to conduct a study of the organizational culture and change readiness of personnel to engage in the change. The current report will only discuss the change readiness aspects which are also discussed in more detail in Lyons, Swindler, and Offner (2009). For a more comprehensive perspective of the organizational culture work interested readers should refer to Militello, Offner, Padula, Swindler, and Lyons (2008). Change readiness corresponds to the psychological precursor to either engaging in or resisting change initiatives (Armenakis, Harris, & Mossholder, 1993). Researchers agree that change readiness is an important element for successful organizational change (By, 2007; By, Diefenbach, & Klarner, 2008; Levesque, Prochaska, & Prochaska, 1999; Levesque, Prochaska, Prochaska, Dewart, Hamby, & Weeks, 2001; Pellettiere, 2006; Sokol, 1997). An individual's change readiness will be related to their actual adoption or acceptance of the change initiatives at hand (Cunningham, Woodward, Shannon, MacIntosh, Lendrum, Rosenbloom, & Brown, 2002), thus making it a critical enabler of organizational changes. Holt and colleagues (2007) outlined change readiness as a "comprehensive attitude that is influenced simultaneously by the content (i.e., what is being changed), the process (i.e., how the change is being implemented), the context (i.e., circumstances under which the change is occurring), and the individuals (i.e., characteristics of those being asked to change) involved" (p.235). This separates the antecedents (i.e., content, process, context, and individuals) from the actual experience/perception of change readiness. These perceptions are thought to motivate behavioral change (Holt et al., 2007), thus further separating change readiness perceptions from their consequences (i.e., behavior or intentions). Change readiness is a psychological belief characterizing ones attitude about a change initiative whereas intentions represent action-oriented thoughts toward some goal or activity. This is consistent with contemporary behavioral change researchers who postulate that individuals go through various stages of change readiness beginning with psychological acceptance (i.e., "buy-in") and moving toward behavioral intentions to engage in behavioral change (Levesque et al., 1999; Levesque et al., 2001).

The current project explored some of the antecedents to change readiness, most notably, leadership behaviors at supervisor and senior executive level. Previous researchers and popular authors acknowledge that leadership is critical to the success of any change initiative (see Kotter, 1996), thus implicating leadership as an important antecedent of change readiness. However, the link between leadership and change readiness has not been empirically evaluated in the literature. Previous research has discussed this relationship and has outlined the importance of management support as a precursor to change readiness (Holt et al., 2007). Yet, previous research has not tested the relationship between management support and individuals' change readiness. This is a critical step toward understanding the antecedents of change readiness in organizations. The present study clearly delineates between leadership and individuals' perceived change readiness

with leadership as a potential antecedent to change readiness. Theoretical models of behavioral change suggest that individuals pass through various stages of psychological readiness when making decisions to engage in or resist behavioral change (Levesque et al., 1999; 2001; Prochaska & Velicer, 1997).

The Transtheoretical Model (TTM) of behavior change is one model to guide research on change readiness, and it suggests that individuals' adoption of novel behaviors in an organizational context can be predicted based on their alignment to one of five stages: precontemplation, contemplation, preparation, action, and maintenance (Levesque et al., 1999; Levesque et al., 2001). Individuals in the precontemplation stage tend to be resistant to change; unaware of the consequences of not changing, and lack the efficacy beliefs that engaging in certain behaviors will lead to success. These individuals have no plans to engage in the change initiative. Employees in the contemplation stage begin to acknowledge the benefits of change but they continue to overestimate the drawbacks of the change. While employees in the contemplation stage are not resistant to the idea of change, they have a difficult time imagining themselves engaging in the change initiative in the near future. In contrast, individuals in the preparation stage are characterized as taking small steps toward engaging in change. Individuals in the action stage have been engaged in the change for less than six months and those who have been engaged in the change for longer than six months fall into the maintenance stage.

