



**HIGH-PERFORMANCE WORK PRACTICES:
A CASE STUDY USING THE PHENOMENOLOGICAL APPROACH**

THESIS

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Abstract

The fast paced work environment that exists today requires organizations to adapt quickly in order to sustain high performance. Research suggests that the use of high-performance work practices (HPWPs) in human resource management is a possible way to increase performance. As the United States Air Force continues to face decreasing budgets, possible fixes such as the use of HPWPs may be considered. This research used a phenomenological approach to collect data from civil engineer controllers throughout the Air Force about their experiences and perceptions. The purpose of the study was to investigate whether current human resource practices are potentially contributing to the perceptions of controllers. The results were analyzed and coded into overall themes. These collected data were compared to models of HPWPs to identify which practices could be altered to possibly increase performance. There were five key findings from this research. Controllers felt that there were too few senior leaders in the career field, there was an unawareness of their role by other squadron members, there was inconsistent employment and recognition of controllers, they needed advanced training, and there was a lack of standardized guidance.

AFIT/GEM/ENV/12-M22

To my family and friends for the support that they gave freely

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Captain AJ Zorn

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HIGH-PERFORMANCE WORK PRACTICES:
A CASE STUDY USING THE PHENOMENOLOGICAL APPROACH

I. Introduction

The accelerated pace of the modern work environment demands that organizations maximize their outputs by developing robust, flexible work structures. Employee management is just one of the many factors that can contribute to such a structure. In the recent past, organizations have shifted their focus to human resource management (HRM) in search of changes that could boost performance. It can be easily surmised that in order for an organization to realize its full potential, it is necessary for all members of the organization to operate at their highest efficiency. Numerous studies have suggested that the extra efficiency organizations seek can be found in the implementation of high-performance work practices. Though every organization must manage employees in some manner, research suggests that the use of these more involved practices may provide the increase in performance for which organizations are searching.

Background

HRM has been thoroughly investigated in search of ideas that organizations can use to increase performance. There is a common belief among both researchers and practitioners that individual performance can be positively affected by HRM practices.

By focusing on the management of individuals, gains in overall organizational performance are expected. Research suggests that the use of strategic, involved practices, known as high-performance work practices (HPWPs), do in fact lead to increases in organizational performance. Specifically, studies have shown a positive relationship between HPWPs and various performance measures. For example, HPWPs can be used to lower employee turnover (Sheridan, 1992). Additionally, productivity was increased by the use of HPWPs that emphasized training (Russell et al., 1985). Finally, Cascio (1991) and Paul and Anantharaman (2003) demonstrated the connection between HPWPs and the overall financial performance of organizations.

In other work, Huselid (1995) suggested that three processes of employee behavior were affected by different HPWPs. The three processes are: increasing the knowledge, skills, and abilities (KSAs) of the worker, motivating workers to use KSAs, and empowering them to do so. A later study gathered data from prior HRM research and isolated 10 HPWPs that most affected organizational performance (Liu et al., 2007). These practices were found to affect overall performance more when implemented as a system rather than as individual initiatives (Combs et al., 2006). Practices included training, selection, grievance procedures, employment security, and others. From this information, it can be assumed that an organization should at least consider the use of HPWPs to increase overall performance and maximize efficiency.

The United States Air Force is in a position where it too is looking for possible ideas that can enhance performance. The sustained war efforts of Operation Iraqi Freedom and Operation Enduring Freedom have taken a significant toll on the United States military forces. These two engagements have been costly in terms of both money

and manpower (Belasco, 2011). In addition to the ongoing conflicts, the Department of Defense is facing severe budget cuts. These cuts are a result of the government's desire to reduce the national debt accumulation. In response, the Air Force is expected to cut \$33 billion in annual costs (Byers, 2011).

Along with funding, reductions in manpower have been proposed to address the budget pressures. In doing so, the Air Force aims to "right size" the force so that only essential personnel are retained (Byers, 2011). Each career field in the Air Force has subsequently been prompted to evaluate its current practices and provide leaders with possible solutions to save money and manpower. In 2007, Civil Engineer (CE) leaders responded to the increasing budget crisis by releasing a plan, termed "CE Transformation," to meet the "20/20 by 2020" goal of offsetting the 20% reduction in funds available for installation support activities and reducing the amount spent on the current physical plant by 20% by the year 2020 (Moriarty, 2007). The belief was that the Air Force could save money if it used better business processes to manage its physical infrastructure, learned best practices from industry, and utilized off-the-shelf technology for its databases (Culver, 2007). There were also manpower reviews conducted to ensure that personnel levels were adequate for the missions they were charged with carrying out.

One of the main points of the CE Transformation plan is the adoption of an asset management approach. Asset management is the term coined for the process of using all available resources in the most efficient way possible. Major General (retired) Del Eulberg (2007), former Civil Engineer of the Air Force, defined asset management as using systematic and integrated processes to manage natural and built assets and their associated performance, risk, and expenditures over their life cycles to support missions

and organizational goals. In an address to the CE community, he stated, “We’ve initiated one of the most significant paradigm shifts in civil engineering’s recent history.” Other Air Force leadership has agreed that a more “business-minded” approach must be used. This approach requires a deliberate assessment of risks, costs, and benefits to provide a common level of service across the Air Force (Lawrence, 2007).

Since the asset management model is a data dependent system, the quality of the data used, on which these “business-minded” decisions are based, may be a source of concern. Data must be collected on what is owned, what it is worth, and what is the expected life-cycle. Vanier (2001) suggested that answering these questions was essential to implementing asset management. In addition, he looked at what decisions can be made with the existing data, but failed to look at the data collection itself and the problems associated with it. Errant or incomplete data hinders the decision-making process, regardless of the number of creative and innovative decision tools that are created. Furthermore, the implementation of asset management is a socio-technical process. As part of a study of the British coal industry, the Tavistock Institute found that during a landmark change in processes, “the goal must always be the joint optimization of the social and technical systems” (Mumford, 1994).

The underlying assumption in the initiatives enacted to meet budget pressures is that the personnel employed are performing their jobs as intended. It is assumed that they are properly trained and can accomplish the work necessary to support the initiatives. This implies strong career field management along with leadership support regarding inputs into the decision-making process and resources for training and development. If performance is not at the level desired, one could argue that the implementation of

HPWPs would be an appropriate endeavor. This could address any shortcomings in training, motivation, and other areas.

The personnel responsible for a large amount of the data that asset management depends on are known as controllers. Their jobs include communicating with the customers, planning work, and maintaining the systems that document work, inventory, and schedules. Upon closer examination of the controller functions though, many issues that HPWPs claim to address are present and may be causing unforeseen performance problems. For example, senior members of the controller, or operations management, career field attending a CE Superintendent's course voiced concerns about the void of advanced training, feelings of not being part of the team, retention, deployments, and manning (McDowell, 2011). These issues hint at systemic failures, or perceptions of failure, in HRM within the controller career field.

Problem Statement

Initial indications from leaders in operations management suggest that there is a perception that the career field may have systemic problems that directly affect its ability to conduct its assigned mission. These problems relate to the three processes that HPWPs claim to aid: increasing the KSAs of the worker, motivating workers to use the KSAs, and empowering them to do so. The operations management career field may benefit from an investigation to determine which HPWPs are used and which could be implemented to address the observed problems. If these problems are not corrected, they may result in a loss of performance.

Research Question

Based on the concerns expressed about HRM practices within the controller career field, the primary objective of this research was to answer the following question: Are current human resource practices potentially contributing to the perceptions of controllers? To address this question, the following investigative questions were explored to focus on specific areas:

- Do controllers feel they possess the KSAs needed to perform their jobs well?
- Are controllers motivated to perform?
- How are interpersonal relationships between controllers and other engineers affecting job performance?
- Do controllers believe they have the necessary representation among decision-makers?
- Do controllers perceive the product they produce is reliable?

Methodology

A qualitative approach, based on the phenomenological method, was used to examine the controllers' perceived reality. The desired information was collected through semi-structured interviews. The exploratory nature of these interviews allowed the subjects to answer however they desired and allowed them to introduce additional topics. After each interview, the questions for the next interview were altered by constant comparison to further explore areas identified in prior sessions. Interviews ceased once the collected data reached a point where no new information was produced known as theoretical saturation. Interviews were transcribed semi-verbatim and analyzed by coding. Once the data were distilled into a small number of theoretical codes, they were

summarized and presented; secondary data sources were sometimes used to further clarify results.

Assumptions and Limitations

Two main assumptions impacted this research. First, it was assumed that there was truth to the perceptions described. Although some of the results are reinforced by secondary sources, a majority of the issues that were uncovered are based solely on the recurring perceptions of the subjects interviewed. These perceptions were viewed as likely realities since they were confirmed by multiple interviews. The second assumption was that increased performance of operations managers will translate into successful performance of asset management as it applies to overall CE and Air Force goals.

This study is limited to responses from controllers. Although a few non-controller members of CE were contacted as secondary sources, the study focuses on the perceptions of controllers alone. Similar problems may exist in the production control elements of other groups such as communications or maintenance, though the consequences of mismanaging a specific group of workers may not have the same effect in different industries.

Implications

Problems identified in this study can be communicated to leaders in the career field and the CE community as a whole. The awareness of these problems may prompt leadership to focus on investigating relevant areas more closely and introduce changes that may increase performance. Although the issues revealed may apply specifically to

controllers, the underlying HRM relationships and the results of this study may bring to light the challenges that many small groups within larger organizations face when the use of HPWPs is marginal or absent. It may also prompt leaders to closely examine groups within their organizations that they are not as familiar with to see if similar issues are present.

Overview

The next chapter contains relevant literature that details the use of HPWPs and explains the career field studied. Chapter III contains an explanation for the methodology selected as well as a description of how the data was collected and analyzed. Chapter IV is a hybrid of results and additional literature. At times, a topic is framed using relevant literature so that the comments of the interviewees are displayed in the proper context. The chapter concludes with a discussion on how the results relate to a previously established HRM models. The final chapter contains conclusions from the study.

II. Literature Review

The following literature review provides further information about two areas pertinent to this research. The first section looks at high-performance work practices (HPWPs) and explains the beginning of their use, what they include, and how they affect performance. The next section provides a needed explanation of the career field that this study focuses on. The job description, as described by the United States Air Force is included as well as a comparison to a similar civilian job. These two areas are critical to understanding the context of this study.

High-Performance Work Practices

This section consolidates the work of numerous researchers in the field of human resource management (HRM). Specifically, it looks at a number of practices that have been termed “high-performance” to show the utility of such practices in an organization. The section concludes with one of many models that neatly organizes the most effective HPWPs.

Genesis of HPWPs

Human resource management refers to the actions of an organization that focus on the employee rather than the product or service they provide. The growing literature base includes many different studies that look at the relationships between the characteristics of employees and the performance of the organization (Guthrie, 2001). These studies hope to provide justification for the necessity of HRM. The goal of HRM

is to remove any roadblocks being faced by an employee to facilitate their productivity (Liu et al., 2007).

Near the beginning of the 20th century, management leaders such as Frederick Taylor championed the idea that managers should hold all the power in a company and treat workers as interchangeable parts. When this philosophy met fierce criticism, the idea of HRM was born (Cappelli & Neumark, 1999). It took many years for organizations to fully embrace the concept of HRM. In the late 1970s and early 1980s, a shift was seen by organizations to focus more on HRM. Many companies renamed their “personnel” departments to “human resource” departments, emphasizing the fact that workers were viewed as assets as opposed to pieces of a machine (Liu et al., 2007).

In the 1990s, management researchers began to identify certain HRM practices that they believed organizations should implement to provide a competitive advantage. The thought was that a system of practices providing workers with skills, information, and motivation would become invaluable to an organization’s success (Guthrie, 2001). These practices have been referred to in a number of ways, from “high performance” (Huselid, 1995) to “high involvement” (Lawler, 1992) to “high commitment” (Arthur, 1994). Pil and MacDuffie (1996) believe that referring to these practices as “high performance” is a mistake because it implies that the practices undoubtedly translate to increased performance, a belief that they do not support. Although there are debates about the appropriateness of such titles, the concept behind each term is similar. The phrase “high performance work practices” (or HPWPs) is used throughout this document because the focus is on the model developed from Huselid’s (1995) work.

Benefits of HPWPs

The growing intensity of international competition has forced many organizations to explore HPWPs in search of an edge over their challengers (Pil & MacDuffie, 1996). The question that they want answered is whether or not implementing HPWPs will actually increase performance at some level. The majority of the literature indicates that there is a connection between HPWPs and performance.

A study conducted by Huselid (1995) found that there was consistent evidence that effective use of HPWPs directly contributed to organizational performance. Some of the practices linked with performance were extensive recruitment, selection, training, information sharing, attitude assessment, job design, grievance procedures, participation programs, appraisals, promotions, and incentives. The study crossed several industries and organizations of different sizes. Repeatedly, he showed a connection between these practices and performance measures such as lower employee turnover, greater productivity, and corporate financial performance.

Another study found that the key to the effectiveness of such practices is that the ideas and motivations of employees must be tapped into to increase productivity. Without the use of HPWPs, employees might withhold effort and compliance either due to an inability or indifference to act (Cappelli & Neumark, 1999). Research by Russell et al. (1985) showed that an emphasis on training was key to overall success. Others also demonstrated the connection between effective HRM and performance (Liu et al., 2007).

Vandenberg et al (1999) studied the path from HPWPs to performance by way of morale. By increasing employee involvement, increases in organizational performance were shown as well as an indirect influence through employee morale. The study

measured levels of morale within multiple organizations and saw increases in connection with HPWPs. It was expected that the increased morale would lead to overall increases in organizational performance. This assumption was supported by performance measures. Stronger morale resulted in improved organizational-level performance evidenced by lower turnover, higher productivity, and higher financial performance (Vandenberg et al., 1999).

The positive results often result in opponents suggesting various sources of bias, thereby dismissing their impact. Cautious of the wide applicability of such studies, Cappelli and Neumark (1999) agree that studies within a single industry may yield usable results. They believe that performance measures within industries are “less contaminated by extraneous factors, hence more accurately measure true performance differences across firms.” In contrast, others have shown evidence that the HPWP-performance relationship is not affected by the researcher’s choice of organizational performance measures (Combs et al., 2006). Instead, there is a meaningful relationship between the use of HPWPs and a variety of performance measures (Liu et al., 2007).

Costs of Implementation

Though HPWPs have been shown to increase organizational performance, some groups may not find it advantageous to implement such practices due to the initial implementation costs. To effectively use HPWPs, the group must embrace the philosophy of commitment and involvement of the employees. Vandenberg et al. (1999) state that an abundance of corporate policies and good intentions from the company leadership means nothing if the employees do not feel they are a crucial piece of the

overall success. The perception among employees must be one of significance of the individual. Therefore, the necessary steps to develop a culture of involvement must be taken, which is not without cost.

To start using HPWPs, an organization must transform into an employee-centered group. This investment is risky because it places power at lower levels than traditionally done. The decision-making authority must be dispersed to the necessary levels (Guthrie, 2001). The company must then manage this stretch of power through a robust HR department (Lawler, 1992). Rather than separating thought processes from work processes, the company must rely on the tacit knowledge of the employees (Guthrie, 2001).

Pil and MacDuffie (1996) noted the possible levels of performance that may be observed once HPWPs are implemented. By introducing practices that require more out of employees, change areas of emphasis, and stray from familiar procedures, performance will likely fall at first, costing the organization the productivity it had before the changes were implemented. Once the practices take hold, it is implied that performance will reach higher levels than if no practices were introduced or if some HPWPs were slowly introduced. This relationship is shown in Figure 1.

The initial effects may discourage some managers due to the loss in efficiency that initially occurs. For managers who are judged on short-term financial gains, HPWPs hurt their immediate bottom lines. Another reason that HPWPs may not be adopted is if the organization does not have time to realize the benefits. For these reasons, introducing a bundle of HPWPs may not be feasible (Pil & MacDuffie, 1996). Conversely, in the

wake of a large operational disruption, some companies may find it easier to start a new HPWP campaign.

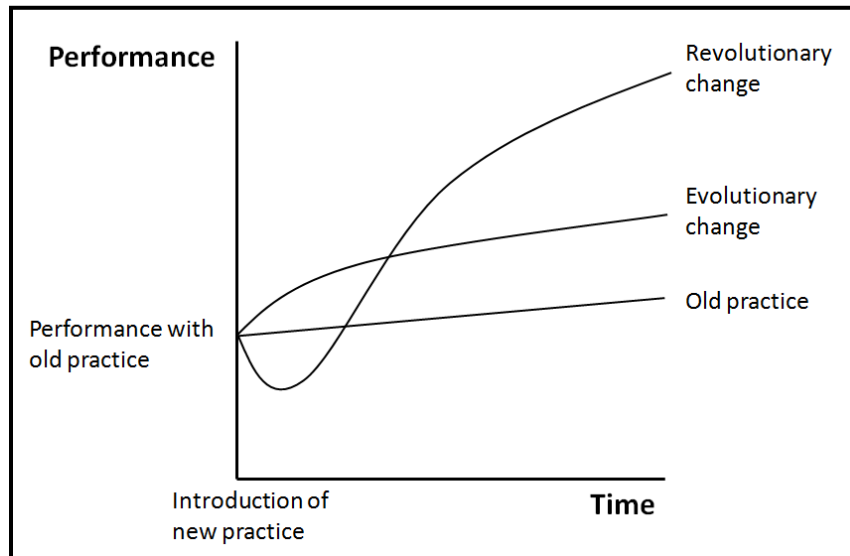


Figure 1: Effect of Practice Changes in Performance over Time (Pil & MacDuffie, 1996)

On the other hand, there are ample arguments that an organization cannot afford *not* to implement HPWPs. As mentioned earlier, performance measures for most of the research on this topic included turnover, productivity, and financial gains; in fact, a majority of the studies used turnover as the main indicator of performance. Therefore, an HRM strategy that strives to improve performance must minimize turnover (Sheridan, 1992). This assumption was made because of its apparent connection to productivity and finances.

Guthrie (2001) proposes that there is a high investment in employees for companies that use HPWPs. By using these practices, the uniqueness of the employee grows. They become more productive the longer they stay employed. Therefore, when

an employee does leave, the impact of their departure is stronger in organizations that use HPWPs. On the contrary, turnover affects companies less when HPWP usage is low.

The connection between HPWPs, turnover, and realized costs was made by Sheridan (1992). He demonstrated that companies focusing on HPWPs retain employees longer. His study showed that professionals hired by firms emphasizing interpersonal relationships (a core tenet of the HPWP philosophy) stayed with their original employers 14 months longer than those at firms emphasizing work task values. The cost to replace an employee is significant. Total costs include separation costs, replacement costs, and training costs for the new employee (Cascio, 1991). Considering the extra 14 months of employment that were lost, it was estimated that \$6-9 million dollars were spent on turnover by the companies not using HPWPs.

There are arguments that the performance increases realized by using HPWPs are offset by the cost of implementing them. The increased productivity of workers is not seen because labor costs increase simultaneously in order to pay for HRM (Cappelli & Neumark, 1999). However, individual improvement was noted in many of the studies. It could be concluded that HPWPs are worth implementing as it poses no direct costs to employers while possibly elevating individual well-being.

System versus Individual

The overwhelming takeaway from most of the research on HPWPs is that they are best used as a system rather than individually. This idea was supported by two different views. First, no single practice had enough power to significantly contribute to organizational performance (Lawler, 1992). However, there was clear evidence that

HPWP systems have a greater effect than individual practices (Combs et al., 2006). The interactions of the different practices seemed to provide a sort of synergy when implemented simultaneously (Pil & MacDuffie, 1996). Secondly, the research could not pinpoint a singular practice as the most useful (Vandenberg et al., 1999). Some practices were seen as ideal, yet yielded poor returns when applied alone or complemented with the wrong combination of other practices such as information sharing (Combs et al., 2006).

Paul and Anantharaman (2003) could not find a single practice that was linked directly to performance and demonstrated the means by which HPWPs act directly and indirectly as a system. They first hypothesized that some HPWPs would directly affect financial performance, while others would indirectly affect it through intervening variables and operating performance measures. Their hypothesized model is shown in Figure 2.

After conducting their study, they presented a second model showing the observed relationships shown in Figure 3. The numbers in the figure represent the correlation between each item. The most significant finding was that none of the HPWPs had a direct affect on financial performance. This supported many similar claims made by other researchers. The results also showed that the combination of the different practices did indeed lead to increases in overall financial performance. It was noted that even in the absence of a direct relationship, some practices were considered significant players in performance and should not be mistakenly overlooked (Paul & Anantharaman, 2003).

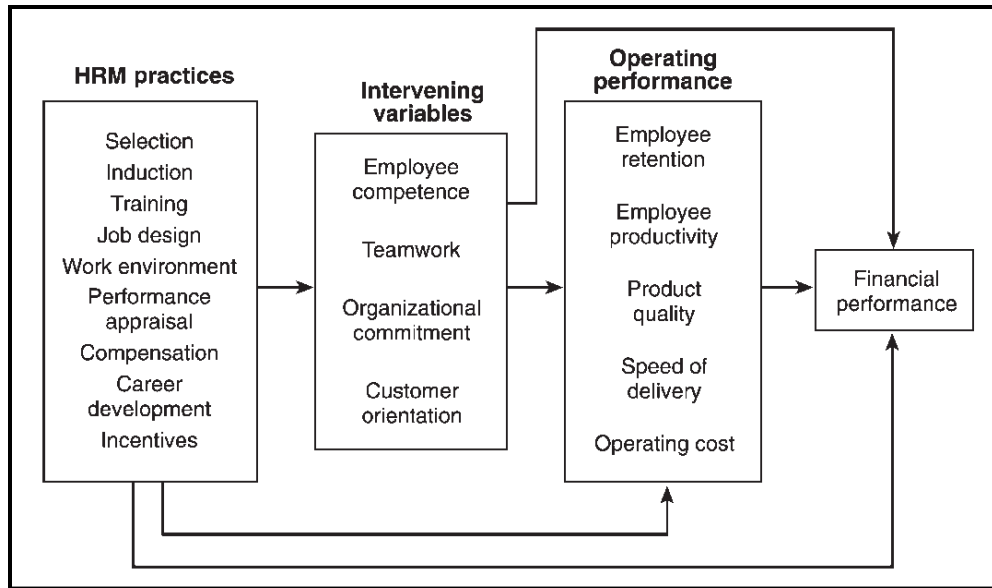


Figure 2: Hypothesized Model of HRM-Performance Relationships (Paul & Anantharaman, 2003)

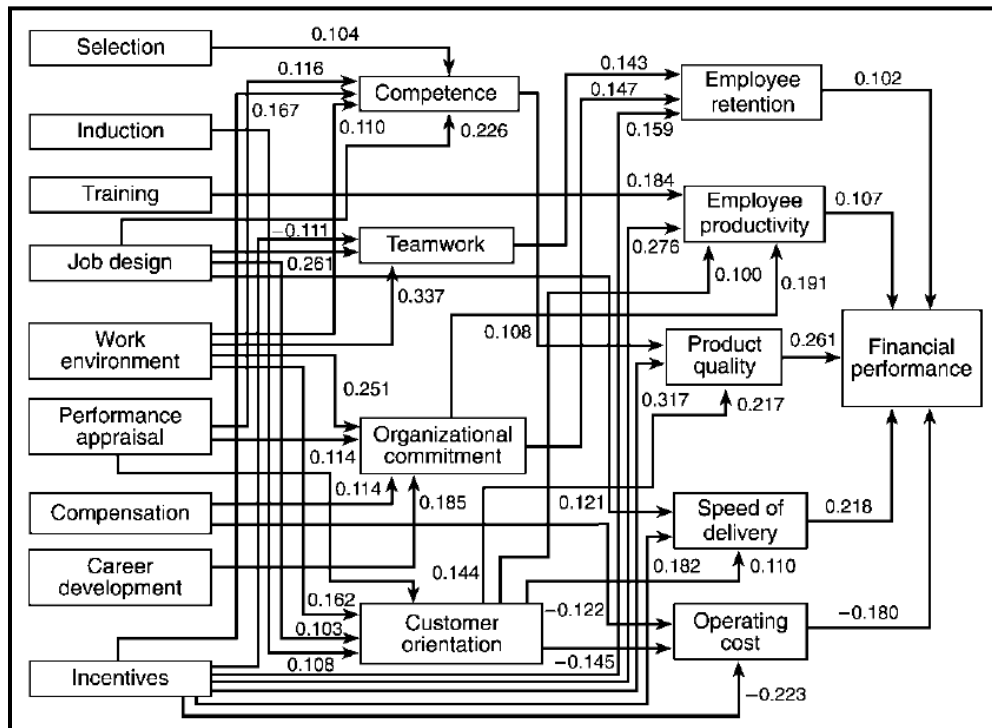


Figure 3: Observed HRM-Performance Relationships (Paul & Anantharaman, 2003)

Similar conclusions were presented by Combs et al. (2006), who suggested a conceptual model showing the relationships between individual HPWPs, HPWP systems, and organizational performance. They believed that the system would have a greater influence on performance as opposed to individual practices. They also hypothesized that the degree of influence would be moderated by the organizational strategy that the HPWPs were a part of, the industrial context of the organization, and the design of the research, specifically the measures used to describe performance. Their results confirmed that a systems approach was the most effective. They also found that the type of industry impacted effectiveness and that the results were consistent regardless of the measure used to determine performance.

Effective HPWP Model

Research on HPWPs often include models that explain how individual practices, moderating factors, and organizational performance measures are related. Two models resulting from one particular study stood out as inclusive of the main ideas shared throughout the literature. The first model was developed by Liu et al. (2007) based on the research of Huselid (1995). The model categorizes prevalent individual practices into three groups based on the process they enhance. These three processes are increasing knowledge, skills, and abilities (KSAs); motivating employees to leverage their KSAs for organizational benefit; and empowering them to do so (Combs et al., 2006). Along with contributions to the three processes described, HPWPs improve the social environment by promoting communication and aligning employees towards common goals. Each process is described in more detail in the following paragraphs.

The first process is increasing the KSAs of workers. Although this is accomplished by a number of practices, it starts with recruiting. Certain skills or attributes can be sought when hiring employees (Huselid, 1995). Personality traits may be considered in order to get employees that fit well within the company. Once hired, robust training programs are employed to provide workers with any needed skills. Training may take the form of classes, on-the-job training, or focused mentorship.

The second process is motivating employees to use their KSAs. Such motivation may be derived from incentive programs linked to performance appraisals. Incentives can range from monetary bonuses to priority in job selection. Promotions are also used to motivate employees by promising more responsibility and greater compensation. These practices are necessary because employees must desire to use their KSAs (Combs et al., 2006). If they do not, the company stands to lose money in the investments they make in training.

The last process is empowering employees to use their KSAs. Even if an employee wants to do well and has the ability to do so, he or she still must be supported by management and allowed to perform. The HRM practices in place must facilitate such actions (Vandenberg et al., 1999). Practices that can aid in this process are participation programs where employees play a role in decision-making and flex-time options so workers can decide how to best use their time (Huselid, 1995). By pushing decision-making to lower levels, the needs of employees for responsibility, independence, and autonomy may be met (Vandenberg et al., 1999).

The three processes described above resemble ideas suggested by other researchers. Likert once listed training, motivation, decision making, communication,

and control as causal variables of organizational performance (Russell et al., 1985).

Vandenberg et al. (1999) refer to these processes as the PIRK attributes. The first is the power to act and make decisions. The next is information, which can range from reviews to feedback to performance reports. The third attribute is rewards which may be related to individual or team performance. The last attribute is knowledge which encompasses the KSAs described earlier. If these four attributes are present throughout an organization, HPWPs have been successfully implemented.

After considering the three processes suggested by Huselid (1995), Liu et al. (2007) sought to determine which HPWPs significantly affected organizational performance and which process they enhanced. HPWPs prevalent in the literature were compared and the top practices were presented. The resulting model is shown in Figure 4. The top 10 HPWPs are (in order of greatest impact): HRM planning, compensation level, incentive compensation, training, internal promotion, employment security, participation, selectivity, grievance procedures, and flex-time (Liu et al., 2007). Teams, information sharing, and appraisals were also considered but were eventually left out of the model because of weak connections to performance. As stated previously, each HPWP is grouped with the process that it most enhances.

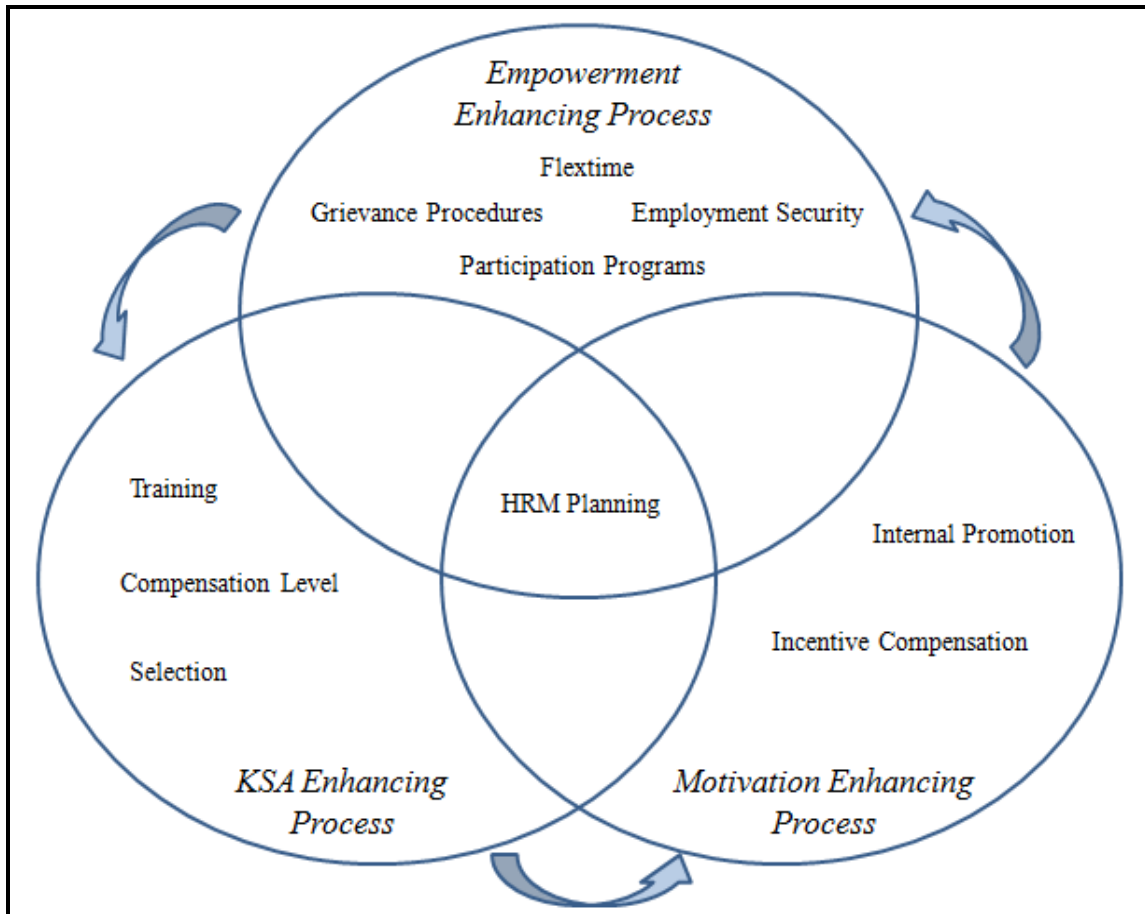


Figure 4: Top HPWPs Organized by Process Enhanced (Liu et al., 2007)

The second model developed by Liu et al. (2007) shows three factors that impact the effectiveness of the HPWPs, as shown in Figure 5. They include vertical alignment, horizontal alignment, and work context. Vertical alignment refers to the integration of selected HPWPs with the strategy of the organization. This is where the HRM planning shown in the middle of Figure 4 is applied. Careful planning from leaders must be present to align the appropriate HPWPs with the goals of the organization. Horizontal alignment refers to the care that must be taken to ensure that each HPWP complements the others. If HPWPs are implemented without considering the interactions, poor

performance may result. One example of this could be individual incentives used within a team structure. These contradicting practices may hurt each other. Finally, the third factor is work context. This factor acknowledges that not all HPWPs are suited for every industry. Certain HPWPs benefit the manufacturing industry while others may better fit service industries. The important takeaway is that HPWPs must be carefully considered before blind implementation.

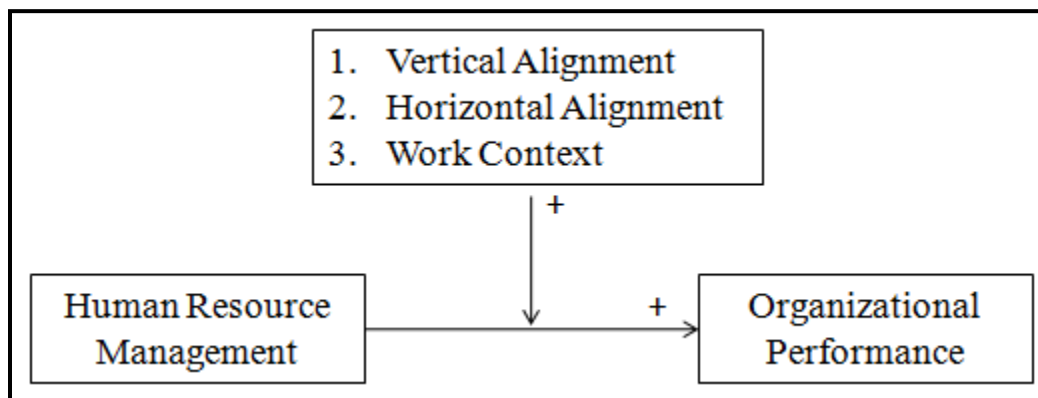


Figure 5: Factors that Impact Effectiveness of HPWPs (Liu et al., 2007)

HPWP Summary

The literature shows an increasing amount of research on human resource management. This indicates that organizations are interested in the benefits that may be possible if HRM tools are used. Numerous studies have demonstrated that there is a positive connection between HPWPs and organizational performance. Although no single practice is effective in isolation, a system of HPWPs can increase overall performance. Finally, a model is suggested that summarizes these conclusions and offers the top HPWPs that should be considered.

What is the Job of a Controller?

Before any discussion of issues facing the operations management career field, it is important to understand the job that controllers are assigned to accomplish. Further discussions are easier to understand when referenced from this baseline. Operations managers, Air Force Specialty Code 3E6, are members of the Operations Flight within a civil engineer (CE) squadron. They are referred to as “ops managers,” “controllers,” “triple nickels” as a tribute to their previous career field code of 555, or simply just “ops.” From this point forward, the term controllers will be used. Controllers are a unique group to study because of the fundamental difference between them and the other members of the Operations Flight. Whereas most members in the flight work outside with their hands, controllers’ jobs are primarily indoors and clerical in nature.

The intended career path for controllers is outlined in the 3E6 Career Field Education and Training Plan (CFETP). The plan is developed by the career field manager at the Air Force Civil Engineering Support Agency along with inputs from the 3E6 Major Command program managers and the Air Education and Training Command staff of the technical school at Sheppard Air Force Base. The CFETP serves as a guideline for frontline supervisors, enlisted personnel supervisors, and program managers to ensure that the career paths of their airmen are correct and equitable. It also serves as reference for training expenditures (Department of the Air Force, 2011b).

Job Description

The operations management career field is unique in many ways. It is one of the few career fields in a CE squadron where planning, funding, and execution converge.

Because of this, controllers must be aware of how each of these areas operates. The career field is also unique because it positions a clerical job within a “blue collar” flight. Even authorized positions are assigned differently. While most manning is based on assets such as total square feet of floor space or number of facilities, squadrons are assigned four controller positions regardless of the size of the organization (Department of the Air Force, 2000).

The operations management shop is where work starts and finishes. Whether it is a request from a customer on base or an internal request from another flight, the request is formalized by the controllers so that all work can be accounted for. From there, the work request is passed to the proper shop for completion. All along the way, controllers track the job’s progress, provide materials, and ensure that the right work is completed. The following sections outline the three major areas of responsibility for the 3E6 career field.

Work Management

The largest part of a controller’s job is to manage the work of the Operations Flight. “Management” does not imply that the controller is making decisions on what work to accomplish. This decision resides at the flight level and in the respective shops. What it means is that the controllers know the work being done, the shop doing the work, the schedule and required materials, and the plan for completion.

At the initiation of a work request, a controller enters the data into the Interim Work Information Management System (IWIMS). The data entered include request description, shop assigned, date of request, and requesting party. Each shop then

accesses IWIMS to see the requests they have been assigned. At times, the request will not be immediately scheduled to the shops. Instead, the controllers will gather such requests and present them to the Work Request Review Board (WRRB), a meeting chaired by the Operations Flight Chief but conducted by controllers, for filtering and prioritization.

The controllers are responsible for conducting sanity checks during each step of the process. First, they must make sure that the proper money codes correspond to the correct type of work accomplished. They must also monitor the progress of the work to identify any irregularities. From the vantage point of their office, they are perfectly situated to observe trends in work and areas that may present problems. These concerns can then be forwarded to the flight chief. As a final task, controllers manage the priority list as dictated by flight and squadron leaders so that all efforts are focused on the proper jobs.

A second important meeting often conducted by controllers is the weekly scheduler's meeting. This is not prescribed in the CFETP but has become a regular activity at most bases. This meeting includes all shop leads, superintendents, and flight leaders. At this meeting, controllers present reports that show where the work of last week was performed and what the plan is for the near future. Other reports include percentage of hours dedicated to different activities and special interest jobs that need the attention of the flight chief. Information on costs, reimbursements, and materials may also be presented in this forum.

Because the controllers are trained on a data management system in their introductory school, they become the flight experts by default. They can provide

assistance to shop representatives in order to help them enter their work plans and progress. Controllers should be proficient in IWIMS and Automated Civil Engineer System usage and able to train other members of the squadron. Additionally, controllers are expected to work as supply officers, a job previously performed by airmen from the Logistics Readiness Squadron who were assigned to the CE squadron. This duty requires competency using the Civil Engineer Material Acquisition System to order construction materials. Job tasks include ordering, tracking shipments, receiving product, and inventorying material stocks.

Customer Interface

An important and often overlooked aspect of a controller's job is interaction with customers. A controller is the face of CE for many people on base. A controller's core task is receiving work requests. Request reception is completed both in person and over the phone. It is for this reason that communication skills, language, and interpersonal skills are valued qualities for a controller. Controllers must be able to respond professionally to any customer, regardless of whether the requestor is confrontational or not. Due to the inconveniences possible when a system malfunctions, such as a broken air conditioner in the summer, requestors may often be in an agitated state when making contact. Controllers are also responsible for conducting customer satisfaction surveys.

A controller must maintain a level of technical competency in order to recognize and interpret information pertaining to construction and maintenance projects. Upon request, a controller must determine if the work fits the criteria to be directly scheduled or whether it should be presented at the WRRB. Familiarity with the capabilities of each

shop will allow the controller to forward only requests that can be completed and table those that need further investigation.

As representatives of the squadron, controllers also manage the facility manager program. Each building on base is assigned a facility manager. This person belongs to the organization that occupies the building. Whenever there is a problem, members of that organization contact the facility manager and then the facility manager forwards the request to the CE squadron. In most cases, this person is not a civil engineer. Controllers are responsible for training the facility managers on the work request process and maintaining the database of facility managers assigned to each building.

Emergency Operations

The final aspect of a controller's job is their role during emergencies and deployments. Controllers maintain and operate the Unit Control Center (UCC) during contingency operations. Duties in the UCC include maintaining team statuses and accountability for the flight. Additionally, maps of damage, unexploded ordnance locations, and alternate airfield location options are displayed and updated. Members may also serve as representatives of the squadron in the Emergency Operation Center if so appointed by the squadron commander.

While deployed, a controller should expect to do similar tasks as performed at home station. One noticeable addition is performing quality assurance on contracts. This job includes writing statements of work, performing inspections, and determining job completion. A controller may be the interface between the Air Force and the host nation while discussing requirements, purchase agreements, and contracts.

Civilian Job Comparison

The civilian job that most closely resembles that of a controller is a Production Control or Planning and Expediting Clerk. According to an online job database (O*NET, 2010), the clerk is responsible for reviewing and distributing schedules, working with shop supervisors to determine progress of work and completion dates, and compiling reports on progress, inventory, associated costs, and problems. For entry into this career field, a high school diploma is usually sufficient. Most clerks learn their trade by doing routine tasks under direct supervision (U.S. Department of Labor, 2010). Of the traits required, the most important are oral and written communication, computer skills, and knowledge of production processes.

There are many reasons why their jobs are important. One of the key benefits of employing a production clerk is the ability they possess to identify problem areas through the reports produced (Kelchner, 2011). The clerk also helps the craftsmen work more smoothly by managing inventories and schedules in order to maximize efficiency. These are the same benefits that are desired in a civil engineer squadron. A key point of interest is that the civilian job descriptions all contain the requirement that the clerk be able to manage inventories. This is a new job for controllers in the Air Force, but it essentially aligns their career field with that of their civilian counterparts.

Summary of Literature

The information provided in this chapter helps frame the problem by providing a background on HPWPs, including two models that this research uses as reference points. It also includes a job description for controllers as prescribed by the Air Force. The

results that follow can be compared against the details explained. The following chapter explains the choice of methodology used and explains how the research was conducted.

III. Methodology

This research used phenomenological life interviews along with numerous secondary sources to gather the desired information. Kvale and Brinkmann (2009) define phenomenology as “a term that points to interest in understanding social phenomenon from the actor’s perspective and describing the world as experienced by the subjects, with the assumption that the important reality is what people perceive it to be.” By using an exploratory structure, the interviewees determine the path of questioning. This chapter first explains the decision to use interviews. It is then followed by the structure used to perform the interviews. Last, an explanation of how the data were analyzed is provided.

Why Use Interviews?

The method chosen in any research must align with the desired outcome. Locke (1989) asserts that the adequacy of a method depends on what the question is. A qualitative approach was chosen because of the emphasis on relationships as opposed to well-defined problems. Supporters of qualitative methods believe that there are fundamental differences between the two problem types. The main difference between social and natural sciences is that the subjects in social sciences can talk and think (Seidman, 2006).

In the case of this research, there are obvious issues within a target group, though the details of each problem are not necessarily apparent. From the initial Air Force Institute of Technology study, the identified problems center around the absence of many high-performance work practices (HPWPs). Having preconceptions before

interviewing subjects is incongruent with the stance of phenomenological purists who believe there should be no hypotheses present initially (Husserl, 1962). It is suggested that some situations can only be studied through understanding the events experienced which undoubtedly relies on prior assumptions (Kvale & Brinkmann, 2009). Therefore, the interviewer must keep the discussions focused without excessively influencing the conversations (Lester, 1999).

Interviews have been used for a long time. Socrates used them often, though using them as research is a relatively new occurrence (Kvale & Brinkmann, 2009). Kvale and Brinkmann (2009) note that Feyerabend argues in *Against Method* that the rules of research were meant to be broken and that if they were not, many past discoveries may not have been made. This suggests that lesser known methods should not be immediately discarded, but rather judged on their own merit. The aim of a qualitative interview is to discover the interviewee's framework of meanings (Britten, 1995). Life interviews are intended to understand the lived experience of others rather than testing hypotheses (Seidman, 2006). Interviewing goes beyond back and forth conversation. Rather, it becomes an approach to obtaining knowledge through careful questioning and listening (Kvale & Brinkmann, 2009).

At times, there are methods that are more appropriate than interviews. If the questions do not need explanations and a hypothesis is already developed, a survey may be a better fit. Likewise, a period of personal observation may be more appropriate for certain studies. As with any method, certain limitations exist. Not all institutions consider qualitative research as valuable as quantitative. Other common hindrances include the time it takes to conduct and transcribe numerous interviews as well as finding

and making contact with the right subjects. Lastly, phenomenological interviews allow deep issues to rise to the surface and provide an avenue for lesser voices to be heard. Though this may be viewed as a strength, some organizations may reject this method because of the issues that it would prefer to keep hidden (Lester, 1999).

Interview Procedures

The research approach resembled a modified version of the seven-step model developed by Kvale and Brinkmann (2009): thematizing, designing, interview situation, transcription, analysis, verification, and reporting (Kvale & Brinkmann, 2009). This section jumps ahead to designing the interview since the question was framed, or “thematized” in the previous chapters.

The most important aspect of setting up an interview is understanding the desired outcome. This allows the questions to elicit the right information and allows for proper selection of interviewees (Seidman, 2006). This study included responses from members of the operations management community including career field leaders, instructors, and airmen currently working within the career field. A list of possible candidates for participation was provided by the Air Force Civil Engineer Support Agency (AFCESA). The choice of participants was decided by the researcher to cover a wide variety of positions. Four ranks were questioned. Eight of the ten major commands of the Air Force were represented by current or previous assignments of the interviewees. Along with the experiences for a variety of base-level subjects, Rapid Engineer Deployable Heavy Operational Repair Squadron Engineers (RED HORSE) squadrons, AFCESA, Major Command (MAJCOM) staffs, and the Pentagon were represented also. Subjects

also brought experience from deployments to Afghanistan, Iraq, Kuwait, United Arab Emirates, Egypt, Kosovo, Oman, and Singapore.

None of the participants were personally or professionally known by the researcher prior to the study. The number of participants was decided along the way as determined by the absence of new information during the interview. At that point, the interviews were stopped because the topic had been considered exhausted or saturated (Charmaz, 2006). Saturation appeared to occur after eight interviews in this study. The number of interviews was also guided by a common theme among interview studies that suggested that it is optimal to have fewer interviews analyzed more closely than an abundance of interviews (Kvale & Brinkmann, 2009). Other researchers agree that eight to ten subjects are sufficient to reach saturation which supports the number used in this study (Creswell et al., 2007).

Each participant was initially contacted by phone by the researcher. At this time, a description of the research questions and the research objective were explained. Each interviewee agreed to participate based on an understanding that identifying information would not be used in the final product. Before proceeding further, permission was requested and received from each subject's commanding officer. Consent forms were also distributed and collected with signatures of both the researcher and participant. The consent forms provided an agreement between the researcher and subjects. The agreement included statements of voluntary participation, the purpose and procedures of the research, the risks and possible outcomes from participation, and the channels of reconciliation for any problems along the way. It also stated that participation could be terminated by the interviewee at any time and that their comments could be withdrawn.

The contact information of subjects was kept in a spreadsheet that included phone numbers of participants and commanders, current duty stations and MAJCOMs, and interview status: contacted, scheduled, or completed. This spreadsheet also matched subjects with a single letter identifier that was used through the remainder of the research. This information was kept on a portable hard drive separate from the computer where the remainder of the files was stored. These files included transcripts, memos, digital recordings, and manuscripts. Hard copies of the consent forms were kept in a file at the researchers' office. All digital and hard copies were secured at all times.

The interviews lasted between 45 and 60 minutes; each was recorded digitally for transcription at a later time. Each interview started with generic questions about the rank, experience, deployment history, and current job of the interviewee to provide the interviewer with a frame of reference. The questions followed a semi-structured outline based on previously identified problem areas from the Civil Engineer Superintendent course at the Air Force Institute of Technology. General questions were developed to further inquire about areas of concern. Using an open-ended approach, the interviewee recreated the experience of being a controller in the Air Force. By using an exploratory approach, the interviewees were able to identify topics of interest that may not have been initially recognized as relevant (Kvale & Brinkmann, 2009).

The interview returned to the outline when necessary to assure timely completion. Leading questions were deliberately avoided. Each interview ended with an explanation of the next steps in the research. After each interview, the questions for the next interview were altered to further explore areas identified in the prior session. This technique is described in the following analysis section. The process of altering

questions was aided by taking notes during the interviews, also explained later in the chapter.

Analysis

The analysis of the interview data began during the first interview rather than after all interviews had been completed. The first step was writing memos during the interviews. Because memos involve some interpretation, they are the beginning of analysis rather than data collection (Groenewald, 2004). Memos, or field notes, allowed the researcher to capture initial impressions and ideas which are often forgotten in the midst of data collection (Miles & Huberman, 1984). An outline of the questions was printed out before each interview and used for taking notes. Groenewald (2004) suggests that four types of notes should be used. The first are observational notes that emphasize what happened. These were made in line with the text of the outline and underlined to remind the researcher of the importance of the statement. The next types are theoretical notes that attempt to explain why things happened. These comments were made in the right hand margin of the outline as possible ideas to consider later. Caution was exercised to keep these comments separate from comments provided directly from the subjects. The third type is methodological notes which are reminders to the researcher. These comments were recorded in the left hand margin of the outline often noting possible follow-up questions. The last type is analytical memos that were written later in the analysis.

The next step was transcription of the interviews from a digital audio file. The recording was played back at half speed and transcribed semi-verbatim. Semi-verbatim

implies that exact words were recorded, though pauses, mutters, and fillers were not captured since speech patterns and linguistics were not the focus of this research. When dramatic responses occurred, observational memos were made. Each transcript was reformatted into a chart so that future coding could be clearly organized with each question and response (Hycner, 1985). The complete transcriptions and codes are included in the appendices.

After a transcription was completed, the interview was listened to again and analytical memos were written. These notes contained mostly ideas and theories of the researcher that were developed from listening to the interview as a whole. Listening to the interview was an important step at this point as the researcher was preoccupied with asking questions during the first iteration and typing during the second (Bailey, 2007; Hycner, 1985). After this step, the questions for the next interview were edited and the following interview was conducted.

After an interview was transcribed, it was coded. This process has been described differently by past researchers using varying terminology. Essentially, coding refers to the grouping of ideas based on similar themes (Seidman, 2006). The first iteration produced open, or initial, codes which are initial summaries of a response with few details (Charmaz, 2006). These codes are similar to “units of general meaning” as described by Hycner (1985) without placing as much emphasis on the original language used. After providing open codes for a few of the interviews, some main themes began to emerge. In conjunction with memos developed earlier, selective, or focused, codes were created to capture the main issues (Charmaz, 2006). This is similar to the “clustering of meanings” prescribed by Hycner (1985). These ideas were then reinforced by each

subsequent interview by using a “constant comparison” of themes (Glaser & Strauss, 1967). An example of these codes is shown in Table 1.

Table 1: Example Coding

Question and Response	Open Codes	Selective Codes
You touched on this a little earlier but we’ll touch on it now a little more in detail. What are your typical roles while deployed? Quality assurance evaluation. Looking at repair maintenance and sustainability for facilities on a base. Tactical ops support, communications, setting up data links between one point wherever we’re at such that we’re going forward operating. Some of things we’ve also been tasked with have been convoy duties and then damage control.	Duties include: QAE tactical support computers convoys and damage control	Mostly extra duties outside of primary job while deployed

After all interviews were completed and coded, the selective codes were arranged in a mind-map to show causes, effects, and relationships (Lester, 1999). This map began on a PowerPoint presentation but grew to the point that it required a large dry-erase board and multiple post-it notes. As the relationships were mapped, a few groupings emerged, each with a central theme, or theoretical code. Once the data were distilled into a small number of theoretical codes, they were summarized in concert with secondary data sources that provides context for the reader.

The final step was verification. Due to the nature of the method, this step was actually a part of all the other steps. The most important standard of validity related to the research was whether or not the research answered the questions it was intended to

answer. Since this effort was exploratory, all results were considered valid. Ideas from previous interviews were sometimes offered to other subjects to concur or reject. The strength of the argument increased as multiple responses centered on the same themes (Lester, 1999). During the entire process, efforts were made to remain unbiased. Though reliability was a worthy goal, it could not be sought in exchange for creativity in the questioning. The prior experience of the researcher also served as a source of reliability. Some follow-up contacts were made with subjects by telephone and email to clarify comments and/or validate themes. Lastly, the details of the entire process were described to provide transparency of the process.

IV. Results

This chapter describes the insights gained during this research. Using the analysis explained in Chapter III, the interview results were developed into five broad themes related to high-performance work practices (HPWPs). A summary of the results is presented first before describing in more detail each of the themes in separate sections. At the end of each section, the key insights from within the theme are compared to the models presented in Chapter II. The chapter concludes with a discussion of the challenges the military faces in implementing HPWPs.

Summary of Insights

The research question for this study aimed to identify the areas of human resource management (HRM) that are problematic as seen by controllers. From the many selective codes that were identified, five theoretical codes or themes emerged as discussed in Chapter III. Figure 6 displays these top five themes in HRM affecting job performance. Many of the themes were interrelated in some fashion. The themes are arranged in no particular order. Problems associated with each theme are listed under each heading. As previously stated, not all problems stem from one main theme. However, each problem is arranged under the theme with which it is most closely associated. The sections that follow look at each theme and the resulting consequences individually.