The TTM was originally designed to better understand health promotion behaviors. However, more recently, the TTM has been applied to organizational settings to understand how and when individuals will support or resist organizational change initiatives (Prochaska, 2000). The strength of the TTM within an organizational context is that it proposes alignment between organizational interventions across the spectrum of individual's change readiness. This model can be applied based on a continuous change management philosophy as opposed to fragmented change initiatives. This further helps to avoid a one-size-fits-all approach to organizational change, which has been shown to be ineffective (Winum, et al., 1997). Researchers suggest that organizations adopt a conscious approach to change management involving a continuous and iterative set of actions in support of change management needs (By, 2007). The TTM may help to facilitate awareness and understanding of the change readiness challenges that permeate among personnel over the course of an organization's lifecycle and this information can be used by organizational leaders to promote the optimal set of responses form an organizational leadership perspective. The project empirically evaluated the assertion that individuals' change readiness predicts their intentions to engage or resist change initiatives within the context of the process improvement project.

The results of the study indicated that change readiness was predictive of change-related behaviors. Specially, individuals who reported low levels of change readiness also indicated no intentions to engage in the change. In contrast, individuals who reported high levels of change readiness have already engaged in the change initiative or have immediate plans to engage in the change (see Lyons et al., 2009 for further details). Additionally, leadership was found to be a

significant influence on change readiness. Leadership behaviors at the senior and supervisor levels were predictive of change readiness among the enlisted personnel within the organization. Leadership behaviors at the senior executive level were predictive of change readiness for civilians and officers. Ultimately, this study demonstrated the importance of change readiness as a precursor to engagement or disengagement in organizational changes. Leadership was also revealed as a significant influence on change readiness.

5.0 BARRIERS TO EFFECTIVE CHANGE WITHIN THE GOVERNMENT

This section summarizes some of observed barriers to accomplishing effective change within the government. These findings span multiple projects, including those described above.

5.1 Group Differences Among Personnel

Commercial sector and government organizations both face immense challenges when dealing with organizational efforts. However, government organizations may face even greater challenges due to high leadership turnover (rotating jobs as opposed to leaving the government), stringent policies and procedures, and political factors (Ostroff, 2006). Another challenge within the government is the diversity of personnel within it, particularly within military organizations that include military enlisted personnel, officers, civilians, and a growing number of contractors. Military and civilian personnel may have different beliefs and espouse different values based on differences in training, policies, and esprit de corps (Lyons, Swindler, & Tartaglia, 2009). Organizational leaders must be aware of the different groups of individuals within their organizations as these individuals may have different motivations, guiding policies, training, and career progressions. This creates challenges within an organizational change context as leaders are responsible for crafting messages that meet the needs of the their personnel, creating interventions to address organizational issues, and reducing employee resistance to change.

5.2 Rapid Senior Leadership Turnover

The turnover rate for senior leaders within the government, particularly with military organizations is fairly high as these individuals are often selected for various positions and move around frequently. This is a significant barrier to organizational change within the government for two reasons. First, organizational changes typically take a long time to complete. The loss of a senior advocate for a change initiative can have a detrimental impact on the momentum of the initiative. Secondly, the knowledge that senior leaders are somewhat transient can foster "stone walling" among personnel who are resistant to change. This may be particularly true of individuals with a long tenure in an organization who have perhaps witnessed senior leaders come and go. Such individuals may be tempted to "wait it out" if they have negative views of an organizational change.

5.3 Lack of Communication/Visioning

Often times, organizational leaders may simply enact a change with little attention given to the necessary components of communication and visioning. Vision setting, establishing urgency to change, and communicating about the change are critical elements to effective organizational changes (Kotter, 1996). Without the proper business case for why the change is necessary individuals may develop resistance to the change and not be willing to adopt new processes, structures, and or technologies. Further, without an effective vision employees are left on their own to make sense of the change. Vision provides employees with the desired future,

and this is critical to organizational changes. Finally, communication is perhaps the most critical element of an effective organizational change. Communication was cited as the number one driving force in enabling a successful implementation of the Army's Logistics Modernization Program (LMP; Coker, 2006). Communications can involve keeping customers, users, leadership, and other stakeholders apprised of any and all information related to the change. Communications can also involve providing the business case for the change, providing feedback about the change, and information regarding the potential benefits and costs of the change.