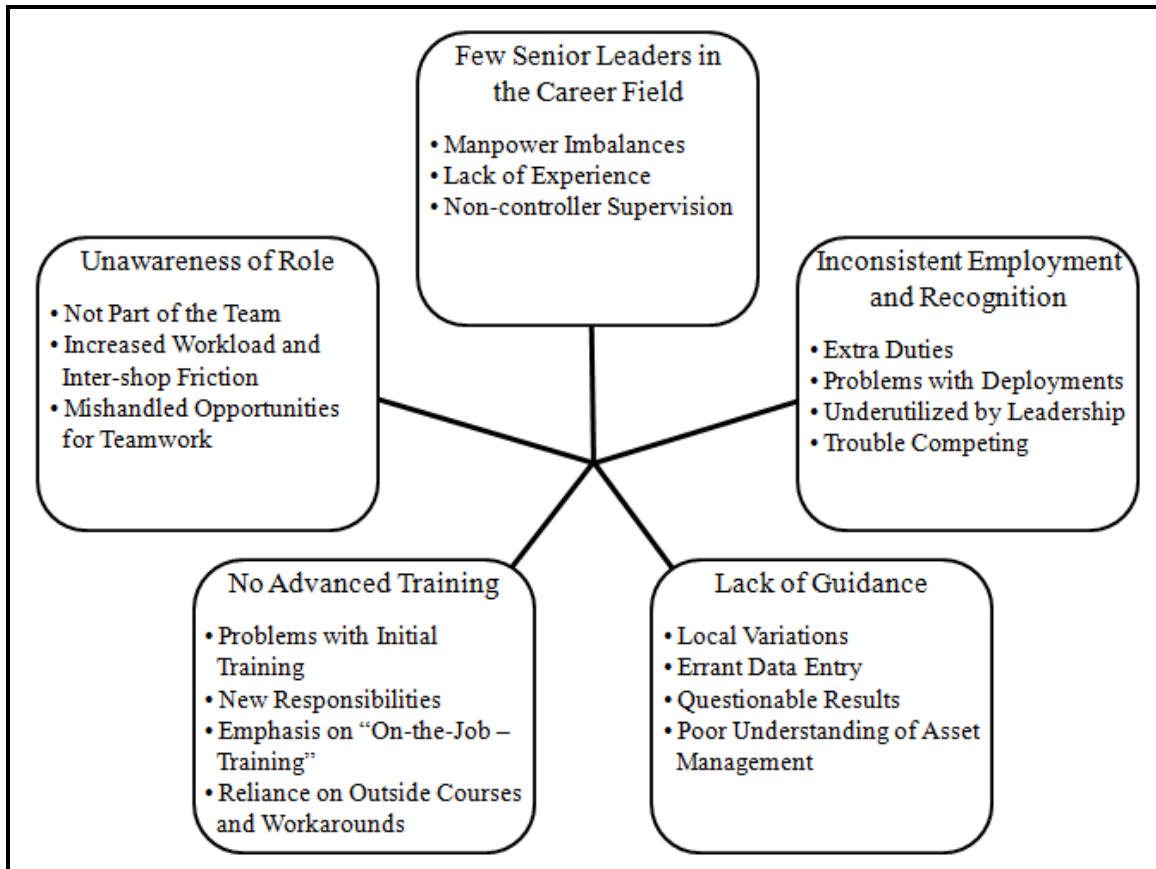


Figure 6: Top Five Themes

Theme #1: Few Senior Leaders in the Career Field

The problem that was often discussed first was the void of senior leadership within the career field. All interviewees were asked if they believed there were enough senior leaders in their career field to mentor them and the airmen below them. One respondent emphatically stated, “*No. To say it bluntly, no.*” This void of senior leadership has led to imbalances in manpower and experience.

Different events over the last 20 years and changes in the career field all have had an effect on this problem; yet one event stands out as a likely contributor to the lack of

experienced controllers in the top ranks. After the Gulf War in 1992, the Air Force drew down its forces as part of a “peace dividend.” Many commands faced extreme reorganizations in order to reduce manpower. For example, Strategic Air Command and Tactical Air Command were combined into Air Combat Command while Military Airlift Command transformed into Air Mobility Command. Reorganizations in personnel followed, and the current nomenclature scheme for career fields emerged. For instance, the operations management career field went from the designation of 555 to Air Force Specialty Code (AFSC) 3E6.

Many of the civil engineer (CE) career fields combined in order to reduce manpower requirements. For instance, exterior and interior electricians were combined into the same career field. Plumbing, water, and waste water personnel were combined to form “utilities.” There was a reduction in force across the entire service along with voluntary separation incentives. For a time, the school pipeline for controllers was frozen. No new controllers entered the Air Force for a full year. These events were described by an older controller:

“When they had the early out, they drew down the career field and a lot of smart 3E6s got out and the knowledge went with them. It was ’95 or ’96 when they basically turned off the pipeline for the career field. You had to be a prior CE staff sergeant to cross-train into it. So they were bringing in craftsmen into the lower management levels that had no experience...all the people that would have been around to teach them were gone...you had a this void of knowledge.”

Figure 7 shows the number of authorizations each year broken out by skill level (Corpuz, 2011). Each skill level of upgrade requires certain demonstrations of proficiency and serves as a standardized indicator of an individual’s career progression. Along the way, the tasks that each level is required to perform increase in complexity and responsibility.

Airmen enter as a 1-level and quickly move to a 3-level after receiving their initial career field training. Levels increase until airmen become 9-levels.

Overall, the authorizations were reduced from 1994 to 1996 as described by the interviewees. To do this, the pipeline of incoming controllers was frozen. Also, controllers that were 3-levels were cross-trained into other career fields because there were no authorizations for 5-levels. In 2000, 5-level authorizations were reinstated. To maintain the achieved levels, the authorizations for incoming airmen were reduced. Levels continued to shrink until 2008 when the career field reached an all-time low in manning. It is important to note that the values shown are authorizations and not actual manpower levels. Critical imbalances in experience emerged due to the changes in authorizations over this time span. This imbalance is apparent in the manpower numbers published by the Air Force Personnel Center (AFPC). The following section looks at the current manpower levels for the career field and offers insight into possible problems.

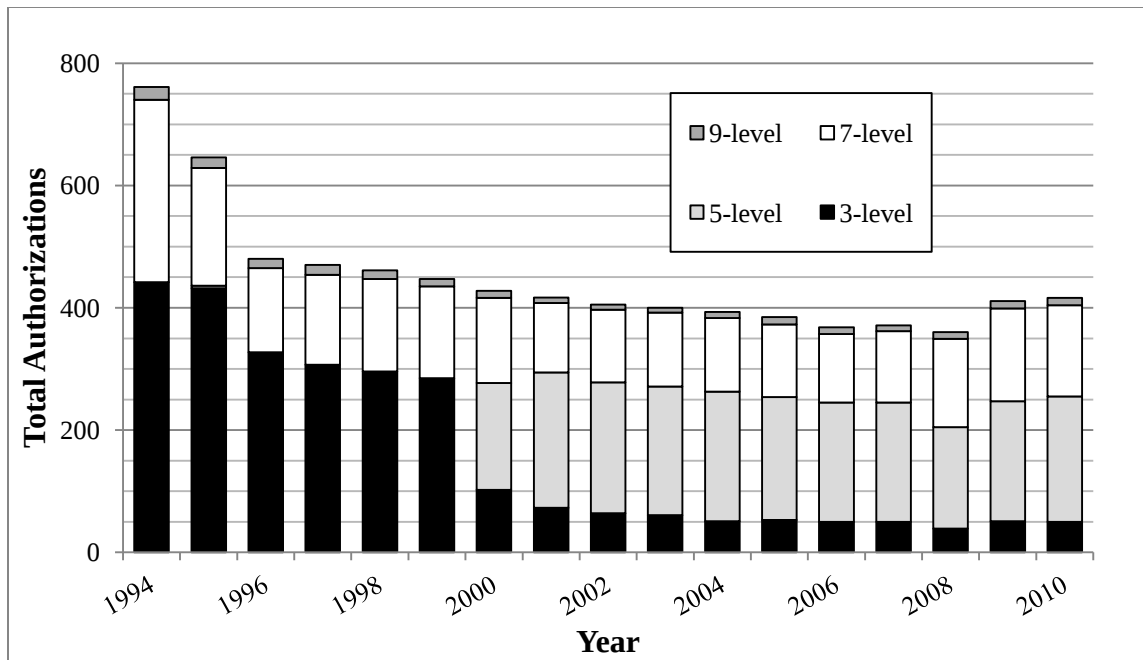


Figure 7: Total Authorizations by Skill Level from 1994-2010 (Corpuz, 2011)

Manpower Imbalances

As previously mentioned, manning levels for controllers present a number of problems. At first glance, the overall percentage of authorizations filled looks as healthy as any other group. Recent personnel levels show the entire career field manning at 99% (Department of the Air Force, 2011a). After close examination of the individual rank breakouts, a few problem areas become apparent. Table 2 shows the percentage of filled positions of authorized billets by rank.

Table 2: Percent 3E6 Manning by Rank in 2011 (Department of the Air Force, 2011a)

Rank	Senior Master Sergeant	Master Sergeant	Technical Sergeant	Staff Sergeant	Senior Airman	Airman First Class
Grade Manning	75%	55%	91%	71%	132%	222%
Effective Grade Manning	67%	50%	85%	66%	121%	210%

The breakout by ranks shows that every rank is undermanned with the exception of the lower ranks. The most alarming shortages are at the grade of Master Sergeant (MSGT), with Senior Master Sergeant (SMSgt) and Staff Sergeant (SSgt) grades at low levels as well. To compound problems, the lowest rank is more than double the required size. Essentially, there are far more young airmen that need to be supervised than there are supervisors available. Three undermanned groups in combination with an overmanned group cancel each other out in terms of overall manning and provide the perception that manning is not an issue.

The second set of data shows the “effective” grade manning when deployments are considered. The first set of data assumes that all filled positions actually have a person at their home base. The effective manning show the percentage of personnel left at home while members are deployed. This unavailability of personnel to work at home further exacerbates the problems present due to low manning. Deployments are discussed in more detail in a later section.

The numbers shown in Table 2 show overall manning distribution across the entire Air Force. However, some bases have one MSgt while others do not. Depending on the size and mission of a particular unit, two MSgts may even be assigned. This uneven distribution is a source of irritation to controllers. One interviewee told of how he got where he was when asked about fairness in distribution:

“Nope, I don’t think they’re distributed around out there where the young guys can pick their minds. There’s not actually a master sergeant slot here. I got here on my wife’s orders. There was only a tech sergeant slot here. There weren’t any 3E6s above staff sergeant when I came, so there was quite a bit of knowledge gap to be made up.”

Though this snapshot of the current manning levels clearly identifies problems, the undermanned ranks also affect the future state of the career field. If the number of MSgts are low, within the next few years, the rank of SMSgt may also be undermanned, since there will be a reduced pool of members to promote. This same issue may be seen in the middle ranks as the number of SSgts remains lower than the required level. An opposite problem may arise when the Airmen First Class (A1C) are due for promotion. There may not be a need for the number of existing airmen in the next rank. As a result, younger, inexperienced airmen may likely be placed in jobs left vacant by SSgts. This repositioning of A1Cs may even out manning levels somewhat, but may potentially damage the progression of airmen through the prescribed career development. The essential tasks that SSgts are expected to perform may not be correctly performed by Senior Airmen (SrA) who are prematurely promoted.

This ripple effect of retention is shown in Figure 8. This information is compiled by the AFPC staff to demonstrate the effect that current manning levels will have on future manning. The continuous line represents the number of personnel desired at each

year of service in order to sustain current requirements. That level decreases naturally over time as the number of airmen needed at the higher ranks decreases. The problem areas are those where the current personnel levels are far below the sustainment line. These shortages may shift to the right each year, growing worse as time continues. Members may be lost along the way for a number of reasons. Because of this natural decay in personnel levels, shortfalls already identified will increase as more members leave. In addition, the members that are accounted for are not always working within the career field. By employing controllers outside of their core areas of responsibility, the gap between the number of personnel required to sustain and the actual members available is larger than depicted.

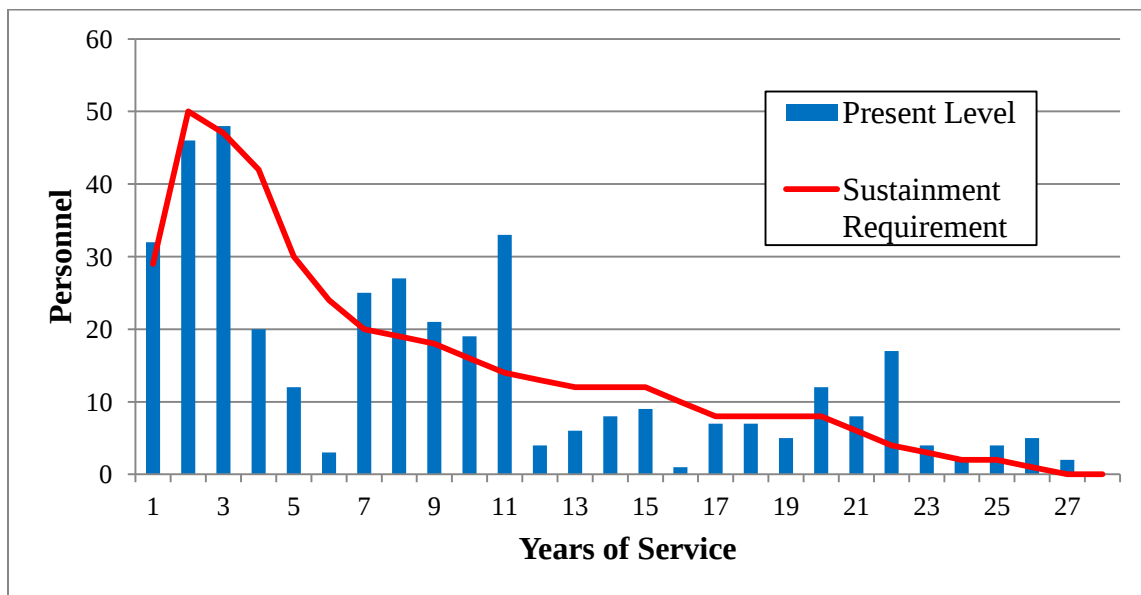


Figure 8: Current Personnel and Projected Needs (Department of the Air Force, 2011a)

A few attempts have been made to curb these problems. Retention bonuses have been offered to members of stressed CE career fields, including 3E6s. By offering such

“signing” bonuses, the Air Force gains the commitment of an airman for four or six years. Another effort to increase manning levels is to deny special duty opportunities to specific ranks. Special duties include the jobs to which all Air Force members contribute, such as recruiting and instructing. By denying 3E6 SSgts and MSGts the option to work outside of their primary career field, more personnel will be available to fulfill core CE duties. Lastly, greater numbers of new accessions are redirected toward the career field in an effort to resupply the shortages. This practice of increasing entries into the career field has been successful as seen by the over population of the early ranks. The efforts to keep mid-level members in the career field are yet to be shown successful.

Lack of Experience

A second problem that stems from the lack of senior controllers is that the experience usually held by the older ranks has diminished. Table 3 shows problems similar to those in Table 2. The lower skill levels are more than adequately manned. As the skill level increases, the number of airmen with the necessary knowledge decreases.

Table 3: 3E6 Manning by Skill Level (Department of the Air Force, 2011a)

Skill Level	1-Level	3-Level	5-Level	7-Level	9-Level
Manning	N/A	290%	71%	68%	58%

Younger and often inexperienced airmen have been promoted prematurely to fill the gaps at the top of the rank structure. One controller remembered:

“When I came in, it took forever to make staff and tech. Nowadays it’s like boom, boom. You can be a staff or tech in a leadership position, but how much experience did you really get because you got there so quick? You can be a master with only a few years actually being in charge of people. What kind of leader are you going to be?”

In response to the undeniable holes in the higher positions, the Air Force decided to cross-train members of other overmanned AFSCs into operations management. This decision carries strong concern from senior controllers. An interviewee recalled:

“Right now, tech to master is really hurting as far as manning numbers, so within a squadron there’s not enough of that leadership. A lot are being filled by cross-trained tech sergeants from AGE [aerospace ground equipment] or other career fields...we’re trying to recover since they cut too much, trying to rebuild those positions.”

Regardless of the competency of a cross-trainee, they must still be certified by a controller with the necessary qualifications. Since they themselves are serving in the position normally held by a certifier, some bases’ upgrade programs are at a standstill. Until an outside certifier is brought in, there is no way for anyone to advance. The sentiment is best captured by this response:

“Well, only 60% [of bases] will have a master in the shop. It’s just gonna take a lot of time to grow master sergeants. You can’t just cross-train them in. You can’t cross-train experience. You gotta let it grow up.”

The cross-training solution has also met problems as manning fluctuates after repeated “knee jerk” reactions. One supervisor remembered a time where his airman was forced to cross-train because the airman’s particular year group was too crowded. Once the paperwork was filed, the airman was given a list of possible career fields into which they

could cross-train. Operations management was on the list. The airman administratively cross-trained from being a 3E6 to a 3E6. He recounts, *“It made no sense at all.”*

The point that held consistent among interviewees was that experience was the ultimate indicator of success. A respondent surmised that without experience, controllers were simply *“robots rather than people that know their jobs.”* A second story of inexperience was told not of a cross-trainee, but of a controller who worked outside of the career field for her entire career.

“From 2000 to 2008, she was in a medical logistics job...no access to IWIMS [interim work information management system], never fired an M-16, never had radio training, never went to Silver Flag. She’s currently a facility manager...Now they send her [here] with no real 3E6 training...folks like that know the books, but don’t know the job.”

Perhaps the most unfortunate impact of inexperience and sparse senior leadership is that the overall experience of instructors at tech school continues to decrease. This is not the fault of the instructors. Rather, it is simply a reality. When fewer experienced controllers are available for duty, younger airmen must step into instructor roles. The lack of experience is not always apparent. If instructors are unaware of the reasoning behind a certain process, there is no way for them to pass it along to new trainees. An older controller explained:

“They’re showing them how to enter data, but they’re not giving them the fine intricacies of why you enter some things and what the correct data is. If a trainer explains that, then the airman knows why they’re doing stuff...Really, it’s left up to whoever is left to do the training. Once we hit the 18 to 19 year mark, we have a big gap in experience.”

Non-controller Supervision

To combat the lack of leadership in base-level customer service shops, outside supervisors are often brought in to provide needed supervision. It is not uncommon for a non-3E6 MSgt to be the Operations Support element chief, the element where controllers reside. One controller recounts, *“We’ve had three master sergeants in the ops support superintendent position so far and they keep changing out...a plumber, an electrician, and a utilities guy.”* For common military affairs, this substitution works fairly well. The issue arises when the outside supervisor is not able to offer any career specific mentorship. In most cases, the younger airmen are serving in the role of trainer so their supervisor can understand his/her responsibilities. The problem seems obvious to one controller who stated:

“With only 50% masters on the books, half of the bases are sitting with a waste water guy or someone else in control. They’re not giving 3E6 mentorship. If anything, they’re asking the senior airman for a report they need for the boss. Whether they’re trained or not, they can provide at least something to that master.”

In a few cases, this creates an uneasy work environment for the most experienced 3E6 in the shop. It is at times possible that the vision of an outside supervisor contradicts what their most senior controller believes. When this happens, neither side wins and the overall productivity of the shop may suffer. A technical sergeant (TSgt) controller thought:

“You have a lot of tech sergeants put in a position that know their job, they want to do the right thing...but since we’re so light at master...they put a craftsman in as NCOIC [non-commissioned officer in charge]. While some can do it, a majority of them don’t know what they’re doing

and they butt heads with the tech sergeant that knows what needs to be done but can't do it."

Model Comparison

This section compares the results associated with this theme to the Liu et al. (2007) models provided in Chapter II. Both the major processes and the individual HPWPs that were discussed in the results are emphasized by bold lettering and a dotted oval in Figure 9. The main process that this theme reflects is the enhancement of knowledge, skills, and abilities (KSAs). First, due to the reorganization described at the beginning of the section, a large portion of the personnel who possessed the necessary KSAs were let go by the career field. That decision immediately decreased the level of experience in the career field. After that point, KSAs had to be added back as described in later sections. The void of senior experience created when the career field was downsized had a ripple affect. Younger and less experienced airmen were promoted prematurely without the KSAs that develop from years of experience. The amount of knowledge that was passed down to each lower level decreased as a result. As shown by studies discussed in Chapter II, retaining qualified workers directly relates to performance.

Two of the three HPWPs that affect KSA enhancement were specifically mentioned by the interviewees: compensation and selection. Compensation was increased in the form of retention bonuses. Though compensation was not directly increased, the bonus allowed the Air Force to retain more airmen which is normally the goal of compensation increases. Additionally, the interviewees mentioned the cross-

training of other career field members into operations management. By simply leveling manpower across career fields, the operations management career field lost what ability it had to select the proper people into the career field.

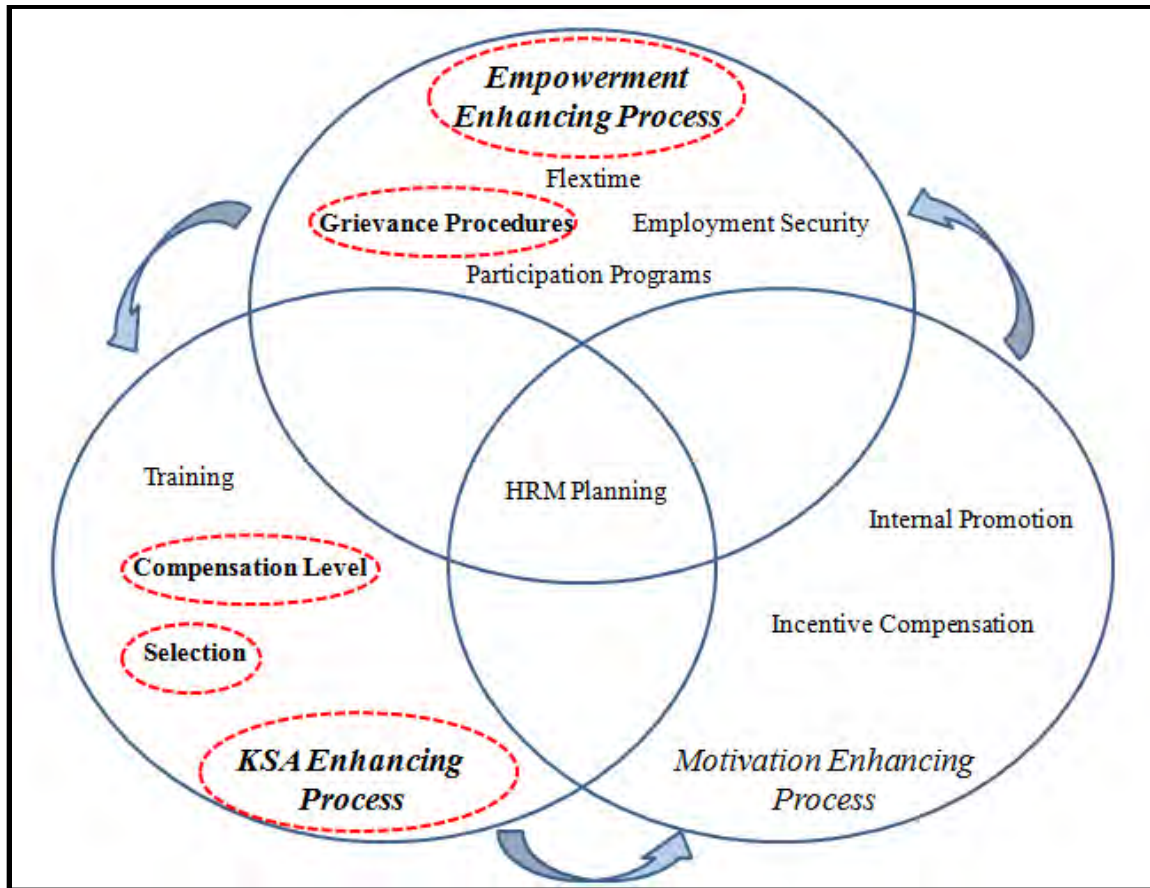


Figure 9: HPWPs and Processes Discussed in Theme #1

The lack of senior leaders also affected the process of enhancing empowerment. Particularly, the grievance procedures that controllers have for career-specific issues are

diminished by not having enough representation at the highest levels. This weak representation plays a part in a number of problems discussed in later sections. This has created a number of issues, including the ability to perform well. The following section looks at the lack of awareness from personnel outside of the career field regarding operations management.

Theme #2: Unawareness of Role

The second main theme deals with unawareness of the operations management career field role. This unawareness was observed by interviewees throughout the flight and the squadron. The degree that interviewees felt it affected “feeling like a team” varied widely. Some saw it as a hindrance while others felt it provided an opportunity to educate others. The following sections show different views of the problem.

Not Part of the Team

Many respondents agreed, “...*people don’t take us seriously.*” They felt that it was ignorance rather than harsh feelings from the other shops. Subjects were asked if they felt like part of the team. One replied, “*Not really. We’re just there to run the programs, mostly just off to the side.*” Another thought, “*I don’t think the career field is respected in the squadron.*” The most shocking comment was from a controller that felt leadership had pushed him aside and essentially told him, “*Just sit behind the glass and whenever we need to set up the UCC [unit control center], we’ll break the glass and let you out.*”

Feeling like a part of the team is not only about respect. It is closely related with how important others appear to view your job. A controller responded:

“With some senior NCOs [non-commissioned officers], and in the shop level, you get that feeling that you’re not [part of the team]. You’re more looked at as CSS [commander’s support staff] or administrative red tape that they have to deal with. They don’t understand what’s required or why it’s really necessary. You’re more of a hindrance than a help.”

Subjects felt that the shops knew very little about what they did. *“Do they know what we do? Absolutely not. They think they do. They know about the piece they see every day: customer service, taking service calls, putting in labor. Outside of that, their view is pretty limited,”* one controller recalled. Another echoed the same: *“No they don’t. Most of the people you talk to think all you do is answer the telephone. That’s your whole job.”*

One controller felt that others assumed they were slackers, a view that he felt could lead to poor performance. *“Folks keep saying, ‘You’re just playing video games during the day or just zooming YouTube.’ People look at us sitting behind computers not doing anything. [Controllers] start to think, ‘If that’s all you think I’m doing, then that’s all I’m going to do.’”* While controllers see themselves as civil engineers, not all non-3E6 supervisors agree. A controller remembered an instance where this was displayed:

“People look at us like admin troops. I had a master sergeant say, ‘Here’s a deployment for admin. Would you like to go?’ I said, ‘I’m not admin.’ He replied, ‘Then what are you?’ I answered, ‘I’m a 3E6 in the CE career field.’ That pretty much spoke to my whole career. We’re more or less treated like admin troops than actual civil engineers.”

Are the operations chiefs any better? The answer was consistent: *“It depends.”* One controller felt that it depended on their prior experience. *“It helps if you have a seasoned ops chief. A lot of times you get a guy that came from either readiness or engineering.*

They don't really get 3E6s." Another found the operations chief's training insufficient.

"I don't think they get taught much about us at the ops chiefs' course. I saw the curriculum once and it didn't really mention us." Still, there are some very motivated operations chiefs that give controllers the necessary attention. One controller fondly remembers:

"...I had one. She was fully engaged in ops management. She used us fully, asked us for information, allowed us to give out input on how to build the work order priority program. That was great. At other bases, they didn't deal with us at all, other than telling us, 'run this report, run that report.' That's all they used us for."

Another controller claimed, *"The ops chief is behind us 100%. He gives us the support we need...Everywhere I've been, I've had good ops chiefs."*

Interviewees were asked about their relationships with the other flights, particularly Programs and Asset Management. Alarming, many responded that they did not have any relationships with them. When asked about the Programs flight, one controller answered, *"Naa, we don't work with them."* This creates quite a problem in the asset management philosophy of each section working together to capture an accurate picture of all assets. Others felt that the other flights were yet other groups in CE that did not appreciate what they did. Rather, they inserted operations management whenever it was convenient. One respondent said,

"It didn't seem like we had a good relationship. A lot of times we would get a [form] back saying, 'Hey, we need a job for this.' Kind of seems like we were working backwards. Just seemed like we were a second thought when we should be a first thought to make sure everything was going right."

Increased Workload and Inter-shop Friction

The level at which leadership remains uninformed of the operations management role contributes to a number of problems. The first problem is increased workload for controllers who are already stressed. If a shop ignores a request from the controllers to update their records, it creates more work. When incomplete information is entered, the resulting time lost later can be significant. One controller recalled:

“Remarks aren’t being put in, so there’s a lot of research needed. If someone calls me about a work order, I should be able to look into IWIMS and find out everything I need to know about that order, but I can’t. I have to research, find out who was on the job, all the craftsmen, talk to other people. What should take five minutes takes me a few hours.”

Another problem is the friction between shops. During weekly meetings, a lack of communication during the week comes to the forefront. A controller recalled a common occurrence at scheduler’s meetings, *“We’d call people out on the table because their work orders were delinquent and they would say, ‘We did this and that.’ We’d say, ‘well you didn’t tell us.’”* A second respondent agreed, *“Naturally, whenever a shop gets called out, they respond, ‘Oh, we had an issue closing that out.’ No one identified it to us, so how could we help? We can’t know what’s wrong if they don’t tell us.”* The lack of experience discussed earlier is known throughout the flight. Because of this, a controller realized, *“There’s distrust at the perceived lack of [our] training. Certain sections will question the data no matter what.”*

Retention is yet another effect of the discord in the flight. One controller believes, *“If people don’t take us seriously, people aren’t going to stay in the career field.”* Another controller saw it affecting the newest airmen: *“As new guys in CE, they’re going to see us as pretty much the stepchildren of CE.”*

Mishandled Opportunities for Teamwork

Half of the respondents reported that they had seen possible points of tension between shops, but through communication and leadership, some problems could be resolved. One controller, when asked if others understood what controllers did, said, *“They do. They come and ask us and we’re more than willing to help them. Since I’ve been here, all the shop leads have come over. I think I’ve had a personal touch with them.”* Others saw improvements when tense moments were approached differently. An interviewee suggested:

“Some of the 3E6s have the wrong approach. Instead of trying to help the shops, they get focused on pointing out the problems, finger pointing at all the shops. You just can’t do that. When you see a problem, you have to see it as a flight problem instead of an individual shop’s...You got to find out why [it’s a problem] so you can help.”

A second respondent proposed, *“...the 3E6 needs to explain himself...educate them. It’s all about networking and communicating. If you actually bring something to the flight and show what you can do for them or how it impacts them, you get that respect.”*

Two events from the past may provide explanations for these increasing problems: the elimination of the 7-level course and the elimination of zones. There was once a 7-level class that all enlisted engineers attended. The course provided a management level view of the operations flight. Controllers who attended this class felt that it did not teach them much since it basically outlined their job. On the other hand, it provided craftsmen the opportunity to learn how work orders moved through the flight. This training relayed the importance of operations management to the other career fields. With budget cuts such as Program Budget Decision (PBD) 720 looming, the class was

cancelled in 2005. The course was seen as too managerial rather than technical. This required each CE career field to create a job specific 7-level technical course. Some career fields were successful, but operations management was not due to lack of funding. One controller stated, *“Maybe [the other shops] didn’t understand us because the 7-level school went away and the craftsmen weren’t learning that anymore.”* He recalled their response. *“It was up to us as NCOs to offer that course to CE, to other craftsmen since we knew it was lacking. We as senior NCOs realized that it had been dropped. Are other bases doing that? Perhaps not.”*

The second possible explanation for role unawareness is the elimination of zones. This topic could be studied to determine if reinstating it could improve the situation. Older controllers reminisced about working in zones. In the recent past, bases were divided into zones. This allowed a blend of craftsmen to focus on one area of base which provided continuity and familiarity with facilities and customers. Often, controllers were in the shops. The opportunity to work side by side with the craftsmen allowed both sides to see the other in action. The spirit of this method is still used at some bases to expose controllers to the other shops. This idea is discussed in a later section.

Model Comparison

This section compares the results associated with this theme to the Liu et al. (2007) models provided in Chapter II. The major processes and the individual HPWP that were discussed in the results are emphasized by bold lettering and a dotted oval in Figure 10. The factor of vertical alignment which contributes to the effectiveness of HPWP implementation is emphasized in Figure 11. The first area of the model discussed

is the knowledge and training of engineers *not* in operations management. It seems that a great number of the problems between controllers and the other CE shops are a result of the training on how controllers fit into the mission that other shops never received. This shows that the maintenance of KSAs for other groups that controllers work with may be equally important to their success.

This point illustrates the need for HPWPs to vertically align with the strategic plan of the larger organization, which is the second area of the models discussed. In order for an organization to succeed using HPWPs, they must make sure that the practices align with the overall mission of the organization. It is safe to assume that the implementation of this idea has failed if members feel that they are not part of the team. This is further shown by other groups not realizing how the outcast group contributes to the mission. Feeling like outsiders may possibly contribute to the motivation of controllers and may impact retention.

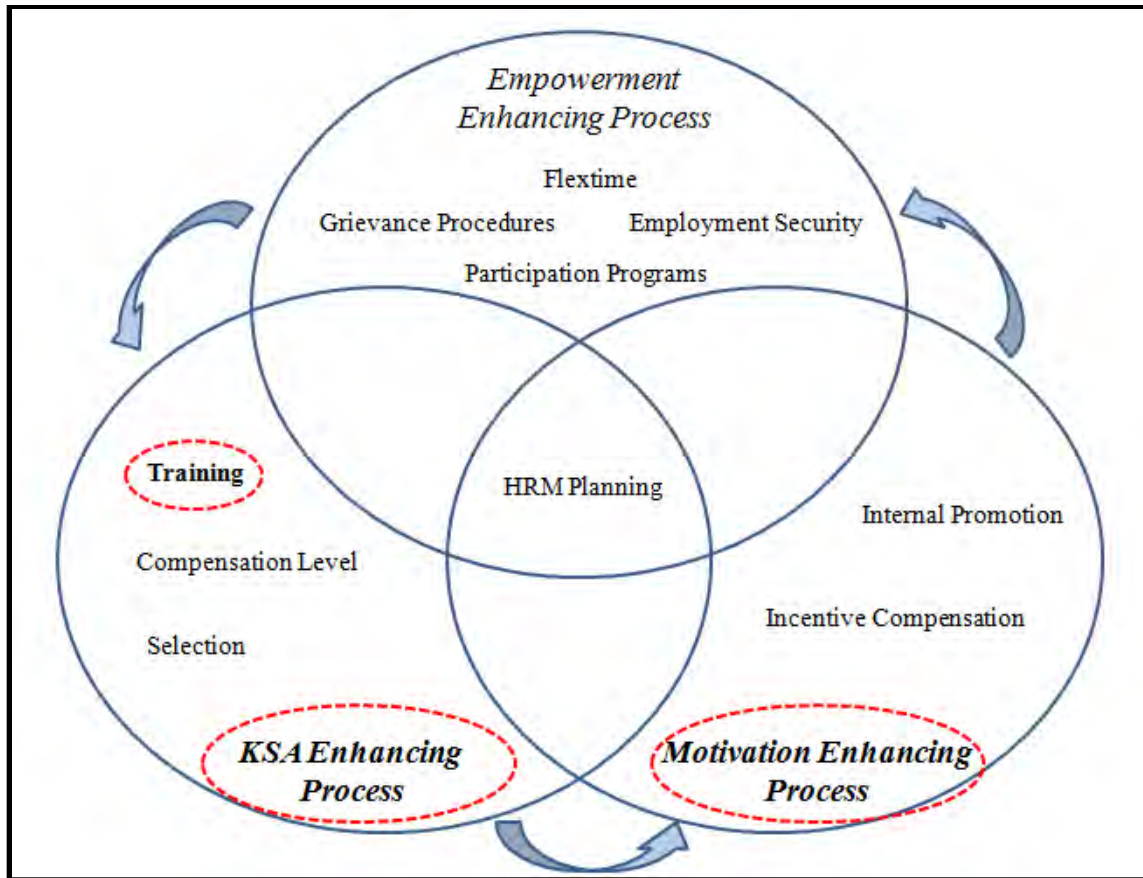


Figure 10: HPWPs and Processes Discussed in Theme #2

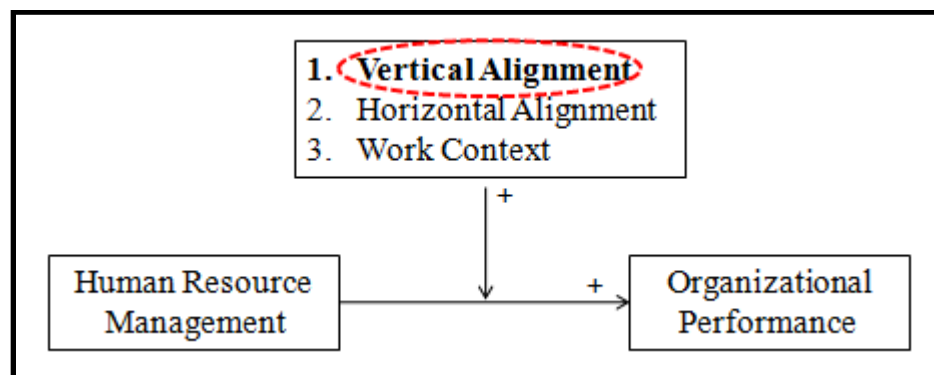


Figure 11: Factors that Impacts HPWP Effectiveness Discussed in Theme #2

Theme #3: Inconsistent Employment and Recognition

A third theme that emerged was inconsistency in the manner in which controllers were utilized. Because non-controller leaders did not fully understand controllers' roles, the controllers were often misused. When there are few senior leaders in the career field, there is no one to educate other leaders about operations management. Likewise, if no one realizes the importance of operations management, efforts to retain and promote controllers suffer. One controller said it best:

"It's a challenge to compete with the blue collar work force for chief slots. What you wind up having are very few 3E6 chiefs who are able to [influence] the future of the career field and have enough clout to make sure that things are progressing in the career field, guidance being published, CFETPs [career field education and training plan], training in place...you just don't have a lot of 3E6 chiefs out there."

In the current system, SMSgt controllers compete for Chief positions against SMSgts in four other elements rather than solely competing against other controllers. While these other SMSgts are likely the superintendents of their elements, a controller's element is often led by an officer or civilian. This hinders their ability to promote by limiting the leadership positions they can have. This section discusses problems that are caused misusing controllers and failing to recognize their importance.

Extra Duties

Subjects of this research resoundingly commented on the disproportionate amount of time they spent on extra duties. Although all Air Force members perform additional duties, the controllers thought that they attract an unfair amount of these duties. One responded,

“Of course we do a lot of things that are outside of our career field since a lot of folks don’t know exactly what we’re supposed to do, I guess. And that’s been a sore spot of 3E6s over the years. ‘Why do we have to do it when it’s not our job?’ So you kinda gotta nip it in the bud you know, suck it up and do it, I guess.”

The different jobs that operations managers have done are considerable. Among the interviewees, extra duties included: emergency management, unit deployment management, radios, base details, janitorial jobs, urinalysis, orderly room, commander’s calls, vehicle NCO, safety NCO, explosive ordinance disposal (EOD) logistics, computers, housing, real property, and fiber optic installation. It is true that many other career fields can complain about being tasked with these same duties. However, controllers argue that the disproportional burden from additional duties comes from the convenience of being located in the same building as the command section. They feel the leadership thinks:

“You’re in the office, so you can just pick these things up.” One controller shared, “We do a little more because of where our office is. We get tagged for a lot of the stuff that our higher ups kind of need. They can’t really get the guys in the shops to do it, so they come to us. We have most of the additional duties.”

A second controller echoed the same feelings:

“Since we’re up in the head shed, we get tasked with the odds and ends...all the additional duty stuff that comes down to the ops center because we’re right there. The commander, the first sergeant can look at us and say, ‘the 3E6s can do it.’ I think that’s the biggest thing over the years. We’re just so close that we get stuck with the extra duties.”

Two examples were provided that demonstrate the perceived mismanagement of controllers. The first example was about a new airman who had just graduated from tech school. Immediately, she was assigned to honor guard. She stayed there for four months. When she went to the squadron for the first time, a deployment tasking was waiting for

her. She was sent down range with no operations management experience at all. Her supervisor remembers, *“That was a huge factor for her decision to separate. She’s on her way out.”*

Another example is the unit deployment manager (UDM) position. According to Air Force Instruction (AFI) 10-403, each squadron has a UDM who is the primary liaison to the unit training manager, squadron superintendent, and wing training functions regarding deployment related issues. They are responsible for readiness reporting, monitoring, force posturing activities, and deployment execution actions (Department of the Air Force, 2008). Due to the clerical nature of this particular job, many units feel that a controller is the logical choice for that position. One controller epitomized this. He served as the UDM at three of the four base-level assignments in his career. However, the AFI never states that the job requires one career field over another.

The onslaught of extra duties becomes a real problem as manning levels remain low. A respondent surmised,

“Leadership still asks the same things from us in the career field, but they just don’t have the manning to accomplish it all. Work order area programs, doing in-depth analysis of RWP [reoccurring work program]. Guys aren’t there to do it. Simple things like customer feedback and survey programs. No time for that either.”

The problem of extraneous duties goes beyond base-level instances. Some 3E6 assignments consist solely of extra duties with no duties similar to operations management work. One such assignment was with a Rapid Engineer Deployable Heavy Operational Repair Squadron Engineers (RED HORSE) unit, which is organized to be an agile heavy construction arm. As opposed to a traditional squadron responsible for the infrastructure and facilities of their home base, RED HORSE units spend their time at

home station training and preparing for the next deployment. A controller's primary duties do not fit into that mission. Still, controllers are assigned to RED HORSE units.

One controller said:

"We don't do any traditional 3E6 stuff. We do a bit of tracking projects, but not much. We don't have access to IWIMS...We do a little facility management stuff...Other than that, everything else we do is not 3E6 stuff. We have huge radio accounts that we manage even though we have comm.. folks...not a real need for 3E6s in REDHORSE in my mind."

Another trend observed was assigning controllers as facility managers. A facility manager is an appointed member within an organization who is responsible for inspecting the condition of the building, upholding security directives, and establishing procedures to notify the CE squadron of any needed maintenance. Controllers are responsible for managing the facility manager program, not performing facility manager duties themselves. Their proximity to the program does not make them better candidates for the position than anyone else. The only requirement to be a facility manager is that you are at least an E-4 or higher (Department of the Air Force, 2004).

Unfortunately, other career fields do not agree. Controllers serve as facility managers at a number of locations throughout the world, many of which are not controlled by the Air Force. The consensus feeling is that these extra positions should be scrutinized to determine if they are absolutely necessary. Perhaps they can be filled by a career field without as large of a manning problem. One supervisor thought back to his previous airmen and the assignments that many of them have since occupied:

"I had one that's at Fort Meade, Maryland, now that works as facility manager. Not in a CE unit, works for the Army. Really, anyone can do a facility management job. It doesn't have to be a 3E6. We have one in Belgium, a couple other spread out, one in Maui. All these folks could be

brought into units that area really stressed. We gotta beef up the units that only have two or three people when they're authorized seven."

Many of these positions are seen as "useless" in the operations management community.

A respondent noted that he was assigned to an undesirable job position. Before he accepted the job at Base X, three other MSGts were notified that they were headed to Base X for their next assignment and decided to retire rather than take it. He admits that he accepted it only because it is near his wife's family.

A sore spot with controllers concerning these "useless" positions is that the positions often receive priority with available 7-level controllers. Because they are positions for only one person, if it is not filled, it shows up as 0% manned. Conversely, if a TSgt is removed from a squadron, manning may only drop from 100% to 80%. Areas that are 0% manned appear far more critical than those at 80%, so they receive the requested personnel. This further depletes the squadrons of 7-level controllers.

It is possible to see this issue from the outside and question the job analysis originally performed. If it is a common practice for controllers to fill these extraneous positions, perhaps their job description should be reviewed. There is obviously a disparity between the current job classification of controllers and the job they are actually performing. In order to employ personnel in the most efficient way possible, an accurate job analysis is desired. This analysis is the backbone on which many other management systems are built to include recruiting, performance appraisals, and workforce planning (Butler & Harvey, 1988). As seen by the lack of research in the area of job analysis inaccuracies, it appears that job analyses are based almost completely on human judgment (Goldstein et al., 1993). Because many systems are based on the initial job

analysis, and the validity of the analysis is rarely questioned, the inaccuracies of an initial job analysis can result in many effects (Harvey, 1991). Possible problem areas include pay, promotions, and recruiting (Morgeson & Campion, 1997). Though these are all of interest to the military, perhaps the largest area of concern is in misidentified training needs that lead to an inadequate workforce or wasted dollars in unnecessary training.

Problems with Deployments

Average deployment lengths have increased consistently since the beginning of Operation Enduring Freedom (OEF) and Operation Iraqi Freedom (OIF) (AFPC, 2004; Hanson, 2010). Each career field of each branch of the military has its own unique set of challenges which include increasing levels of stress due to increased deployment tempos, additional missions at home and abroad, and constant funding concerns. Operations management is no exception.

Because of the multiple engagements of the United States military, the Air Force CE community is at an unprecedented level of stress. Controllers score a “3” for the Ops Demand metric, which is the highest score given (Department of the Air Force, 2011a). The quantified “stress” considers manning levels compared to deployment taskings. The accelerated deployment cycles not only add to the number of taskings, but also add to difficulties in retaining airmen (Williams, 2005).

The manner in which civil engineers deploy has changed significantly over the last ten years. Engineers have been increasingly deployed to locations around the world. As OIF and OEF have evolved, engineers now fill positions traditionally manned by other services (Goodfellow, 2008). Although these new deployment taskings are now

commonplace, operations flight civil engineers must continue to fill traditional roles to maintain airfields. It is for this reason that each assignment, whether deployed or at home, must be filled with the right person doing the right job.

This is a huge source of frustration for controllers. One controller explained it like this:

“The deployments are extremely aggravating. It’s a toss-up of whether you’re going to do your job or be bored for six months...I see a lot of underutilization in the AOR [area of responsibility] for the 3E6s. They ask, ‘Why am I here?’ We’re sitting over there in the AOR and people look at us like, ‘Why are you even here? Someone else is doing your job.’ They have two or three of us at one location where there’s only enough work for one.”

Another argued, *“They really need to pay attention to the manning over there. [Look at] what’s actually needed versus what they’d like to have to do all their admin and extra duties.”* This sentiment was repeated by another:

“We had guys that deployed and did nothing. Just across the board they need to get a grasp on what they actually need down range. The problem is that most positions, once they’re one the books, they never come off. Even if the function goes away, the slot doesn’t get turned off.”

A reoccurring theme was that any career field could fill the jobs that the Air Force believes are specific to operations management. One controller remembered, *“The job I did could have been done by any 3EX. A dirt boy could have done that job.”* This, like everything else, has retention implications. *“From what I’ve seen, a lot of tech sergeants and staff sergeants were deployed to jobs that anybody could have done. As a result, we are losing a lot of tech sergeants,”* another controller stated. Despite the frustration, some see it as a compliment. *“Word on the street is that we’re pretty good at multitasking. We can do a lot, so we’ve been picked up for a lot of JET [joint*

expeditionary tasking] taskings. Because we're willing to do the job, we've been tasked quite a bit." Regardless of the view, the truth remains that excessive deployments of MSgts only adds to mentoring problems previously discussed. One controller realized, *"Airmen don't get feedback while their NCO is deployed. They're by themselves and they go on about their business. When the NCO gets home, then it's the airman's turn to go."*

There is also a problem with the distribution of deployments similar to the unbalanced distribution of MSgts. While some controllers are deploying at unsustainable rates, others are watching and waiting for their turn to contribute. A newly cross-trained TSgt discussed her frustration with not being deployed:

"When my bucket came around, we didn't get any taskings. They sent the jobs somewhere else. I'm just frustrated because I came into this career field and one of the biggest draws was to deploy. Now, I'm not getting the opportunity...I've been here a year and three months with no taskings."

Stories about too many deployments were equally passionate. One controller recalled:

"I knew a guy that was deployed when I was and returned in April of this year. In August, they tried to tag him to go to Afghanistan again. Really? We have 60 master sergeants in the career field and you're gonna tag someone that got back six months ago? He was gone for seven, home for six, and you're gonna send him for another seven? He dropped his paperwork. He's one of the guys that know the career field, a triple nickel like me. The Air Force lost a good one there."

A second story echoed similar feelings and also resulted with the airman getting out:

"There was one airman that was a single mom. She went to Korea, came back and did a year deployment and in six months, deployed again. She was told, 'By the way, when you get back, you're going to Korea again.' She got out at 15 years because over a five year period, she'd only see her kid one year."

Underutilized by Leadership

The unawareness leaders have of what a controller can do leaves them feeling underutilized. One controller stated, *“I think it’s the mind frame of civil engineers. I don’t think that most understand what we have the capability to do and what we could do for them.”* Many of the respondents felt that they were not part of the decision-making process. Not only were they upset at being removed, but they also believed that they had the best vantage point in the flight to make such decisions. *“We’re willing to do things that they’re not interested in. We could bring so much more to the fight and make sure that we’re doing things proactively. It just seems like their interest is into HVAC [heating, ventilations, and air conditioning], structures, or dirt boys,”* one controller said. Another agreed, *“We have the ability to give them the information, give them the best guess based on what we see. We’re never asked those questions. We’re never given the opportunity to give our input. We’re just data entry and data collection for CE.”* Many capabilities were offered as useful products that are not fully used: internal work programs, Top Ten programs, project programming, sorting data, life cycle analysis, trend analysis, and other management tools.

As demonstrated throughout the interviews, controllers were not willing to sit back and let their career field slowly decline. Some senior controllers took it upon themselves to affect change. One controller recalled a program that was started at a previous assignment:

“I went to my captain and said, ‘I can run reports for your guys for EPRs [enlisted performance reports] or what you’ve done. We have stuff we can do for your shops to show or prioritize your requests.’ We even gave classes, built our own enhancement classes where the 3E6s showed the

craftsmen that they can do these things yourselves or we can do it as well.”

Two of the interviewees went as far as applying for leadership positions within the career field so they could help address issues that they felt were affecting their career field the most. Another has even brainstormed a completely different view of operations management. With efficiency as the main goal, he suggested that all the offices in the operations support element should be collocated and supervised by a 3E6. This could help by combining duplicate efforts and gaining from other shops' strengths. Recent consolidations of utilities and electrical career fields were provided as case studies.

This area of questioning, like many previously, was linked to retention. Many younger controllers have questioned the importance of their role. One controller remembered a story he had heard from a subordinate:

“An airman said, ‘A monkey could do our job,’ and that he’s not staying in. We’ve had discussions with him to help him see the bigger picture, but we don’t have leadership telling us the capabilities that we have are important to the squadron. Therefore, you have this sense of not belonging, not being understood. What’s the point of staying if I could make more of a difference somewhere else?”

Unfortunately, this view is shared by older controllers as well. One respondent replied:

“I even thought of changing [career fields] myself. I love my career field, but as I said earlier, there’s no room for growth. I know a lot of things I can do, but I’m not getting utilized and I wanted to get out. I can’t do anything. I can’t even apply for a special duty even though I’m not even doing my [ops management] job.”

Trouble Competing

Promotions are an important aspect of any career path. The military definitely has a different model than most industries, yet the emphasis placed on promotions is equally

heavy. Interviewees were asked if they felt that promotions were fair. Although the resounding response was “yes,” the topic of promotions still had an effect on performance. The truth is that smaller career fields have a tougher time getting promotion simply because of size. One controller framed it objectively:

“At senior airman, staff, and tech, percentagewise, we’re as good as anyone else. Once you meet master, if you’re [another career field], you have better numbers to get promoted. Even if you’re a super troop, we only usually get two slots for senior master sergeant. Are the 3E6 candidates better than those that get promoted in other career fields? Perhaps. Heck, there are more seniors and chiefs in the 2S0X1 [supply management] career field than there are in all of ops management. We only have around 430 total on active duty.”