5.4 Too Much Focus on Technology – Not Enough on Change Management

All too often in the government, organizational changes are focused on implementing a novel technology and little attention is given to change management aspects of using that new technology. Research suggests that the highest failure rates for new technology implementation are in the defense sector (Clegg et al., 1997), and sadly the causal influences on these failures are often organizational in nature. It is important for organizations to communicate why the new tools are necessary, understand employee resistance factors, provide the adequate training for the new tools, and collect feedback about how the new technologies are affecting the workplace. New technology is not a panacea, and organizational leaders need to be aware of the limitations of new tools and properly calibrate their expectations when new tools are implemented in organizations.

5.5 Historical Factors

A major barrier to organizational changes within the government includes historical factors. Government organizations tend to engage in a great deal of change, and much of that change is poorly executed or stalled, thus fostering further negative perspectives regarding novel change initiatives. When organizational leaders seek to plan and execute organizational change initiatives they must try to understand the history of the organization and organizational change efforts (Holt, Dorey, Bailey, & Low, 2009). For example, have similar initiatives been attempted in the past? If so, were they successful or not successful? If they were not successful, organizational leaders must seek to avoid the same pitfalls as previous efforts and address employee concerns that may have carried over into the current change initiative.

5.6 Lack of Attention to Workspace Design

Many face-to-face interactions within the workplace are opportunistic rather than planned, and workplaces must be designed in such a way as to foster these chance encounters (Heerwagen, Kampschroer, Powell, & Loftness, 2004). Researchers have only recently begun to systematically explore the costs/benefits of workspace design. A comprehensive study by Becker and Sims (2001) explored the benefits of open workspaces (such as team work area, or "bullpen") relative to offices with closing doors and closed ceiling, and offices with high cubicles. Low cubes, team bullpens, and team-oriented pods were better at fostering

communications and decision making relative to high cubes or closed offices. Further, individuals working in low cubes, team bullpens, and team-oriented pod arrangements were more likely to use brief interactions (i.e., shorter duration) relative to those in high cubes or closed offices. They concluded that open work spaces are best for fostering teamwork, development of tacit knowledge, and may be particularly effective for service jobs. The open spaces were however associated with greater distraction relative to the other arrangements. The closed offices had the benefit of privacy yet they were associated with longer interactions which could reduce efficiency. Finally, high cubes were considered the worst office design as they do not offer phone/discussion privacy nor do they facilitate communication with peers. The physical design of organizations within the government is at worst completely neglected and at best typically an ad-hoc consideration. Organizational leaders should be challenged to develop plans to evaluate the layout of the workspace and factor in design considerations for 1) private work areas where needed, 2) team collaboration space, and 3) opportunities for opportunistic interactions with colleagues.

6.0 CONCLUSION

The current report documents AFRL contributions to two organizational change projects while discussing the pertinent research areas for organizational leaders to consider when engaged in organizational change initiatives. Organizational changes are an ominous task for any leader to conduct. Few studies have taken a government-centric view of organizational change barriers, and while some of these factors may generalize to the commercial sector, the government clearly faces some unique challenges in executing organizational changes. Organizational leaders must be cognizant of the potential barriers to change and engage in the proper change management techniques to ensure that their workforce is supportive of the change, psychologically ready to engage in the change, and to solidify the infrastructure that will help to foster the change (i.e., communications plan, vision documents, leadership support network, process teams, etc.).

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LIST OF ACRONYMS

AF	Air Force
AFRL	Air Force Research Laboratory
AOR	Area of Responsibility
C2	Command and Control
COA	Course of Action
DoD	Department of Defense
GWOT	Global War on Terror
IPT	Integrated Project Team
KEL	Knowledge Enabled Logistics
LMP	Logistics Modernization Program
OD	Organizational Development
OI	Operating Instruction
SIPOC	Supplier, Input, Process, Output, Customers
TTM	Transtheoretical Model