Another controller concurred, “I think we have a fair chance at lower levels, but once we get to senior and chief, I don’t think we’re fair.” Yet another agreed, “Of course it’s tough. Our career field is the smallest in CE, so historically the career field is the toughest to get promoted in considering EOD, fire, and readiness. Still, over the years, if you look at promotion rates, we get what we deserve.” One respondent’s story stood out among the rest as the perfect example of the frustrations. He recalled:

“It took me seven years to make staff sergeant. I had a 324 [promotion score] the last year that I didn’t get selected. My friend in another shop only needed a 200 to get promoted. That’s the disparity we have between small and large career fields because they work off of percentages. That year—this is no lie—I was the highest scoring non-selectee in the Air Force.”

One respondent felt that the low promotion rate further exacerbated the lack of mentorship available to young controllers. Since the available slots at the top are limited, he felt that it forced the most experienced guys to take their focus off of mentoring their subordinates and instead, focus on extra activities to ensure promotion. One controller

actually felt that low promotion rates were just due to the limited experience discussed earlier. He argued:

“The young techs and masters get promoted now, but haven’t had the mentorship and training. Do they have the knowledge and leadership experience to fill those positions? We complain we’re always stuck as a section chief, but if the people we’re promoting don’t know that much, they won’t be able to advance themselves.”

Opinions about awards were split down the middle. Some respondents felt that they were completely unfair while others voiced that they were the highest competitors in their squadron. A controller complained,

“All the glory is in the shops. Typically, the 3E6s have a hard time writing packages on administrative accomplishments that can be comparable to the shops ‘responded to in-flight emergencies’ or ‘mission critical facility.’ It’s like apples and oranges. How do you compare two totally different functions?”

A second controller agreed,

“Our justifications on things aren’t adequately captured or they’re not big enough as the dirt boys working in REDHORSE or the fire department or EOD. Sure, fire and EOD are big things, but it seems like they look at us like we’re just paper pushers unless we’re saving someone.”

Conversely, some subjects bragged about the accomplishments they had been a part of.

One controller emphatically stated,

“Yeah we’re competitive. One of our staff sergeants made it to the group for quarterly awards. Not quite the wing yet, but we’re working on it. We just had one airman below the zone and we’re putting in another. We’ve had the opportunity to compete.”

Another added, *“I would put in guys [for awards] all the time. We were a section that when it came time for awards or below the zone, others were hesitant to put anybody in if they knew they’d have to compete against us.”* One respondent presented an idea that

refers back to educating leadership. She suggested, *“I try to sit on boards so that I can make them understand just how important the work we do is.”*

Model Comparison

This section compares the results associated with this theme to the Liu et al. (2007) models provided in Chapter II. The major processes and the individual HPWPs that were discussed in the results are emphasized by bold lettering and a dotted oval in Figure 12. The factor of vertical alignment which contributes to the effectiveness of HPWP implementation is emphasized in Figure 13.

The problems discussed refer to many different areas of the models. Perhaps the most prevalent is the vertical alignment of the HPWPs used and the mission of the organization. The number of extra duties and assignments outside of the career field show that controllers are not being utilized in the manner intended. However, if the jobs they are performing are in fact the jobs they should be doing, one might consider that their training in operations management was a waste and that they should instead be trained on administrative tasks. As with the issues previously stated, these problems may also affect retention.

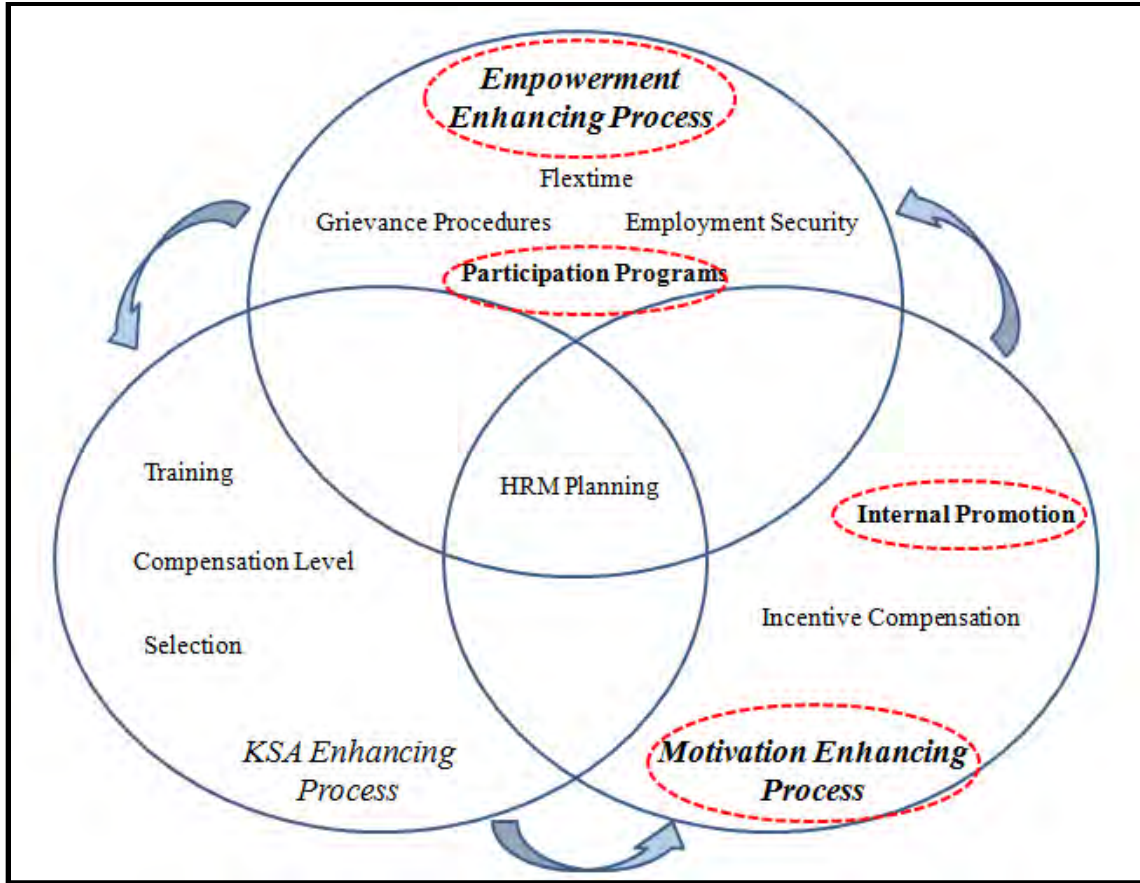


Figure 12: HPWPs and Processes Discussed in Theme #3

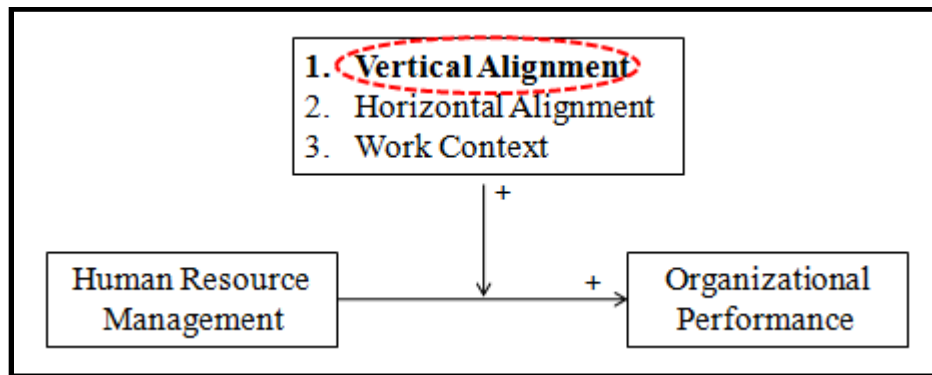


Figure 13: Factors that Impacts HPWP Effectiveness Discussed in Theme #3

Theme #4: No Advanced Training

A robust training program is important to build the knowledge needed to appropriately accomplish the operations management mission. The existence of a solid training program relates significantly to overall organizational performance (Russell et al., 1985). Although experience may be low, the proper training program can correct the problem by producing competent controllers over time. However, the sentiment among controllers is that *“there is no real course to teach us what you should know as a 7-level.”* This section looks at the Air Force’s view of training for operations management. It then discusses the existing training situation and what is being done to correct it.

The Career Field Education and Training Plan (CFETP) outlines five types of training required: initial skills, upgrade, qualification, advanced, and proficiency (Department of the Air Force, 2011b). Although the CFETP addresses the different types of training possible, all types are not necessarily available. There is an absence of advanced formal training opportunities in the career field. Similarly, there is no clear guidance dictating the tasks included in qualification or proficiency training.

Problems with Initial Training

The operations management tech school is a controller’s first exposure to the career field. Some of the problems that the school house experiences are common to training programs in other organizations. The procedures that are taught are often based on out-of-date job analyses or those of workers with slightly different jobs (Oriel, 1973). One example in operations management is the different situations that airmen deal with that were formerly handled by NCOs. One controller explained, “[*The school house*]

doesn't touch on work orders because most won't deal with them until the NCO level, but since we don't have that many NCOs, many airmen are dealing with them as soon as they get to a base. There's no real training on work orders." If a job changes enough, it may be necessary to totally rewrite curriculum rather than just update it. One controller believed that this is the position that the school house is in. He stated, *"Our tech school should be completely rebuilt from the ground up. It's not doing anything for the airmen going to base."*

When the material is correct, there are instances where the content is written or taught at a level above or below the comprehension of the workers (Wilson et al., 1980). There may also be a misalignment between classroom training and situations observed on the job. This point was mentioned by a few respondents. One controller said, *"I don't think that tech school prepares people for what they will be doing. It gives you a background, but everything you're going to learn is going to be on the job."* Finally, completion of a training program is often based on whether or not a trainee was exposed to an idea rather than if they demonstrated an understanding of the idea taught (Wilson et al., 1980). The origin of the problems again stems from the lack of experience of the instructors since there are few senior controllers available to teach.

Another source of training is the Community College of the Air Force. There is an associate's degree offered for each career field. Controllers receive a degree in Maintenance Production Control which is shared by three other career fields. The usefulness of the coursework required by the degree is debatable. Most respondents agreed that the degree did not help them with operations management specific tasks. One

bluntly stated, *“I don’t believe it was helpful at all.”* Others felt that there were some benefits. One added:

“It didn’t really [help]. Most of it you get from your military training or tech school. Then you just take your core classes like math and English. Maybe speech and English might have helped me a little bit. But the other classes didn’t.”

Considering the lack of mentorship, one controller thought that some courses had merit. He argued, *“Leadership and management I thought were pretty useful. Without taking those classes, I’m not sure how effective a leader or mentor I’d be without those skills.”*

Further education is not limited to what the Air Force provides. Most of the interviewees had a bachelor’s degree. The fields of study included medical, education and development, legal, public health, computers, and networks. Along with academic degrees, many controllers sought other training in Microsoft Office applications, database management, and management certifications.

New Responsibilities

Regardless of inadequate training or mentorship, a controller can at the very least survive by mimicking what the other controllers do. This becomes an issue, however, when the career field is given new responsibilities. Operations management has two recent additions to their job description. The first is quality assurance (QA), which has only recently become a part of the CFETP. Many of the subjects noted that they had performed QA duties at one point or another, many before the task was actually added officially. Most airmen were responsible for QA while deployed. This task is not specific to controllers. It was added to many of the CE career fields’ CFETPs, although

controllers and engineering assistants are used in this capacity a majority of the time. This incongruence contributes to an overall void of training in this area. One controller noted that *“It’d be nice for people to know what they were doing when they got [downrange] rather than trying to figure it out once they got there.”*

A second additional responsibility is managing material supply. This job was previously accomplished by airmen in the logistics readiness career field. Logisticians were traditionally assigned to CE squadrons to manage the ordering, delivery, and storage of materials for engineering work. In 2006, PBD 720 required all career fields to limit their budgets and only focus on their core responsibilities. Each career field used different avenues to restrict spending and manpower. Logisticians decided to retrieve the personnel assigned to CE squadrons in an attempt to reduce their required manpower. Though the airmen responsible for material supply were removed, the job they did remained. Controllers were chosen to adopt the mission in their place.

The obvious issue with this is that any additional mission will likely stress a career field that is already suffering from low manning. A second issue is that there is no way to train airmen on these new duties. The mission was added before a formal training plan was made. One controller explained it like this:

“They updated the CFETP but didn’t offer any type of training. It would have been good if they said, ‘Here’s 15 new tasks on your plan, but here’s a course where you can send your folks. It’ll be funded by your command or the Air Force and not your unit because it’s not your fault that it got added.’ But they didn’t...It would have been nice to have something established before they dropped that bomb on us.”

In cases where there is not a senior controller qualified in material supply, airmen must simply learn on their own and wait until they move to a different base to get certified.

Efforts have been made to add 15 days of supply training to tech school for new 3E6 airmen.

Emphasis on “On-the-Job Training”

Due to the lack of advanced formal training, the operations management career field relies heavily on on-the-job training (OJT), which is the most frequently used training method in industry (Utgaard & Dawis, 1970). OJT received the highest rating compared to other training methods in usefulness and acceptance (Walker, 1965). Larger companies were found to have more structured OJT programs than smaller companies (Wilson et al., 1980). It is of little surprise that the Air Force has one of the most robust OJT programs. It is estimated that 10% of the enlisted workforce man-hours are spent on some sort of OJT each year (Stephenson & Burkett, 1975). In fact, many years ago, the Air Force depended solely on OJT to train airmen. An older controller recalled, *“I came in in ’89 back when they had what they called ‘direct duty airmen.’ I didn’t go to tech school. I graduated basic, went on leave, and then reported straight to my unit...I had to kind of learn it from my supervisors.”*

OJT is implemented by many companies because of its assumed advantages: low costs, hands-on style, and acceptance by trainees that do not like to be in a classroom (Wilson et al., 1980). Unfortunately, the cost may not be as low as expected. In an unstructured program, costs are lower than bringing in an instructor or sending trainees away to school (Gant, 1977). But to properly start an OJT program, a great deal of effort must be applied to planning, evaluating, and administering. There are also hidden costs due to the lack of production normally accomplished by the trainer and the possibility of

damage by unskilled trainees (Gant, 1977). Although the Air Force values training, funding for schools usually determine whether or not certain specialties are taught in classes or by OJT (Stephenson & Burkett, 1975).

The most significant disadvantage of OJT is that it is most often carried out in an unstructured manner. The military has one of the most structured OJT programs compared to those found in industry (Wilson et al., 1980). Unfortunately, the operations management career field does not have an OJT program that is as structured as other career fields. In a study conducted by the University of Wisconsin, Perlman (1969) found that of 150 companies, all used OJT as the main training method but only four percent had a structured program.

This presents two issues, each of great concern. First, the worker charged with training new workers may have little to no experience as an instructor. Educating another is a large task that has been levied on workers who may lack skills themselves (Oriel, 1973). One controller related this fact to premature promotions: *“They’re giving them rank...but they’re still learning the job and whatnot. It’s hard to train and understand what to do in that position if you don’t know what to do in the first place.”* This gap in knowledge is apparent to both the trainer and trainee.

The second issue is that it is seldom possible to conduct legitimate training while keeping production maximized. One of the two will suffer for the sake of the other. In most companies, the decision is made to keep production as the priority. One respondent was frustrated at his current position. He said, *“Here I’m just a trainer. My main goal is just to train. I know that’s where we’re lacking, but still I feel I could be utilized in other programs our section is responsible for.”*

In reality, on-the-job training is often replaced with as-you-work training (Perlman, 1969). One controller recollected, “*All the stuff I’ve learned about ops management has been from being thrown in the fire, figuring it out and asking questions.*” Another agrees: “*Unfortunately, most troops will just learn on their own by sending them to a shop to figure it out on their own.*” Rather than following a prepared plan for training, new workers are told to just go and learn what they can by watching. Rather than having designated instructors, instruction is provided by just another worker (Wenig & Wolansky, 1972).

Reliance on Outside Courses and Workarounds

Controllers have tried to fill the void of training in the operations management career field. There have been a few attempts to get young controllers exposed to the different aspects of the job. These efforts include contract courses, in-house courses, and shop exposure programs.

Every subject questioned during this research had heard of Alice Anderson courses and most had attended at least one course. Alice Anderson is one of the pioneers of IWIMS. As a consultant, she travels throughout the Air Force offering classes in report writing, RWP, in-service work program (IWP), work control, and cost management. She has a monopoly on the market because the few controllers, military and civilian, that actually understand all the details of IWIMS have retired. Her business is quite successful since bases around the world are willing to pay top dollar to host one of her classes.

Her praises were voiced by the MSGts that had taken one of her classes. One controller proclaimed, *“Alice Anderson kind of brought the light bulb on. [She] tied everything together, all those little tidbits you learn over time.”* Another believed that her classes were a necessity. He declared, *“All ops managers should go to the Alice Anderson course because a lot of people only know the basics of how to get the basic information in.”* Yet another controller added,

“All we get is how to input stuff into the database and we get good at it. But if you don’t take the Alice Anderson class, you don’t know how to set up an RWP cycle or adjust the whole RWP to make sure the database is running right.”

Other courses have been arranged by controllers at all levels. One controller spoke of a course hosted at his base for all the controllers stationed there. Rather than sending 25 people across the country, an expert from Gunter Air Force Base was brought in to teach them about the Automated Civil Engineer System (ACES). Some bases reached out to others to develop joint program management courses. Leaders in the career field are working on developing a 7-level course to replace the course that was canceled in 2005. The idea is to use the material offered in the Alice Anderson courses as a template to develop an in-house replacement.

One possible roadblock in developing such a course is funding. Proponents of reinstating a 7-level course have a hard time providing a strong connection between the course and the war effort. It has been discussed amongst career field leaders over the last few years, but it has not been reinstated. It is possible that the low level of support is due to the unawareness of upper management of the need for such a course. With no high ranking controllers, there are fewer advocates available for its creation. At the Air Force

Civil Engineering Support Agency, the Career Field Manager (CFM) position is filled by a MSgt while the other CFMs from the Operations Flight are SMSgts. This disparity in rank may also limit advocacy for controller training. One controller thought, *“With TDYs [temporary duties] getting cut and money being tighter for courses, everyone is fighting to justify their own...I look at it and our course has no ownership because we can’t clearly explain the costs and consequences.”* At the least, it is desired that controllers attend the Alice Anderson courses. Some Major Commands have made this a priority by securing funding ahead of time and allowing two controllers from each base to attend so that the knowledge is distributed as equally as possible.

A final effort mentioned was moving controllers into the different shops for a few weeks to learn the intricacies of the different crafts. One shop has a standard “floater” that moves from shop to shop. Another shop expressed desires to instate such a program once the youngest airmen catch up on their training. The exposure to the various crafts ideally helps the controller do a better job. A new controller explained her situation: *“One thing we’re missing is going out into the shops and learning, especially us females. Like, ‘Who does hot water?’ I didn’t realize that HVAC did that until I talked to them. Things like that, getting hands on experience with what they really do.”* Not only can exposure help them understand who does what, but it can help them ask more meaningful questions that make everyone’s job easier. One controller clarified:

“When I was managing customer service, I tried to get us engaged in the unit. I moved guys around to the shops so they got HVAC calls and plumbing calls. Then, when they came back to customer service, they asked better questions. They knew a little more.”

The lack of advanced training is apparent in the operations management career field. Though many efforts have been made to fix this problem, money and manning stand in the way of reaching success. Through ingenuity on the part of the senior controllers, the effects of this problem are lessened. However, the missed training adds to the last theme of lack of guidance.

Model Comparison

This section compares the results associated with this theme to the Liu et al. (2007) models provided in Chapter II. Both the major processes and the individual HPWPs that were discussed in the results are emphasized by bold lettering and a dotted oval in Figure 14. This theme pertains mostly to training, which enhances KSAs. The amount of times that training was mentioned in the interviews bolsters the fact that training is one of the most studied HPWPs. Problems with training are not isolated. Instead, they are horizontally integrated with other areas. As described earlier, a lack of training creates senior controllers that may not be as competitive for promotion. If they cannot demonstrate that they have mastered their primary job, they may be less likely to be chosen for top positions. Training is also aligned with participation. If controllers want more participation in decision-making, they must first demonstrate that they have mastered their controller duties and possess the needed skills to legitimately contribute to decisions.

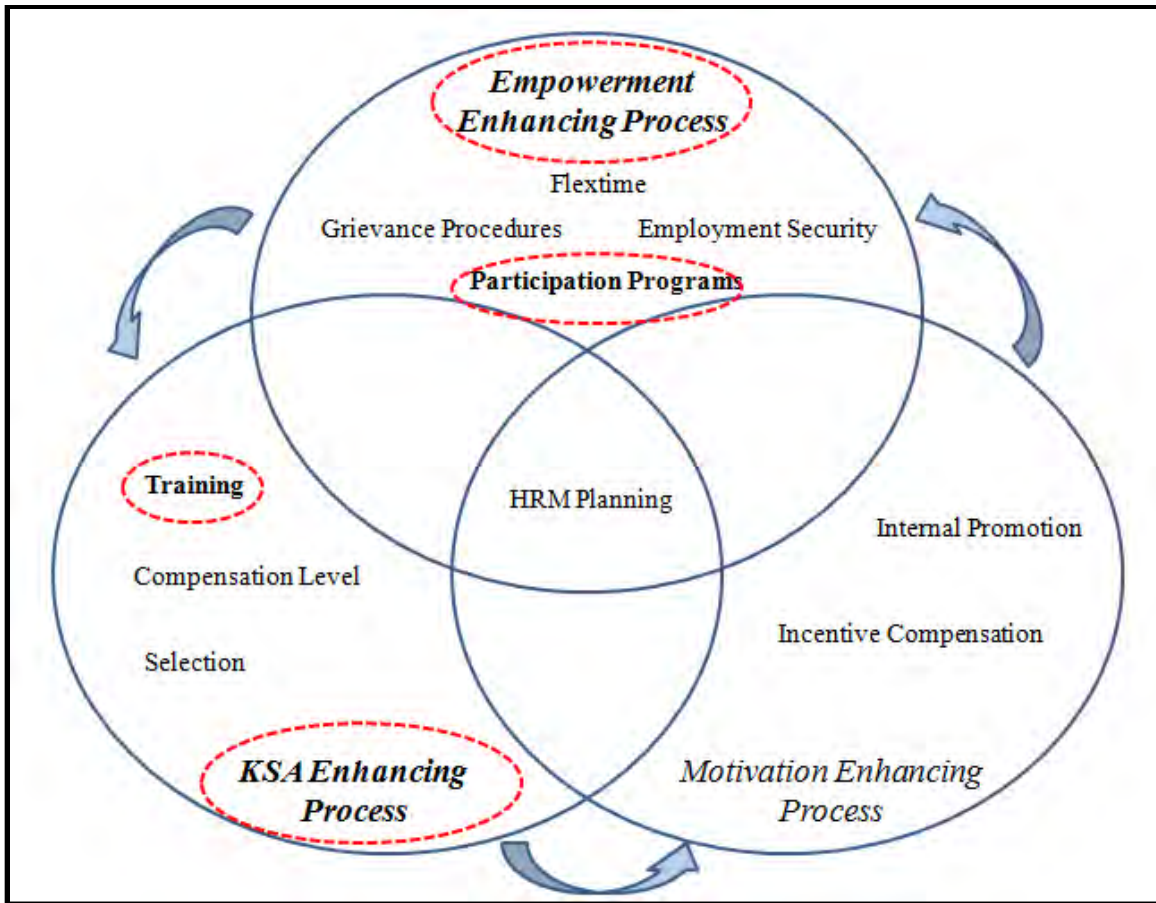


Figure 14: HPWPs and Processes Discussed in Theme #4

Theme #5: Lack of Guidance

This section examines problems resulting from a lack in guidance for the career field. Traditionally, the military provides guidelines for every action and a plan for every possible contingency. However, the operations management career field has limited guidance. As a result, many bases have developed their own standards of operation. The lack of standardization may be affecting the quality of data entry and retrieval. There also seems to be a gap in the guidance provided to operations managers for the

implementation of asset management. The details of these problems are discussed further.

In the mid 1990s, the Air Force moved from regulations to instructions. The reason widely given was to gain cost efficiencies by allowing individuals the freedom to vary some processes. Air Force Regulation 85-2 provided controllers with a standardized “how to” guide. It was replaced with a more generic Air Force Instruction (AFI) 32-1001. Since then, multiple updated versions have been created, yet the detail of the old regulations remains unmatched. One controller explained, *“It goes back to AFIs dictating what you do. When the regs changed to AFIs, Regulation 85-2 went from 200 to 10 pages as AFI 32-1001. It lets you do whatever you want since you’re not getting measured by any standard.”* By eliminating specific guidance, younger airmen are left with no way of learning the intricacies of the job without the guidance of a senior controller. Another controller made the connection:

“A lot of the processes that apply to doing work in IWIMS, they were outlined in those publications. Then in the AFIs, they were just so thin. For reference for future generations to develop training using AFIs or if they were trying to pick up extra skills with no one to help them, it was impossible. Plain and simple, [they need] good, old-fashioned guidance—standardized guidance.”

It is difficult for younger airman to learn on their own when there is no material to learn from. A ten-page document can be read and “mastered” in a day. Without a clearly defined performance guide, the end-product can vary significantly based on interpretation. One subject responded, *“The quality goes back to the lack of standardized guidance on the procedures on how to directly input the data.”* He went on to say, *“The*

thing is you won't find the answers written down anywhere, you just have to know it. I'm not talking about a playbook, I'm talking about good old instruction manuals."

Local Variations

Due to the lack of guidance, each base can interpret many aspects of the job differently. Without a standard dictating exactly what information must be entered, each base develops a culture of what is important to track and what is not necessary. As one controller recalled, *"The quality of the data depends on what the base emphasizes."* This frustration was shared by another controller who realized that someone had to step in and provide some guidance. He recounted, *"There's no specific guidance. That's why I said if I were ever in a position to change it, I would. I would volunteer for a chance to develop the needed documents."*

There are many examples of operations management programs that could greatly benefit a squadron. Unfortunately, they are deemed "optional" for controllers. These programs include: Top Ten, internal work, reoccurring work, and customer feedback. When asked what he was capable of doing but did not, one respondent suggested, *"IWP. Some bases I've seen do it, some don't, and some do it halfway. It's a good tool if used to its full potential."* As is the case with most of these problems, the cure is a strong presence by a senior controller. A MSgt recalled his method of refocusing a new shop:

"You get good data if you have a customer service department that makes it a priority. When I get to a base, I immediately go into IWIMS and look at a few obscure places to see if they were keeping stuff updated. If I went to those places and they didn't have data, I knew that we were going to have a problem. I'd sit them down and say, 'I don't know what you did beforehand, but this is how we're going to do it now.'"

Errant Data Entry

Each respondent was asked specifically whether or not the data entered by controllers could be confidently used to make good asset management decisions. The majority of answers were negative. The data was generally viewed to be wrong, incomplete, or out of context. Said one respondent when asked about data quality: *“I’d say not very good—garbage in, garbage out.”*

A caveat was added for the few neutral responses received in that it was all dependent on the location and personnel responsible. One controller replied:

“IWIMS alone? It could be OK. I guess it would matter what base I’m at, how much training the airman has had...Is my airman trained enough to know what to put into the system? Am I getting the whole picture? There’s a lot of places in the process that can get fouled up.”

Another asserted: *“[The system] is only as good as the people who are using it.”*

From these responses, it appears that there were legitimate doubts in the accuracy of the data stored in the CE systems. One of the largest challenges to proper asset management is the lack of useful data or data in a useful form. This weakness is due to information systems that lack flexibility and the low rate of data gathering and entering. When a system is implemented, it is important that it not create more work and drive the process, but instead become a tool to help the process (Jones, 1994). Most information systems fail due to lack of training, insufficient commitment, and lack of a demonstrable use of the system output (Jones, 1994). Another problem is duplication of data rather than sharing.

Currently, the Air Force uses two primary systems for civil engineering tracking: the Automated Civil Engineer System (ACES) and the Interim Work Information

Management System (IWIMS). ACES contains information on real property, readiness, construction processes, and project management. IWIMS is a smaller system that communicates with ACES and focuses on work order, materials, and job management. Reviews of these two systems have been mixed. Most problems mentioned concerning ACES centered on its tendency to get overloaded. One controller stated, *“I don’t like ACES. It decides when it wants to work and when it doesn’t. If you go too quickly, it just locks up.”* Problems with IWIMS were due to its outdated interface and the fact that it sometimes “dumps” information. Many controllers preferred a web-based system to allow ease of access and use.

The proposed solution to these complaints lies in a CE initiative called NexGen IT. The purpose of this transformation is to use commercial off-the-shelf software to provide engineers with an updated information management system (Thomas, 2009). The system will replace and consolidate multiple CE systems (including ACES and IWIMS) into one web-based interface. However, this idea has been discussed for many years. Although CE leaders have aggressively pushed this initiative recently, the timeline remains uncertain.

The absence of a simple user interface has caused two main problems. The first is the quality of data entered by the other shops. Controllers understand IWIMS and have little trouble entering data because it is a fundamental lesson taught in tech school. On the other hand, the other shops do not have the training. Without training, IWIMS is extremely difficult to navigate. This problem stems from issues with manning and experience previously discussed. A respondent noted:

“It should be a good tool to use. Because of the shortage of manning and the loss of knowledge, we kind of lean on the shops to input labor and sometimes work order stuff. We’ve turned it into a junk in, junk out problem. It’s not the most reliable stuff out there.”

Another added, *“The labor reporting has been farmed out to the shops, so I know there are gigantic holes in that.”* One controller thought that having the shop foreman enter the data may be beneficial since they were closest to the job. Still, he admitted that he would rather be responsible for making sure the data was entered correctly. The problem was summed up by an interviewee: *“The craftsmen don’t use [IWIMS] because they don’t like it. Therefore, the data is not being input correctly.”*

The quality of the data is also compromised when it is incomplete. The dislike of the system leads many to simply ignore it. One subject explained, *“IWIMS isn’t a horrible system...Unfortunately, 90% of civil engineers don’t understand it, therefore they don’t use it. There’s not a lot of data input.”* A few others offered that the quality of the data was dependent on the integrity of the individual entering it and the local emphasis placed on it. Lastly, it was suggested that it is a classic case of blue versus white collar workers. Blue collar workers simply do not feel comfortable in an administrative role nor do they understand the importance of it. This was noticed in deployment settings as well. The tendency was use spreadsheets and other systems since IWIMS usage was not mandated.

Questionable Results

Another problem with data in CE systems is the manner in which it is retrieved. IWIMS data entry, as challenging as it may be, was not seen half as difficult as data

retrieval. Once controller saw it like this: *“IWIMS is a good system because it will give you what you need...If you know how to run those reports, you can just about do miracles. Unfortunately, it’s an archaic system from the 80s that doesn’t allow us to do the things we could.”* Another suggested, *“If we had the familiarity with it, we could pull those reports out easy, just breeze through it.”*

When reports are generated, controllers still displayed distrust in what was produced. Sometimes it was a case of knowing the intricacies of the system. An interviewee suggested, *“Sometimes the data can be wrong if it’s pulling the rejects or it’s not talking to the history. There are parts that you have to know to check.”* Other times, there were problems with the interpretation of the data. One controller remembered,

“I’ve seen other people try to produce products out of IWIMS in order to develop asset management plans. They’ll do some analysis and the stuff they’ve been getting is suspect...Being able to pull out info and change the context for what you’re trying to present, that’s really our role.”

The final quote includes similar thoughts along with previous concerns about supervisors understanding the role of a controller and the ability that they bring to the table.

“At my last base I was fortunate to work with a commander and ops chief that were willing to listen. They understood when it came to getting info out of the computer, putting it into a format that meant something to them, they’d let me do that. They weren’t just telling me what slides they wanted to see. They left it up to me to gather info that meant something. I was allowed to make decisions that would help them make good decisions. At some bases, I’ve seen ops chiefs that tell them what they want to see without really understanding what they’re looking at. It’s useless information. I’ve also seen where there’s the tendency to misinterpret the data. Luckily, the ops chiefs that I’ve worked for have been very willing to listen to the information and allow us to explain what it means rather than them drawing conclusions.”

Poor Understanding of Asset Management

As the Air Force moves towards a culture of asset management, it may be wise to ensure that controllers are educated on the principles of the philosophy and how they fit into it. At this point, a majority of controllers are unaware of what asset management entails. They also appear to be unsure of the role they play in it. A few respondents humbly admitted that they did not know what asset management was. Some of those who had a rough understanding of the concept did not believe that controllers were a part of it. A common theme shared was that asset management is just another name for the environmental flight. One controller thought, *“Its money and materials. I don’t see how we fit into it. Maybe we do because we put work orders into IWIMS.”*

A handful of interviewees understood parts of the idea. One controller stated, *“I see myself as the person that collects all the data that would go into the process.”* Another shared opinion was that controllers are only responsible for RWP. One controller hypothesized, *“One way we might fit in is with a firm oversight of RWP...That’s a piece of it. To go in and manage that program: how it should be and identify all the pieces that play into it, making sure the data is accurate so that life cycles can be analyzed.”* The best definition received was from the youngest interviewee. He was not taught his definition. Instead, he developed it on his own from the changes he observed around him. He defined asset management as:

“Managing all property on base whether a facility or real property installed equipment; making sure you have the correct date of installation; making sure you have the appropriate preventative maintenance program to keep the RPIE [real property installed equipment] meeting or exceeding the life expectancy; being able to capture and show all of that to higher headquarters.”

With the lack of guidance provided to controllers, it is hard to assume that many accurate asset management decisions can be made. The instructions do not exist to explain to controllers how to perform their job. Standards do not exist to regulate what information is required. Finally, controllers are not educated on the concepts of asset management and how their job contributes to its success. The following section looks at the training that controllers receive to address the shortages in guidance.

Model Comparison

This section compares the results associated with this theme to the Liu et al. (2007) models provided in Chapter II. The major processes and the individual HPWPs that were discussed in the results are emphasized by bold lettering and a dotted oval in Figure 15. The factor of vertical alignment which contributes to the effectiveness of HPWP implementation is emphasized in Figure 16.

This theme touches on all of the processes. First, it pertains to the process of enhancing KSAs. The needed guidance to make sure that every controller is learning the same skills and performing to the same standards was discarded. It also touches on training. Rather than having controllers trained to the same level, local policies and emphases have become the only standard for training. It points to the need for other shops to be trained if they are expected to help maintain data.

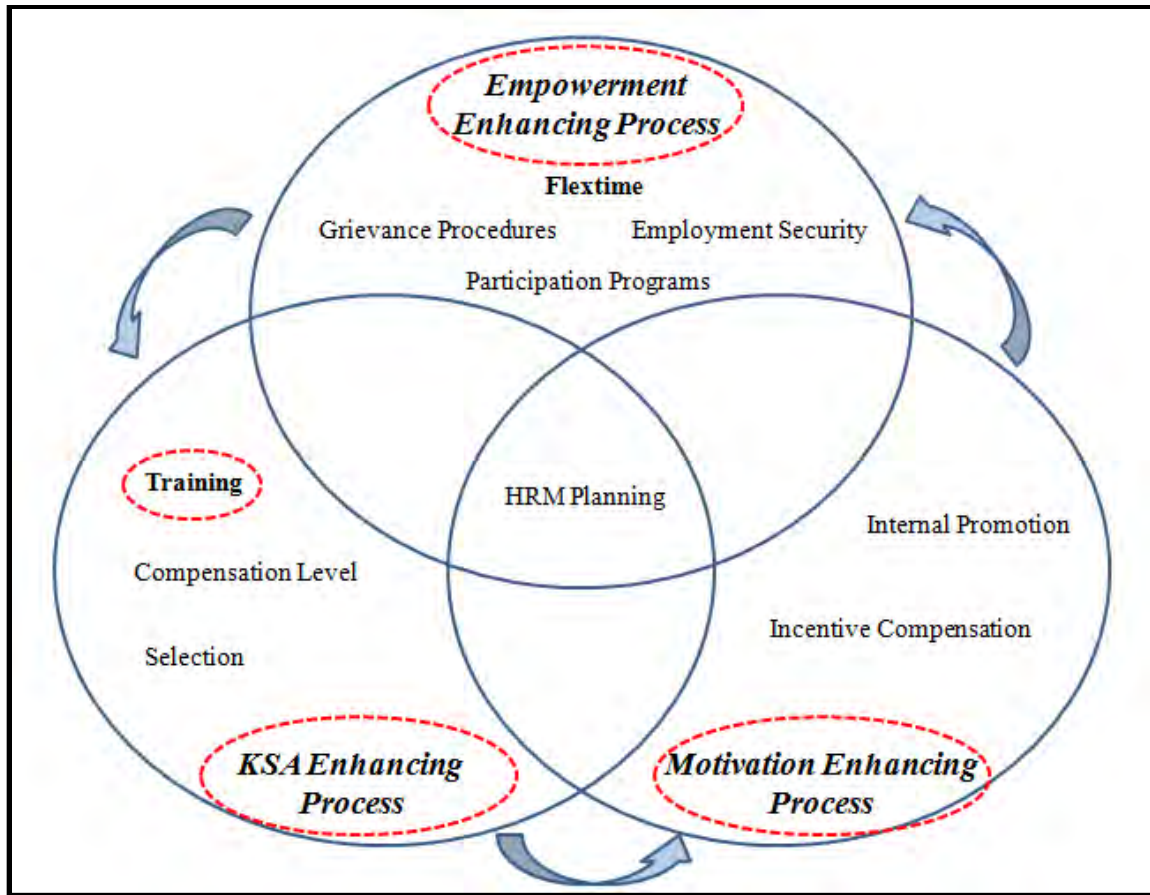


Figure 15: HPWPs and Processes Discussed in Theme #5

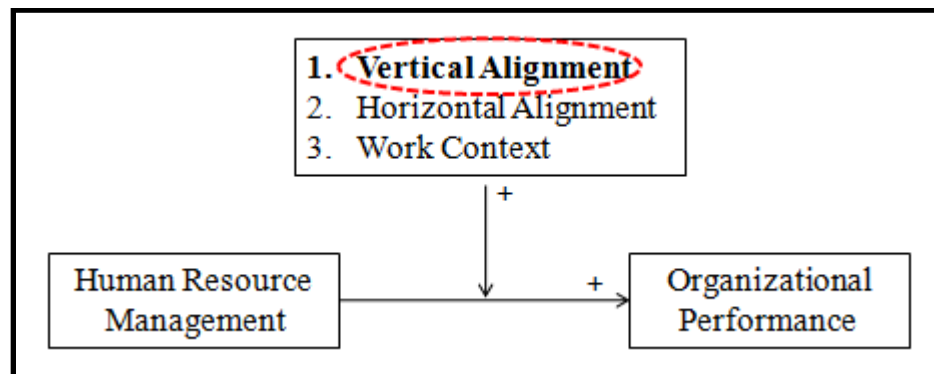


Figure 16: Factors that Impacts HPWP Effectiveness Discussed in Theme #5

If controllers are empowered to do their jobs, they can focus on maintaining the quality and completeness of the data. When it comes time to use the data, controllers can be trusted to analyze it and provide supervisors with the desired information. In addition, the quality of the data comes down to the individual motivation of the controller inputting it. At that critical point, all the HPWPs employed must work together to ensure that the data is entered correctly and completely.

Lastly, this theme once again highlights a lack of vertical integration. Asset management was proposed as an idea that would help the CE community cut costs and increase efficiencies. Though it appears to be an important topic, controllers are not educated on how they fit into the process. They are not aligned with the overall CE asset management agenda.

Further Model Discussion

The HPWPs and their relationships shown in the Liu et al. (2007) models were gathered from studies of numerous organizational types. Although each organization was unique, the same common truths emerged when observed together. The military also presents a highly unique set of circumstances that makes the implementation of some HPWPs difficult and, at times, impossible. In an effort to keep things standardized and consistent, many decisions regarding HPWPs are made at the highest levels and apply to everyone. This discussion addresses the limitations of the military in implementation of HPWPs.

The three HPWPs prescribed to enhance KSAs are training, selection, and compensation. As discussed previously, each career field receives training specific to

their career field supplemented by experienced workers at the lowest levels. In this regard, training can be tailored by each level of leadership in order to meet the mission intent. On the other hand, selection and compensation cannot be varied as easily. Selection of airmen into the career field is done at the Air Force level based on needs, aptitude tests, and historical indicators. Although this is more advanced than random assignment, local controllers are not allowed to conduct interviews to choose the best fit candidates for their organization. The military actually operates from the perspective that if one airman is removed a second should be easily inserted in their place. Compensation for performance is possible through creative channels such as day passes or preferred parking spots. Other than that, few avenues for compensation are available. Military pay is not decided by the Air Force and cannot be altered at the local level. Retention bonuses are used, but again, they are offered at the service level.

Internal promotion and incentive compensation are the two HPWPs listed as motivation enhancers. These two areas are probably the most well known and well implemented by the military. The promotion system is the backbone of many different human resource management (HRM) practices. Often times, opportunities are framed as “promotion helpers” while punishments result in loss of rank and described as “career enders.” These common views help motivate airmen to perform assuming that promotion is a goal of most members. More famously, the military is known for its benefits such as healthcare and retirement. These benefits are often regarded as good reasons to join and good reasons to stay. Through these two HPWPs, the military is better able to retain members and increase performance.

The four HPWPs included in enhancing empowerment are grievance procedures, flex-time, participation programs, and employment security. Two of these HPWPs were not discussed in the results of this research. Flex-time refers to flexible schedules and work environments. Employees can be allowed to work hours when they choose and/or work from home. These practices are used by some military offices, although certain demands unique to the military lessen the effectiveness of such variable schedules. Employment security was also not presented, although it is significant. For the military, job security is often wrapped up in the benefits previously mentioned.

Grievance procedures are present in the military, although they may not be available at all levels. For actions such as crimes or discriminations, grievance procedures are readily available for all members. In less severe cases such as work ideas or displeasures, the means to make claims are dependent on the personality of the leader. Leaders may be highly receptive of the opinions of subordinates or they may not. Similarly, the participation that leaders allow subordinates to have in decisions is highly dependent on their personalities. The rigid rank hierarchy of the military allows leaders to make decisions without the permission of the subordinates. Most would argue that effective leaders listen to their people, yet this is not a requirement. Therefore, the implementation of these two HPWPs is determined by the perceptions of the leader.

The final HPWP mentioned is HRM planning. This touches on each of the three processes and is further discussed in the second Liu et al. (2007) model. The second model includes vertical and horizontal alignment as well as work context. A large number of the problems described in the interviews resulted from poor vertical alignment between HRM practices and the Air Force mission. At times, it seemed that controllers

were being managed one way while the mission required a different approach. Some of these problems are a result of the fact that many HRM practices in the military are standardized. While HRM planning may be more effective if implemented at a lower level, many decisions for controllers are made at the Air Force level and sometimes the Department of Defense level. Rather than creating a unique management solution for controllers that places them perfectly in line with the strategic plan, controllers, like most others, are forced to work within a one-size-fits-all system.

Horizontal alignment is also hindered by standardized procedures. Proper alignment requires each HPWP to be fitted with complementary practices. Instead, some practices are simply immovable and are not negotiable at lower levels. By not allowing some practices to shift, it may be difficult to effectively integrate the HPWPs that are negotiable. Lastly, the context of the work environment must be considered to properly implement a successful HPWP system. This requires the HRM planner to create a unique system that will appeal to the needs of controllers specifically. Unfortunately, this level of tailoring is not possible within the overall HRM structure of the military.

Summary

This chapter presented the top five themes of HRM problems as perceived by controllers. Each theme was supplemented with direct quotes from interview subjects as well as secondary sources. Each theme was related to the models proposed by Liu et al. (2007). The chapter was concluded with a discussion of the limitations that the military places on HPWP implementation. The final chapter contains the conclusions reached by this research.

V. Conclusions

The purpose of this study was to see if current human resource practices are contributing to controllers' perceptions. A phenomenological approach was used to collect data from controllers throughout the Air Force about their experiences and perceptions. The results were analyzed by coding them into overall themes. These results were compared to models of high-performance work practices (HPWPs) to see what practices could be altered to possibly increase performance. This chapter includes a further discussion of the results in relation to the investigative questions posed in the first chapter. The discussion is followed by implications of the results and limitations of the research; it concludes with a discussion regarding future research topics.

Discussion

The key findings that emerged during this research were presented and discussed as five themes:

- #1: Few senior leaders in the career field
- #2: Unawareness of role
- #3: Inconsistent employment and recognition
- #4: No advanced training and
- #5: Lack of guidance

These broad themes included many resultant problems used to answer the investigative questions. The first question was if controllers felt they possessed the knowledge, skills, and abilities (KSAs) needed to perform their jobs well. Based mostly on the problems

addressed in the fourth theme, controllers perceived that they did not have the needed KSAs to perform their jobs well. This problem was shown through shortcomings that occurred in initial tech school training and continued throughout their careers by the absence of advance training courses offered by the Air Force. In response to that, the career field placed a heavy emphasis on on-the-job training (OJT). Some controllers sought out contracted civilian courses while others developed in-house workarounds. While these fixes helped, the career field as a whole remained without a standard advanced course. With such an emphasis on OJT, the lack of experience of some of the senior career field leaders discussed in the first theme also must be considered.

The second investigative question asked if controllers were motivated to perform. This question was indirectly addressed in the second and third themes. First, controllers felt that they were not part of the team due to the fact that other members of the squadron did not understand the role they played in accomplishing the mission. Along with not feeling like part of the team, controllers felt they were poorly managed based on the jobs they were given. By employing them to do jobs they felt were meaningless or unrelated to their career field, controllers felt that leaders did not understand what they did. They often felt underutilized both at home and while deployed. Lastly, controllers perceived that the misuse and misunderstanding of what they did sometimes negatively affected their chances to win awards and get promoted. Despite these issues though, the controllers still demonstrated pride in their jobs and a motivation to overcome whatever obstacles they met. Considering these facts, the second investigative question was not definitively answered.

The third question looked at how interpersonal relationships between controllers and other engineers affected job performance. This question was addressed by the second theme. The unawareness that other members of the squadron had of the controllers' role left some controllers feeling that they were not part of the team. This unawareness further manifested itself in an increased workload for controllers. In some instances, there was also inter-shop friction. The blame was not always placed on the other squadron members; some interviewees noted that they and fellow controllers had mishandled situations. Moments of ignorance from other engineers could be used as teaching and teamwork building opportunities. Additionally, changes in squadron practices may have made the circumstances worse. While the interviews did not explicitly measure performance, it can be reasonably assumed that performance may be sub-optimal while conflict exists.

The fourth investigative question asked if controllers believed they had the necessary representation among decision-makers. The answer was "no" based on problems described in the first theme. Due to changes over 15 years ago, imbalances in manpower and experience developed in the career field. The result is multiple undermanned ranks within operation management. Since the higher ranks are not at full capacity, members of other career fields have been placed in controller supervisor positions. Along with the manpower problems that continue to propagate, controllers feel that it is hard for them to get promoted for reasons described in the third theme. Overall, controllers felt that they were not properly represented.

The final question was whether or not controllers perceived that the product they produced was reliable. This question was addressed in the fifth theme. Because of a lack

of guidance, controllers believed that there were issues with the quality of the data being entered into databases. When regulations were replaced by instructions, specific guidance on what programs were required and how data had to be entered all but disappeared. This led to incomplete data files. To compound the issue, data entry was farmed out to other shops, further increasing the chances of incorrect or incomplete data entry. Assuming that the data were correct, some controllers identified issues with data retrieval. There were perceptions that some data were errantly compiled or simply misinterpreted by decision-makers. Lastly, no guidance on asset management strategies was provided to controllers despite the fact that they play a significant role in capturing the data necessary to implement asset management principles. In general, controllers were not confident in the final product they created.

Implications

At the end of each theme discussion in Chapter IV, the human resource management practices identified were compared to a model of HPWPs to see which practices were used and which were absent. At the end of Chapter IV, a further discussion showed the limitations the military faces in implementing all of the HPWPs described in the models. It is implied in this research that if a HPWP can be used to manage controllers, it should not only be used, but also maximized to make up for the practices that are less negotiable.

Enhancing KSAs is accomplished by training, selecting, and compensating. While selection into the career field is limited and compensation is decided by the Department of Defense, the training for controllers is the area that leaders should focus

on. Throughout the results, controllers voiced a desire to have an advanced course. Though there are some contracted civilian courses available, the Air Force should be able to provide a standardized advanced course to the operations management career field. While controllers desperately need an advanced course, other members of the squadron also need more training. Other members should be trained on how work flows through the squadron and what role controllers play in the process. This training would not only shed light on the importance of controllers but could possibly help them complete their own jobs more efficiently. Operations Flight chiefs could also benefit from a greater understanding of what controllers are trained to do and what skills they bring to the table. Lastly, if the civil engineer community is committed to implementing asset management processes in hopes of increasing performance, it should consider training all squadron members on the principles of asset management and how each shop plays a part in them.

Promotion and incentives are the HPWPs used to enhance motivation. While the incentives of being in the military are impressive, they are the same for everyone. To specifically increase the performance of controllers, the manner in which members are promoted should be investigated. The reality may be that smaller career fields simply do not get as many top ranked positions. If this is the case, efforts must be made to put the few senior leaders in the best possible positions and enable the most senior controllers to represent their career field at the same level as other career fields.

The third process of enhancing empowerment can be supported by grievance procedures, participation programs, the availability of flextime, and employment security. Grievance procedures are yet another way that controllers can represent the needs of their career field. Regardless of rank, the most senior career leaders must be afforded the same

level of consideration for issues that affect their field. This relates to participation programs. Controllers must be given a chance to make decisions and be trusted to perform the jobs they have been trained to do. If squadron leaders can make an effort to embrace controllers, they may empower them to perform their duties at the highest levels possible. Finally, employment security as far as actual employment is high for military members. However, controllers may suffer from not knowing how securely they will be accepted in a new job or while deployed. For this reason, much attention should be placed on the fairness of the extra duties controllers are tasked with and the validity and necessity of the jobs they are asked to perform.

Most of the problems reported show a lack of vertical alignment between the way controllers are managed and the mission that must be completed. In order for HPWPs to be effectively implemented, the practices used must increase the overall performance of controllers and enable them to contribute to the mission. When making decisions on how controllers will be managed, leaders must investigate how that decision will impact performance. This could be accomplished by giving more authority to the senior controllers. Increasing their abilities to lead the operations management career field may also help with horizontal alignment. Career field leaders should be allowed to shape HPWPs in a way such that the practices complement each other. This also allows them to place the HPWPs in the proper work context that would most benefit controllers.

Limitations

There were some limitations to this research that may reduce its applicability across other populations. The first limitation was that not all of the HPWPs mentioned

are available to members of the military. Due to this fact, those HPWPs were not discussed much. The impact they may have on other organizations was not necessarily captured in this study. HPWPs such as selection and flextime may be significant topics to investigate.

The second limitation was that all of the results were self-reported. This was inherent to the method used and accepted by the researcher from the beginning. Still, no data showing quantitative levels of performance were used. With the themes provided by this research, further studies can be conducted to provide such data.

The third limitation was that not all external factors were presented or considered. The interviewee's rank and past experience were gathered to provide some background while other factors were not investigated. If each subject's performance reports or conduct records had been examined, there may have been indicators of why they held certain opinions.

The final limitation was that only controllers were interviewed. The problems for other workers, either in the Air Force or the civilian sector, may not be the same. Even if similarly small career fields or production control workers in civilian manufacturing are compared, the results may not apply equally. The research would need to be expanded to other career fields in order to determine the factors that influenced the perceptions recorded.

Future Research

There are many areas that could be studied in the future to further examine the areas discussed in this research. The first such topic would be the training available to

the other members of the squadron who are deeply involved in data collection similar to controllers. Such areas should include the real property managers, the energy monitors in the Asset Management Flight, and the maintenance engineers. Each one of these areas collects and enters equally important data as controllers that will then be the basis of asset management decisions. Possible problems may be present in their jobs which could also affect the quality of the decisions made.

A second possible study could analyze the cost differences between developing an internal advanced course versus sending every controller to a contracted civilian course. If it is agreed that an advanced course should be required, the price of simply sending everyone to existing courses should be compared to the cost of developing an Air Force course which would require a location, curriculum development, and instructors from an already stressed pool of qualified controllers.

A third future study could look at a single theme identified and use quantitative methods to measure performance. While leaders may not be able to address every issue reported in this research, they may decide to focus on fixing at least one area. In such a case, a method that would produce hard data may be used to quantify the actual impact of a certain HPWP on controllers.

The final idea for a future study would be to interview groups that are similar to controllers. This could provide insight into which problems are unique and which are symptoms of certain circumstances. Possible populations could include other small career fields in the Air Force, production control clerks in civilian industries, or career fields with a large number of cross-trained members.

Conclusion

In a time when the Air Force is looking to increase performance and reduce costs, it is necessary to look at different areas that may produce the desired results. One such area is the use of HPWPs to increase performance. In this study, civil engineer controllers were interviewed to identify problems they perceived were keeping them from performing. The identified issues were grouped into themes and compared against models provided by past studies in human resource management. The results provided five areas that leaders may investigate in order to make changes. By addressing these issues, the Air Force may gain the increased performance it requires.

VI. Bibliography

- AFPC. (2004). *Air Force changes "standard" deployment length*. Retrieved August/22, 2011, from <http://usmilitary.about.com/od/terrorism/a/afdeploylength.htm>.
- Arthur, J. B. (1994). Effects of human resource systems on manufacturing performance and turnover. *Academy of Management Journal*, 670-687.
- Bailey, C. A. (2007). *A guide to qualitative field research*. Thousand Oaks, CA: Pine Forge.
- Belasco, A. (2011). *The cost of Iraq, Afghanistan, and other global war on terror operations since 9/11*. No. RL33110. Congressional Research Service.
- Britten, N. (1995). Qualitative research: Qualitative interviews in medical research. *British Medical Journal* 311(6999), 251.
- Butler, S. K., & Harvey, R. J. (1988). A comparison of holistic versus decomposed rating of position analysis questionnaire work dimensions. *Personnel Psychology*, 41(4), 761-771.
- Byers, T. (2011). *CE Transformation: Implementation requires leadership & partnership* USAF CE.
- Cappelli, P., & Neumark, D. (1999). Do "high performance" work practices improve establishment-level outcomes? (7374).
- Cascio, W. F. (1991). *Costing human resources*. PWS-Kent Boston, MA.
- Charmaz, K. (2006). *Constructing grounded theory: A practical guide through qualitative analysis*. Los Angeles, CA: Sage Publications Ltd.
- Combs, J., Liu, Y., Hall, A., & Ketchen, D. (2006). How much do high-performance work practices matter? A meta-analysis of their effects on organizational performance. *Personnel Psychology*, 59(3), 501-528.
- Corpuz, M. (2011). *Historical 3E6X1 data*. HQ USAF: A1FP.
- Creswell, J. W., Hanson, W. E., Clark, V. L. P., & Morales, A. (2007). Qualitative research designs: Selection and implementation. *Counseling Psychologist*, 35(2), 236.

- Culver, M. (2007). Transforming the CE enterprise. *The Air Force Civil Engineer*, 15(5), 4.
- Department of the Air Force. (2000). *Operations flight manpower standard*. (AFMS 44EO). Washington, D.C.: HQ USAF.
- Department of the Air Force. (2004). *Working in the operations management field*. (AFPAM 32-1125, V1). Washington, D.C.: HQ USAF.
- Department of the Air Force. (2008). *Operations deployment planning and execution*. (AFI 10-403). Washington, D.C.: HQ USAF.
- Department of the Air Force. (2011a). *Career field manager inventory sheet*. Unpublished manuscript.
- Department of the Air Force. (2011b). *Operations management career field education and training plan* (Parts I and II ed.). Washington: HQ USAF.
- Eulberg, D. (2007). From the top: Asset management. *Air Force Civil Engineer*, 15(2), 2.
- Gant, C. R. (1977). *Economics of on-the-job training: Annotated bibliography and literature review*. San Antonio, TX: Air Force Human Resources Lab.
- Glaser, B. G., & Strauss, A. L. (1967). The discovery of grounded theory. *The British Journal of Sociology*, 20(2).
- Goldstein, I. L., Zedeck, S., & Schneider, B. (1993). An exploration of the job analysis-content validity process. *Personnel Selection in Organizations*, 3-34.
- Goodfellow, G. V. (2008). *In-lieu-of policy and its effects on the US Air Force*. (Unpublished US Army War College, Carlisle, PA).
- Groenewald, T. (2004). A phenomenological research design illustrated. *International Journal of Qualitative Methods*, 3(1), 1-26.
- Guthrie, J. P. (2001). High-involvement work practices, turnover, and productivity: Evidence from new zealand. *Academy of Management Journal*, 180-190.
- Hanson, J. (2010). *Air force officials increase deployment times*. Retrieved August/22, 2011, from <http://www.af.mil/news/story.asp?id=123221320>.
- Harvey, R. J. (1991). Job analysis. In *Handbook of industrial and organizational psychology* (2nd ed., pp. 71-163). Palo Alto, CA: Consulting Psychologists Press.

- Huselid, M. A. (1995). The impact of human resource management practices on turnover, productivity, and corporate financial performance. *Academy of Management Journal*, (3), 635-672.
- Husserl, E. (1962). *Ideas: General introduction to pure phenomenology* (W. R. B. Gibson Trans.). Collier Books New York.
- Hycner, R. H. (1985). Some guidelines for the phenomenological analysis of interview data. *Human Studies*, 8(3), 279-303.
- Jones, R. (1994). Computer-aided maintenance management systems. *Computing & Control Engineering Journal*, 5(4), 189-192.
- Kelchner, L. (2011). *Job description for a production control clerk*. Retrieved May/31, 2011, from http://www.ehow.com/about_6470054_job-description-production-control-clerk.html.
- Kvale, S., & Brinkmann, S. (2009). *Interviews: Learning the craft of qualitative research interviewing* (2nd ed.). Los Angeles, CA: Sage Publications, Inc.
- Lawler, E. E. (1992). *The ultimate advantage: Creating the high-involvement organization* Jossey-Bass San Francisco, CA.
- Lawrence, W. (2007). Shifting to an asset management culture. *Air Force Civil Engineer*, 15(5), 14.
- Lester, S. (1999). An introduction to phenomenological research. 20.
- Liu, Y., Combs, J. G., Ketchen Jr, D. J., & Ireland, R. D. (2007). The value of human resource management for organizational performance. *Business Horizons*, 50(6), 503-511.
- Locke, L. F. (1989). Qualitative research as a form of scientific inquiry in sport and physical education. *Research Quarterly for Exercise and Sport*, 60(1), 1-20.
- McDowell, D. (2011). *Civil engineer enlisted issues USAF*.
- Miles, M. B., & Huberman, A. M. (1984). *Qualitative data analysis: A sourcebook of new methods*. Beverly Hills, CA: Sage Publications.
- Morgeson, F. P., & Campion, M. A. (1997). Social and cognitive sources of potential inaccuracy in job analysis. *Journal of Applied Psychology*, 82(5), 627-655.
- Moriarty, B. (2007). *Civil engineering transformation*. Ramstein, Germany: USAFE.

- Mumford, E. (1994). New treatments or old remedies: Is business process reengineering really socio-technical design? *The Journal of Strategic Information Systems*, 3(4), 313-326.
- O*NET. (2010). *Summary report for production, planning, and expediting clerks*. Retrieved May/31, 2011, from <http://www.onetonline.org/link/summary/43-5061.00>.
- Oriel, A. E. (1973). *A performance based individualized training system for technical and apprentice training*. Chicago, IL: Development Systems Corporation.
- Paul, A. K., & Anantharaman, R. N. (2003). Impact of people management practices on organizational performance: Analysis of a causal model. *International Journal of Human Resource Management*, 14(7), 1246-1266.
- Perlman, R. (1969). On-the-job training in Milwaukee--nature, extent, and relationship to vocational education., 1-39.
- Pil, F. K., & MacDuffie, J. P. (1996). The adoption of High-Involvement work practices. *Industrial Relations: A Journal of Economy and Society*, 35(3), 423-455.
- Russell, J. S., Terborg, J. R., & Powers, M. L. (1985). Organizational performance and organizational level training and support. *Personnel Psychology*, 38(4), 849-863.
- Seidman, I. (2006). *Interviewing as qualitative research: A guide for researchers in education and the social sciences* (3rd ed.). New York: Teachers College Press.
- Sheridan, J. E. (1992). Organizational culture and employee retention. *Academy of Management Journal*, 35(5), 1036-1056.
- Stephenson, R. W., & Burkett, J. R. (1975). *On-the-job training in the air force: A systems analysis*. Washington D.C.: American Institutes for Research.
- Thomas, J. (2009). Driving CE transformation with NexGen IT. *Air Force Civil Engineer*, 17(2), 6.
- U.S. Department of Labor. (2010). *Bureau of labor statistics occupational outlook handbook*.
- Utgaard, S. B., & Dawis, R. V. (1970). The most frequently-used training techniques. *Training Develop J*, 24(2), 40-43.
- Vandenberg, R. J., Richardson, H. A., & Eastman, L. J. (1999). The impact of high involvement work processes on organizational effectiveness. *Group & Organization Management*, 24(3), 300-339.

- Vanier, D. J. (2001). Asset management: "A to Z ". Paper presented at the *NRCC/CPWA/IPWEA Seminar Series "Innovations in Urban Infrastructure"*, Philadelphia, PA. 1-16.
- Walker, R. W. (1965). An evaluation of training methods and their characteristics. *The Journal of the Human Factors and Ergonomics Society*, 7(4), 347-354.
- Wenig, R. E., & Wolansky, W. D. (1972). *Review and synthesis of literature on job training in industry*. No. Inf-Ser-62). Washington, D.C.: US Superintendent of Documents, US Government Printing Office.
- Williams, K. (2005). *The effects of deployments on retention: Taking the pulse of USAF security forces post 9/11*. Air University.
- Wilson, T. R., Olmstead, J. A., & Traxier, R. C. (1980). *On-the-job training and social learning theory: A literature review*. Alexandria, VA: Human Resources Research Organization.

Appendix A

Question and Response	Open Codes	Selective Codes
Subject A What is your current job and what is the scope of your responsibilities? My current job is [omitted]		
And what is the STS? The STS is the ...I'll have to get back to you on that acronym.		
What are your day to day tasks? Day to day is mainly, is really additional duties on my end, not really production. Just dealing with...I've integrated myself into [omitted] talking with AFCESA [omitted] their supervisor is a tech sergeant and a lot of times they need a master to help	Mostly does additional duties Helps provide higher rank	Not working in ops management
Ok cool. What...how long have you been a 3e6? I've been a 3e6 for the last 12.5 years.	12.5 years	
Ok, is that the only job you've done? No, I was a firefighter for 7.5 years.	Previously fire fighter	
Alright cool. What were your previous duty stations? Previous stations as an operations manager I was at the [omitted]. I was a unit deployment manager and a readiness person looking over the personnel, their folders, deployments coming in and out. We overlooked the RWP for all the contingency assets.	Served as UDM and readiness Looked at RWP of contingency assets	
Sounds good. From there I went to the [omitted]. While I there, my job title was CE NCOIC. What we did was look over...we were quality assurance evaluators looking over BOS contracts, facilitation repair on houses and facilities in the area. We looked over solid waste, custodial services. Let's see...we did pest management and we were the housing office and also we were the office tending to any of the projects. Some of what I did...I helped plan program and implement some pavilions and then other projects that were going on. I was more like an EA than a triple nickel.	QAE BOS contracts Housing flight duties? Built pavilions More like an EA than a controller	Spent a lot of time not working in primary job
That's what it sounds like. Then from there I went to the [omitted]. And I was	With army, worked as supply, facility	Not used as controller during

just doing regular CE customer service. From there I deployed to Iraq which was on an army base. While there, I did BOS contracting again, overseeing just so many different types of things from supplies to food and water. Also looked over facilities maintenance and also the CE exchange between the facility maintenance turnaround from when our basic trainees left, what needed cleaning and fixed and then we gave it to the BOS contractor to fix. I worked for MNSTCI. That was the group I worked for. They were in charge. Then after that, I went to the [omitted] and I was the NCOIC of ops management. While there, I was the emergency manager until our 3E9s rolled in. I created a data base for project management. It's kinda like you guys' blue book but in a different form. I also helped the supply personnel track all the equipment. And then I was CE CSA after they pulled all the CSAs out. Then I worked liaisons with the national guard and reserve folks that were coming into help build the northwest field facility. Then, while I was there I deployed out with the [omitted] to Kandahar, Afghanistan. While I was in Kandahar I was the superintendent of the tactical ops center. We got the mail, we tracked convoys, we did damage control. If there were any attacks, we did accountability. We did what we could. The biggest thing was we did a lot of computer support. We made sure the SWA hut we were in, which was the HQ, had all the comm in it and then tried to extend it out. We worked with comm and army and laid some fiber optics and set up comm and repaired computers as well.	maintenance, QAE Served as EM Served as CSA for unit Deployed and tracked convoys, got mail, and a lot of computer support, laid fiber optics	deployments
So it sounds like you've done comm, emergency management and EA stuff. Yep. And then they also looked at me as a radio guy. I knew a lot of things. I made sure they knew how to use them, programming comsec.	Radio guy	
Ok. And then I went back and ran the UCC and then came here to be the [omitted].		
Ok, we'll keep moving. So this is a big question for what I'm looking at. What is in your definition, what do you know about asset management?	An ok idea of asset management Focused on	

Umm...my thought process of asset management is whatever, whether is a piece of equipment or a facility, you're following it, making sure it's working correctly, it's repaired correctly, if you have an RWP set up on it, you forecast when you need the parts for it. That's what is consider asset management.	equipment	
How do you see that you fit in as an ops manager? I fit in the process...I see myself as the person that collects all the data that would go into the process of managing the asset. When a customer says it's broken, I'll gather data and submit it to the craftsmen to get it fixed. They'll send it back to me if there's any parts material or labor. Then I would track that where it needs to go, put the project on hold if need be, and then again do what's needed to manage the asset.		Good understanding of asset management
Ok, so you said it was 12.5 years ago that you went to tech school, correct? Yeah. Now a lot has changed.		
What your educational background? What other training or academic degrees have you done? I've done an AFS from CCAF in fire fighting tech, an AFS in CCAF in maintenance production management. I'm in the process of finishing my bachelors in science and computer technology. I've got background in building databases. With fire, good grief, the whole list of fire fighting stuff.	CCAF maintenance production management, fire fighting Bachelor's science and computer tech	Plenty secondary education
Ok. I have some medical background training as well.	Did medical work as well	
I hadn't heard of the maintenance management degree. Yeah it's the CCAF for ops management.		
Right. It's with three other career fields.		
So that's the advanced training you've got? Have you got anything that's specifically ops management advanced training? No. We had a 7-level school and it pretty much gave us the same info we'd get at basic operations school.	Used to have 7 level school, though it wasn't much good	7-level course stopped
So where was that school at? It was at Sheppard. It was the 7-level course they		

used to have up until about 5 years ago.		
So it doesn't exist anymore? Correct.		
Cool, so do you feel like you're being used in a capacity in which you were trained? Not really and I guess looking at my career, it's a very small amount that's been utilized like that.	Not used how they were trained	Not used how they were trained
Ok, so maybe you weren't trained in it, but do you feel like you have clear guidance for the job that you're currently in? Not really. There's some days that I really understand, being the [omitted], I understand where I'm going. But it seems like the next day I get new information. I guess it changes day by day. The interpretation of what a person expects changes.	No guidance on current job	No guidance on current job
So what percentage do you think of your current job tasks are something that you learned in tech school? 25%	Uses 25% of what they were trained to do	Not used how they were trained
OK, so even if you weren't trained...wait, that's a repeat question. What training do you want, do you think you need? Ok, all ops managers should go to the Alice Anderson course because...there's a lot of people that get the basic information [at tech school] and go out. They know how to do the basic data input but beyond that, they don't know how to get deep into IWIMS and feel comfortable in running it. Also IWIMS administration has gone by the way side where it's just civilians either doing it or masters or older folks that have gotten that training are retiring. I know where trying to go the next gen but it's not here yet, so I feel like everybody needs to go into that process to get a full good grasp of what a data base is, the IWIMS database. They can go into it, they can feel really comfortable using it.	Likes Alice Anderson course on IWIMS Expertise is retiring	No advanced training offered by Air Force Expertise is retiring
What is the Alice Anderson course? She was an ops manager back in the day and she was really good at the program. She's since got out and has become a multi-millionaire on training people how to use IWIMS.	Alice Anderson is an outside consultant for IWIMS	Relies on civilian training
Ok I think I took a course with her. I went to a finance management course here at Wright-Patt and we brought in a lady that was apparently the last living person that knew what IWIMS		

did. That was probably her. And she's out of Las Vegas usually and she's gone around the world training people but lately she's been kind of holding things off.		
In your career field, do you feel that there is a normal path that traditionally ops managers follow? There's a normal path of just staying in CE and just working in customer service like regular. They can just stay there their whole time.	Normal path = staying in customer service	No growth
Do you feel that there are enough senior leaders in your career field? If you have a question for someone that is an ops manager, do you feel like you have mentors to turn to? No. If I could say it bluntly, hellllll no.	Hell no senior leaders	No senior leaders
Ok, do you think that members of your career field have an equal or fair chance of promotion? I think we have a fair chance among ourselves, but once we get into senior or chief level, I don't think we're fair.	Not fair promoted to senior or chief	Promotion hard at higher ranks Less representation
So you mean among CE career fields or Air Force wide? I mean among CE. I think in the Air Force it's fair. Having the smaller number of people, it's kind of difficult. The percentages for career field are decent at lower levels but we get stuck at senior.		
Have you had opportunities to work other areas within the ops flight or even other areas within the squadron outside of customer service? I have not . Everything I've done as CE was in customer service except my extra duties.	Just customer service or additional duties	No growth
Moving towards just your day to day performance, what do you think are the top issues that hinder your daily job? I think people not having enough people and time crunches and all the stuff they throw at us. The biggest thing I look at is people because over the last ten years or 12, there's the ebb and flow of folks and if it had been left the way it was there wouldn't be the wrong number of folks we have. Personnel, time and looking at money is one thing. Because all people want these jobs done and they get the top 10 projects and they're on the lists, there's always a backlog of work to get done. The pile gets higher and higher so you don't have, you	Problems: not having enough people, time crunches, not enough money to do work and therefore managing backlogs	Manning low

keep going back to the work orders to make sure they're valid and if we had enough money we could just continue on and fix them. Things like quality of life items or IWP items or saber projects, larger projects below MILCON that needs to get done.		
So you're saying that you're managing the backlog of work orders? That makes sense. One of the things I feel hinders us day to day is the fact that no one takes us seriously in a sense. Where you can say to a shop, "hey this stuff needs to get done. We're going to be delinquent." It just gets pushed off. By them just pushing it off, it gives us more work to do. I just feel like people don't take us seriously.	No one takes us seriously They push off work and increases our workload	Not taken seriously Extra work results from unawareness of role
What part are you asking them to do? Are you asking them to get you info or are you asking them to do the actual work? You say you have a work order that is urgent that is becoming delinquent and you say "hey we need to get some hours on this or we need to pause it for labor or materials." Just the whole aspect of "hey do your part to make sure your part of the work order is paused so then we don't have to call you out on the carpet in the ops flight meetings." Just calling folks out on the table because the work orders are delinquent and then they say "well we did this and that" and we say "well you didn't tell us, [expletive]." Sorry.	Differing stories in ops meetings	Strained teamwork shows in meetings
Well that makes sense. Alright, one thing I want to touch on because I want to give you the chance to comment, do you have any issues with ACES or IWIMS? I don't have any issues with ACES or IWIMS. Sometimes they are slow but I think that the amount of training that people get on those for ops managers isn't as much as it should as we talked about earlier.	No real problems with IWIMS or ACES They are slow but more of a problem with training	Needs more training on IWIMS
That's actually good to know because a lot of times the systems are getting blamed. Right I think that if people had more familiarity with them, they could pull the reports out, they could just breeze through it and run it really well.	Training is problem rather than ACES or IWIMS alone	Needs more training on IWIMS
Cool now well move to some stuff that you've already kind of touched on, how you feel the	People don't know what we do	Unawareness of role

other people in the squadron respect you or at least interact with you. First, do you think that the other element chiefs and the ops chief, do you think that they fully understand what your role is? No.		
And are they not interested in the things that you're willing to do? Are you able to do everything that they want you to do? They are and you got to the point correct. We're willing to do things that they're not interested in. We could bring so much more to the fight, if you call it, and make sure that we're doing things proactively, but it just seem like their interest is into either HVAC, structures, or dirt boys.	Were willing to do so much more but they just don't want it. We could be proactive and bring more to the table	Not being fully utilized
So then that leads into do you feel like you're a part of the ops flight team? Not really. We're there to run the programs and we're mostly just off to the side.	Pushed to the side	Not part of team
Ok, then expanding to the programs flight or environmental or whatever, do you think other people in the squadron understand your role? On that side, no.	No understanding at the squadron level	Not part of team
Bonus question—when you were in customer service, how was your relationship with the programs flight? You mean more the asset management or the engineer's systems?		
More the engineers. I came from being deputy flight commander of the engineering flight and was referring to whenever a job got created or got kicked up to us, that kind of stuff. How is that relationship? It didn't seem like it was that good of relationship. A lot of time we get a 1391 back saying "hey we need a job for this." Kind of seemed like we were working backwards. It just seemed a lot of times like we were a second thought when we should be the first thought to make sure everything was going right.	Relationship with programs flight strained Just a second thought rather than the first	No clear relationship with programs flight
Do you feel like you're a part of the team as far as the squadron is involved? Not really.	Not part of squadron team	Not part of team
So there's feeling like a part of the team, but do you feel like you are respected by the squadron?	No respect for younger members	Unawareness of role leads to low respect

The people that are E5s and below, no, I don't think so. They think we're just folks sitting in the office doing nothing. There's a little more respect for those above but it always seems like they were like "we really don't know what you're supposed to be doing or we don't know if you're really doing your job what you're supposed to be accomplishing."	Stems from having no idea of what they're supposed to be doing	
Have you ever worked for an ops manager, where he was your element superintendent? Like the ops support element super? Well that has come up recently. The NCOIC of ops...we used to be under...when I was in the [omitted], our section was under the deputy ops flight commander, so it was mainly a young captain overseeing the flight that had material acquisition and maintenance engineering.	Doesn't work for a controller	No senior leaders
Do you feel like ops managers are competitive for quarterly and yearly awards? No, no.	Can't compete	
Why do you think that? I don't think we are that able to, our justifications on things aren't adequately captured or they're not big enough like, for instance, the dirt boys working in REDHORSE or the fire department and EOD. Sure, fire department and EOD are big things among everyone else, but it seems like they look at us like "you're just paper pushers" unless you're saving somebody.	Weak justifications for awards Just paper pushers	Unawareness of role when looked at for awards
How often are you asked to do things that have nothing to do with your job skills? I'd say a lot. About 70% of our duties.	70% additional duties	Mostly additional duties
Do you feel like it's the way the Air Force is moving, like everyone's doing additional duties or do you think it's a somewhat unique problem for ops managers? I think it's a kind of a little of both, mainly an air force problem but they look at us like "you're in the office, so you can just pick these things up."	Proximity to front office brings extra work	Extra work because of location
In your current unit, are all the 3e6s, are they doing ops management related jobs? Where I am now, they are.		
You touched on this a little earlier but we'll touch on it a little more in detail. What are your typical roles while deployed?	Duties include: QAE tactical support	Mostly extra duties outside of primary job while deployed

Quality assurance evaluation. Looking at repair maintenance and sustainability for facilities on a base. Tactical ops support, communications, setting up data links between one point wherever we're at such that we're going forward operating. Some of things we've also been tasked with have been convoy duties and then damage control.	computers convoys and damage control	
Do you receive any training on QAE? A little bit. The basic stuff you get from contracting.	Contracting provided QAE training	
So I mean during tech school, is that even covered? During tech school there's no QA.	No QA training in tech school	No training in QAE from CE
And obviously not comm. It's just how to push the button the radio. That's about it.		
So how much of your time is doing things that resemble home station duties? I'd say it varies base to base but I'd say 55%.	55% resembles home station duties	
And so at the bases you've been at where you're not doing that job, who to your knowledge is doing that work? As in like??		
Like keeping up with facilities and the actual work production, scheduling. It's usually us or a contractor. And if you're looking back home it's whoever is left back.	Contractors doing "ops management" while deployed	Contractors doing ops management while deployed
Do you think that the deployments, either the tempo or what you do while you're there, do you think that it's had an impact on your career field? Yeah I think so, especially since we're so small. People heard that word on the street is that we're good at multitasking, we can do a lot so we've been picked up for a lot of JET taskings. And because we're willing to do the job in those JET taskings, we've been tasked quite a bit. For instance, having a supply background, or a comm background or the tracking background, the Army has asked us to do a lot and asked us to go out on multiple things. It's good in the sense that we're the ones who they want to go out there and fulfill the military mission, but there are those folks that continuously get called up over and over and we don't have a whole lot of folks to send out.	Getting high tempo JET taskings because of versatility	Not used in primary job High tempo

So what options do you think are available to relieve some of that stress? More personnel is one. Getting the correct training to do what were asked to do. Starting at the basic course, looking at what people ask us to do, that would help some people to say “hey, I know what I’m doing when I get there” rather than trying to figure it out once they get there and kind of soft shoe dance if you call it.	More personnel needed Training for deployment jobs so you’re not shocked when you show up—QA training	Manning low Training for QAE
About retention, do you feel that you have trouble retaining people? I don’t know. It’s kind of mixed. I don’t know why people don’t want to stay in the career field since it’s relatively easy, but in a sense that people look at us and don’t take us seriously; people don’t want to stay in the career field. A lot of folks, they come in and they don’t know what they’re getting into. Some get into ops and their recruiters lied to them, and then some are retrained into ops and they don’t want to do it. I’ve seen so many pararescuemen and gung ho young men come in and they’re like “this is the last thing I wanted to do. I wanted to do something else and here I am in this ops career field.” They immediately find what they can do to make it good or get out of it.	Retention not really a problem Often people get in career field and don’t realize what it is	Unawareness of role Leads to retention
So not necessarily getting out of the AF but trying to cross-train into something different? Correct.	Many cross-train	
How long are you staying? I guess you’re sitting at 20 years. So you’re getting out next week? Yeah, yeah I am. I fully retire in February 2012.		
So I guess you’re separating because its 20 years... Well yeah but based on my last base, I wasn’t taken seriously. I came with a lot of great ideas. I had a great deployment background, knowledge. The EM thing, so much background knowledge that could help my unit out, but yet I was pushed to the side and told “just sit behind the glass and whenever we need you to set up the UCC, we’ll break it and let you out.” So I felt led to change my DEROS and allow me to come here. It was kinda frustrating cuz I felt like I was getting squelched. I had all this to provide yet you want me to do nothing until you ask me to do it.	Vectored away from base level in order to retire Not taken seriously	Not taken seriously

And so do you think that's the leading cause for people wanting to get out? I've talked to a lot of masters and techs in the career field and they feel the same way.	Shared feelings throughout career field	
So you're seeing people are coming in like "whoa this is not a job I want to do"? Right.		
That's all the questions I had written but I'll give you the chance to clarify any points or touch on any other areas. Feel free to open up. One thing you didn't ask was "do you feel like you're being used at capacity?" I say no, I don't think so. Like at tech school we get the tracking stuff, the database stuff and then we go out and sometimes the database were using is either IWIMS or maximo like in Guam since we were with the navy for joint basing. So instead of just teaching IWIMS we should teach how to use databases in general to understand the process of how one works to feel comfortable using any database you go to. A lot of times we have guard or reserves that go to training and they use IMES or BEAMS or something else on that side. I know the NexGen program that comes out is supposed to squelch all that, but if everyone understood how a database works, it'd be a lot easier to come into and say "it's a database and I know how it works. I just need to get used to it." Whether it needs to be access training or excel or whatever, visual basic. Stuff like that would help out. I know it sounds like it's beyond what they want us to do, but if you don't understand how a database works you're not going to be able to adjust whatever database comes at you, there's no way to trouble shoot it.	Really needs generic database training	Needs more training
Do you think there's stuff that you did get trained for that you're not using at all? No I think we utilize it in one sense or another. I'm thinking of going to the tech school. I think there's a lack of training for the things that should go into it. We get out there and we get trained on say 15% of the things that we should be doing. Maybe it's a core thing from the folks that are training. We got so many things going on we can't get people proper training to make them understand what's going on. Like database type things. We get a little bit of	Training covers maybe 15% of what were asked to do People use cumbersome techniques to generate reports	Needs more database and IWIMS training

IWIMS here then they go to the CE squadron and don't get a whole lot. All we get is how to input stuff into the database and we get good at that but if you don't go to an Alice Anderson class, you don't know how to set up an RWP cycle or adjust the whole RWP to make sure the database is running well. Or setting up the...there's a way to get a report. Most people just transfer the file to excel and then play with it there rather than utilizing the program itself.		
I'm thinking about some points I'm trying to answer with these interviews and so two areas I guess that I need to go in a little harder. For one, what do you think the quality of the data is that is getting entered in? If you went into IWIMS and you had to make a decision based just on what you saw there, how confident would you be that the info is good and up to date and complete? I'd say not very good; garbage in and garbage out. It'd depend on the airman entering in there, what the base emphasizes on how much info you put in there. Then you have the integrity of the individual putting it in. I don't think...don't know if it's the individual putting it in or what's emphasized, making sure you get all the info in there. Beyond that, it goes to the shop, what info they should be putting in there, why they can't perform the job or what material or if there's an issue with the delay of material. More info needs to be put into IWIMS so people can get into that work order to find out what's going on.	Data quality is suspect Based on what is emphasized by base Shops don't enter much Could make tracking down issues so much easier	Data is unreliable No standardized level of data entry Dependent on local emphasis/motivation Shops don't help much
When you said that part of it is what the base emphasizes, do you only put info in based on the reports that they're going to want? It's mainly based on the info you're given; either the customer or the shop foremen or craftsmen that's working on the job. That's where you get the information. It'd be better if the foremen put the info in themselves and that way they'd have firsthand information instead of using us as a funnel to get into it. A lot of times we're used which is a good thing, for us to be accountable for the info, but if they're not giving us the information that something's going on good, bad, or ugly, then	Often only uses whatever is initially given with little follow-up	Data is incomplete

the info doesn't get into IWIMS.		
So if you don't get it from them initially, is there any effort to try to go back and complete all the files, like going back to the shop to get missing info? Yes, and depending on what kind of job it is and what additional info needs to be put into it, but on an everyday job, it just is minimal info put in. Again, it really depends on the individual's esprit de corps on how much gets in there. You can have a gung ho firewall 5 guy that puts in all kinds of information, but then you have an airman that just doesn't care who's doing it for some college money or a get out of jail free card. They're going to put in the minimal info. If their supervisor doesn't emphasize it, the info won't get in.	Quality still based on individual which is based on the way they feel	Data dependent on local situations
That leads into the other part I wanted to ask. We've talked about you not feeling like you're part of the team, not taken seriously. Do you think that then has an effect on job performance? Yes, especially when folks say "you're just playing video games during the day or just zooming YouTube, or something." A lot of times, people are screwing around, but the supervisor needs to be on them, again integrity. It's great to have the ability to be on the internet, but perhaps the Air Force has let the door open a little too much, allowed too much in that people may get distracted. But in a whole, people look at us as just sitting in front of a computer not doing anything, answering phones. People think "if that's all you think I'm doing, then that's all I'm going to do."	When people think we don't do anything, we start to believe them Too many distractions online	Unawareness of role leads to behaviors that resemble wrong impressions

Appendix B

Question and Response	Open Codes	Selective Codes
Subject B Have you always been a 3E6? Yes sir, I came in as a 555 back in 1991.		
Ok cool and then if you could give an explanation of your duty history. I know it's been a long career, so if you just want to highlight what positions you held and what you did in those jobs. I came in 1991 to [omitted] as an airman in training and deployed to Operation Restore Hope in 92-93 for 60 days. We built their base in Egypt. I did some training in data then moved on to [omitted] and did customer service airman work. Moved from there to [omitted]. Again just basic customer service, calls, no deployments. From there went to [omitted]. There I had several positions starting in zoning work then going to the self help store and from there to the facility manager monitor in charge of the facility management program for all of [omitted] for a year and a half. From there I was NCOIC of scheduling and programming. During those six years, I had a deployment to Kuwait and one TDY to an Alice Anderson course for work control which was two weeks long. Then I had a TDY to the 7-level course where I was a DG. After that, I went to [omitted] as a brand new tech sergeant. Had a lot of good experience there, NCO of the quarter. I learned many aspects of supervision before going to the academy. I had two personnel that had article 15s and had two that were below the zone, one airman of the year. So I had the full spectrum of subordinates from some that were insubordinate to some super stars. I learned the whole gamut of supervision. I went to the academy after I learned all that stuff. Also had a deployment to Al Dahfra. After there, I moved to	Spent his whole career in traditional Ops management roles	Used in primary job

[omitted]. There I made master sergeant. I was section chief for planning, the 3E6s ops management, and a small material acquisition section. Also deployed to Kosovo for four months. After [omitted], I went to the job I'm currently holding as [omitted] and from here I had one deployment to Afghanistan. I was awarded [omitted] this year for work with [omitted]. That's my career in a nutshell.		
Sounds like you were doing customer service most the time doing that job. Well at [omitted], but from there I dispersed out to facility management as a specialized area. Scheduling and planning is specialized area. At [omitted], I was NCOIC over all operations as far as experience with supervising civilians.	Also facility management	
That's stark contrast to a gentlemen I talked with previously. He was hardly in any typical 3E6 jobs. He was all over the place. What is your academic background as far as other degrees? Of course I hold my CCAF in my current career field and associates for University of Maryland University Colleges in business administration. I hold a business certificate from University of Maryland.	CCAF and some bachelor's work	
Did you find that the maintenance production course helped you with your actual job? It could be a little bit better and is something they should probably look at because it's come up over the last year. A lot of others in the career field have brought it up since then.	CCAF degree not very useful	CCAF not useful
What other training have you received specific to your career field? You said Alice Anderson and 7-level? Alice Anderson course kind of brought the light bulb on because before that it was OJT so you picked up whatever your supervisor told you. The Alice Anderson course tied everything, all those little tid bits you learn over time together so you understand how they go together. Its two weeks and definitely an excellent course.	Took the Alice Anderson class—made all the difference OJT otherwise	Relies on outside courses and OJT

How do you go to that course? Who offers it and how many people get to go to it? It's a contracted course so it's up to your commander or organization if you have money for it. There's no set pot of money at HAF or MAJCOM for it. ACC manages their money better for offering courses. [Omitted] setup some courses for his 3E6s, got all his people in the command two positions and then got his folks to those and funded them.	Attending course is based on money Some senior NCOs schedule it for their command	Outside courses need money Money spent if importance is seen
What about the 7-level course? I've heard it's gone away. How useful was that when you took it? I don't think it was too useful for 3E6s because the first week was an overview of IWIMS. More beneficial to the craftsmen because it dove into areas that they needed to know how they use and go in and make comments. Pretty much all 3E6s could take the first week test and pass with flying colors. So as far as the 7-level course going away, for the most part, it hasn't impacted the career field. Saying that, I've been trying to work and advanced course and [omitted] has kind of been working that material. What we as 3E6s want to see is an advanced course for the career field. Hard because if it looks like a 7-level they say "how does it contribute to the war effort?" Money is a big thing. Over the last few years it's been even worse. We've talked it up but I've been kept at bay on that as far as getting anything solid. It kind of just gets mentioned later down the road. We've been kicking the can for a while.	7-level course was opportunity for other shops to learn ops management No real benefit for 3E6 Can't justify course if no clear connection to war effort	No 7-level course because no importance seen by leaders
Do you feel like you've been trained to do what you've been asked to do? I think as an airman coming up, whatever tasks I was given I was provided guidance on what I needed to do it, but once you get past those initial things like scheduling and programming you pretty much depend on what I learned in the Alice Anderson course and taught myself. There's no real course to teach that what you should look at when you become a 7-level. There's no specific	No training after tech school Alice Anderson class is key Volunteered for current job because of opportunity to make changes	No advanced training Reliance on outside course

guidance. That's why when I was a tech sergeant leaving [omitted], I said if I were in a position to help change it I would, so I [omitted] because we do need an advanced course. What we should do, looking at 7-level. At every base, everyone's different, different MAJCOMs, some are better than others at providing guidance and mentorship.		
So what other training do you think would benefit? We need to look. I've been working with USAFE. Kind of took what Alice Anderson was providing as a template and kind of built more upon that as far as what we need to have in a course. She provides fundamental work control course but also has more advanced courses in IWP, RWP and those type areas. We need to have a two week course and kind of hit all those areas.	Developing a model for a 7-level course	Work is being done to get a 7-level course
As far as career goes, is there a normal career progression or typical path for a 3E6? Yeah, I mean if you look at the tree, pyramid, airmen come in, then 3-level, 5-level upgrade training. Then were trying to train the 5-level in the advanced course. 7-levels need just a few QTPs and core tasks, a few things. Other than that, there's no advanced course, just wait your time. Pretty limited number of superintendents of positions, usually saved for infrastructure, horizontal, vertical, or your dirt boys. They have a lot more numbers, so they tend to hold those positions. So as a master sergeant, you'll be the section chief or NCOIC, unless you make senior master sergeant. But based on our numbers, most of those 12 positions, they're at AFISR, a couple at Kadena and Ramstein, probably one at Colorado. The rest are more special position duties created for senior master sergeants.	Only a few senior master sergeants doing regular controller work	No senior leaders in key positions
So do you feel that there are ample senior members in your career field for when all levels of career field need guidance? Are there ample levels of mentors at the senior level?	Really lacking knowledge at the tech and master level	Experience void at top No senior leaders available to

Right now tech to master is really hurting as far as manning numbers, so within a squadron, there's not enough of that leadership. A lot are being filled by cross-trained tech sergeants like from AGE or other career fields. And now we're trying to recover since they cut too much, trying to rebuild those positions and get numbers up. We do have ACC and material command and I'm sure places at other MAJCOMS, that have FAMS for 3E6 that I do provide info to or ask questions to if I get a tasker down that I feel like I shouldn't answer for the whole career field. I ask them "what's your command's feedback on this or what's your feel?" Young airmen get feedback, but it's feedback from the field where there NCO is deployed and they're by themselves, so they go on about their business and when the NCO comes home, they leave then. We have master sergeants that are water/waste management or from other shops because there's no other tech or master. They're filling in where there's a void. We only have 52% masters on the books. They're not giving 3E6 mentorship. If anything, they're asking the senior airman for a report they need for the boss. If they've had the training or not, they can provide something to that master. If the tech and masters aren't there, it's really missing.	Many are cross-trainees Relies on input from MAJCOMs Too many young members are left at home without any guidance 52% master manning	mentor
Do you feel members of your career field have a fair chance at promotions? At senior airman, staff, tech, percentage wise, it's as good as anyone else. Once you meet master, if you're a 2SOX1, you have better numbers to get promoted. If you're a really super troop, we only get usually two slots for senior master sergeant. Are the other candidates better than the master sergeants in other career fields? Perhaps maybe they are, but you know based on the numbers that we have we don't have the numbers. That happens in other career fields. There are more seniors and chiefs in 2SOX1 career field than in my total career field. There are only 431 authorized active duty.	It is fair but unfortunate—due to size	Small size decreases senior leaders available

So I guess fair is a relative term because it is fair based on percentage. It's just unfortunate that there's not that much room at the top. Yeah, the smaller the career field is, the more cut-throat it is to get promoted. It goes back to master sergeants. If you want to make senior—do I want to mentor my airmen or do I look out for myself? You need to do top three, you need to deploy, get recognized, to get annual, quarterly awards. Do you spend less time with your airmen mentoring them because you're doing those things to make senior? Then yes.	There is a tradeoff between mentorship and getting promoted	Mentorship strained because of few positions to compete for
What are your top issues that hinder your day to day job performance? Well here at [omitted], I have three big projects, but people keep you from getting them done. Seems like we daily get redirected. Financial constraints lead to work to prioritize TDYs which takes a lot of extra stuff.		
Well if you look back to the last time you were at base level... Well it's been a while, four years. I think the biggest thing I hear from airmen and I remember myself. A lot of the folks want to deploy because they do so many extraneous tasks at home. Commander's calls, extra duties, guard the gate. So they tend to want to deploy so they can concentrate on their duty, do my mission and come back.	Too many extraneous jobs make people want to deploy	Extra duties are focus at home
That's interesting because I was under the impression that people weren't doing their duties while deployed, that they were getting deployed out of their normal tasks. When I went as an airman to Egypt and then Kuwait and Al Dahfra, I always did the core prime beef duties, work control, command and control, the stuff we train for ORIs and ORE. Maybe not airfield recovery since we haven't worried about that kind of enemy, which is a good thing. When I went to Kosovo I did more facility management, was in charge of quarters. So yeah, I was still doing my job.	20 years ago, prime beef jobs were more expected than recent engagements Some jobs are coded for 3E6 but could be done by any CE	Deployment jobs could be done by others

The last time with the Corps of Engineers, I was supposed to be QAE of projects, but they wanted us more to be NCOIC of operations. Some did contract prep, but myself was mostly first sergeant, facility management, did movements, getting my folks from one place to another which is kind of what 3E6s do, but any 3EX could have done. A dirt boy could do that job. I wrote 20 pages of continuity of tasks that weren't QAE type stuff. Just doing odd jobs. My earlier deployments were in line with training, but the latest, not so much.		
How much of the time in the career field have you used what you learned in tech school? Are there things you learned that you don't use or stuff you do that you were never trained for? Well tech school was so long ago back in '91. Some of the things that stick out in my mind, there were a lot of dirt boys cross-training to 3E6. I don't remember working in IWIMS. We did a little in DSWs, but I just remember a lot of organization—who is prime beef? What are the different sections? The different shops and more of those kinds of aspects. I think the courses have gotten better, though they still need improvement. The course now, we have an actual UCC mock up that we didn't have in '91. There wasn't that kind of training. I think I got most of my training at [omitted]. Most of UCC stuff was at home station. Service call type stuff, computer, stuff like that you hit a little at tech school. Most training was OJT. But it's definitely changed since then.	Learned most everything from OJT including IWIMS and UCC ops	Heavy reliance on OJT
Do you feel like there are things you were trained in or things you are able to do that you aren't getting to do? Stuff that you could offer that people don't necessarily want? You ever feel like that? Did you say "hey I could do this" but no one really listened to your offerings? When I was in [omitted] which was my last assignment as a traditional 3E6, to the captain, I said "hey I can run reports for you guys, for	Offered new abilities to shops and they were receptive NCOs from different shops made make-shift 7-level course	NCOs can work together to fill awareness gaps

EPRs or what you've done. We have stuff we can do for your shop to show or prioritize your requests." We even gave classes, built our own enhancement classes where part of the 3E6s showed the craftsmen that you can do these yourselves or we could offer this. I think more than anything they were positive to what I knew or learned over the years between OJT and teaching myself, Alice Anderson. I don't think they knew that. Maybe it's because the 7-level school went away and the craftsmen weren't learning that anymore. It was up to us as NCOs to offer that course to CE to other craftsmen since we knew they were lacking it. We as senior NCOs realize that it's been dropped. Are other bases doing that? Perhaps not. When I showed them what I could do they were impressed.		
That leads into the next question. Do you feel the other members of the ops flight or the ops chief himself fully understands your role and abilities? I think it depends on where you go. My ops commander was a captain that came from the support group, so she was pretty much new to that role, so she asked questions. She was smart, she asked the senior NCOs and I pretty much mentored her on what we could do for her, what are capabilities were, what we were supposed to do. As far as other senior NCOs, the chief, I guess maybe I've been lucky to have the good ones where they knew what we could do or they asked. I'm sure there's plenty people out there that are working with folks that don't know, especially with the 7-level course gone. You have younger NCOs becoming seniors and getting in charge and don't have that background and don't know what we can provide them. You might have airmen that are NCO s now that don't understand what they can do because they haven't had the Alice Anderson course or that tech or master there to mentor them. Deployed and undermanned. When there's no one there, the airman doesn't know what	Controllers not knowing what they are doing leads to other shops not knowing what they do	Unawareness of role by controllers and others

they're supposed to tell the ops chief that they can provide this to you. There's no standard to provide them.		
Do you feel like a part of the team in the ops flight? When I was working it? With the captain or with the other senior NCOs I'd say yes, but with some senior NCOs and in the shop level, you get that feeling that you're not, more looked at as CSS or administrative red tape that they have to do. They don't understand what's required or why it's really necessary. You're more of a hindrance than helping, but for me, I saw it more at the lower level.	Seen as more of a hindrance than a help Seen as CSS or admin—red tape	Not part of team Unawareness of role
What about throughout the rest of the squadron in the other flights? That's a good question. I would say the people we work directly with in programs or asset management know what we're doing since we interact with them, dropping work orders off or updates to real property. I'm interacting and talking with them, we have that relationship, but generally your 3E5s, civilians, some officers don't know. Maybe the 3E5s know more if they're working deployments with you. There's probably some disconnect in the programs flight.	Not many strong relationships between flights	Not many strong relationships between flights
Do you feel that you're respected by the other members of the squadron? Respected?...never really had any issues as far as the squadron. More just craftsmen always thinking that maybe we're more of a hindrance than a help, but that goes to the 3E6s needing to explain themselves to the shop leads to educate them. It's all about networking and communicating. If you actually bring something to the fight and show what you can do for them or how it impacts them, you get that respect. It goes that way with any job.	Maybe respect lacks at younger levels You get respect when you offer them something	Respect hard to earn Branches from unawareness of role
Do you feel like retention is an issue for ops managers? For sure because I see the numbers the last three years. Retention is a huge thing. I see the surveys. Maybe it's AFPC cutting so	Retention is huge issue	Retention is huge issue

much. We had an airman at Ramstein that got cross-trained out of 3E6 into 3E6. It made no sense at all because they cut too much.		
Wow! It just seems like AFPC is riding the wave or the wrong part of the wave. By the time they're into their cuts, we're in the down slope and they're cutting too much. I saw that back in 2000 in [omitted]. We had 20 brand new airmen but only had slots for a quarter of them but the Air Force was plus-ing up. Of course then we start cutting again in 2005-6. Right before I left [omitted], they were trying to fix the deep cuts. Now we're kind of hurting. That's led to one to one, especially in 7-levels at 52% master sergeants, 70% techs. But the one to one deployments they get tasked and we still have special duty assignments that staff, techs, and masters get pulled out to be facility managers at intel squadrons and other areas. We addressed this several years ago but maybe to the wrong people. We said we'd keep them filled even though they're outside the prime beef mission. I heard a story of an airman that was a single mom, went to Korea, came back and did a year deployment, and in six months deployed. They told her, "by the way, when you get back, you're going back to Korea." She got out at 15 years because over five, years she'd see her kid for only one year.	Deployments and short tours are stressing undermanned areas	Manning low Affecting retention
Do you think that's the main reason for retention issues? You talk about manning getting cut, but the people you do have, can you keep them? I'd have to look at my numbers and get that answer to you later. We have so many people cross-training in and still have problems. We've got a bunch of new airmen getting filled in. In our year groups from 13-17, there's only two or three people when there's supposed to be 10. When the older ones retire, there won't be much left at the top. You'll have less and less seasoned guys. They will be more robots than actual people that know their jobs.	Lack of experience at the top	Experience gaps at top

That makes sense that just because people have been around for a long time doesn't mean they've matured at that same rate. You're correct. When I came in, it took forever to make staff and tech. Nowadays, it's like boom, boom. You can be a staff or tech in a leadership position, but how much experience did you really get because you got there so quick? As far as that stick time or time with airmen. You could be a master with only a few years actually in charge of people. What kind of leader are you going to be?	Rank doesn't imply maturity or experience Techs and masters promoted very early because of voids above them	Experience gaps at top
So another area of my research, what is your definition of asset management? You want the book answer?		
Well how do you see yourself fitting into it? I think 3E6s are important because we're working a lot of those metrics as far as capturing or managing those between RWP, work orders and requests. Me being here and not in a squadron, I've found it hard to know or learn from anyone the answer I'm really looking for. What are we doing at the squadron level to provide that info? The feedback I'm getting is that mainly them looking at RWP as far as asset management. Do you need to replace stuff or does it need to be in the program? Is asset management a program? I've heard it's a tool.	Understands they contribute though not clear on the point	
I think it's more of a mindset that can be applied to everything from people to facilities. Would you be confident making a decision based on IWIMS data alone? Alone? I guess it would matter what base I'm at, how much training the airman has had because...let's break it down. With work requests—I take a request and of course some come in that have RAC codes. Now is my airman trained enough to know to put those into the system? When it goes to planning and goes to the board, I'm the ops chief looking at requirements. Am I getting the whole picture? But there are a lot of places in the process that can get fouled out.	Data quality depends on the experience of the airman that entered it	Data quality low
What problems have we discussed today	No intricacies are	Training

that affect data entry? It sounds like you've said mostly that the lack of mentorship and training is suspect. What the airman knows determines what they put in. Am I saying that right? Well I went to the school house last year. I said "you're showing them how to enter data but you're not giving them the fine intricacies of why you're entering some things or what the correct data is." If you have the trainer explain that, they'll know why they're doing stuff. But if they came out of tech school a year ago and their supervisor didn't teach them, then maybe it gets overlooked and the problem perpetuates. Really it's left to whoever is left to do the teaching. Once we hit that 18-19 year mark, we have a big gap in experience.	being passed on at school house Perpetuating problem	insufficient
Do you see any kind of critical failure points in the future? Anything completely broken? Well the young techs and masters getting promoted now that haven't had the mentorship and training. It's hard to quantify without surveying or talking to each one of them. But that little bubble I mentioned, the young techs and masters that got promoted quick because there's less in front of them. Do they have the knowledge and leadership experience to fill those positions? We complain we're always stuck as a section chief, but if the people were promoting don't know that much, they won't be able to advance themselves. It's a good question—how do we quantify what's going to happen? Have we trained them enough thorough OJT?	It's hard to quantify Lack of core knowledge may be affecting promotions Why be more than a section chief if you don't even know your own job?	Unawareness of role and lack of training affects promotions and advancement
You've mentioned the advanced course a lot. What is the timeline? Is there support? Any roadblocks? The biggest roadblock is funding. Now with TDYs getting cut and money being tighter for courses, everyone is fighting to justify a course. It's hard to tie back to wartime mission. My boss has been in communication with [o] about a course. I'm still hopeful	Just talk with no movement on new course Funding is largest roadblock	Funding issue for 7-level course

based on what the chief said, but it's kind of been put off until FY12 to look at again. Still, I don't feel any ownership. We have to be able to let them know the costs and consequences. I have some work to do. This will be the third year in a row that's just talk, talk, talk.		
Do you feel like IWIMS or ACES are getting in the way? Well it's nice to have a system to help organize what you're doing. It goes back to asset management about figuring out what we should do. IWP is in the system but only a few MAJCOMs use it. It goes back to the AFI in dictating what you have to do. When regs changed to pamphlets, 85-2 went from 200 pages to 10 pages in 32-1001. It lets you do whatever you want if you're not getting measured. There's no AFI.	Reductions in regs cause shops to run amuck IWIMS works as a standardizing tool	No standardized guidance for data entry

Appendix C

Question and Response	Open Codes	Selective Codes
Subject C Have you always been a 3E6? I have, I came in 1989 as a 555, so I'm probably one of the only originals left in the Air Force. Not many of us that came in as a production control specialist.		
If you just want to give me a rundown of your duty history including deployments and what you did at each one of those jobs. My first base was [omitted]. Total of 10 PCSs and six deployments. First 10 bases: [omitted] here where I'll finish up. Everywhere but here, I worked in the customer service, production control office pretty much doing 3E6 stuff. [omitted] I was the operations support flight superintendent, which customer service and all the functions of production control fell under me. Pretty much every base but here at [omitted] I've done actually traditional 3E6 work to include a lot of those deployments except the last two, Iraq and Afghanistan.	Traditional role as 3E6 on all deployments except most recent	Deployments are shifting traditional roles
What did you doing during those two? During the Iraq deployment, I was superintendent of ops support section at Ali air base in Iraq. I had vehicle maintenance under me, I had the computer support folks, the engineering assistants, material control, PERSCO, had all the nontraditional functions under me and then the craftsmen were on the other side of the building. Then in Afghanistan, I was the liaison between the [omitted]. I let them know what we could do, what we couldn't, get projects for our guys to work on, looked at projects across the AOR.		
In your current job, what makes it different? We don't do any traditional 3E6 stuff. We do a little bit of tracking projects, but not much. We don't have access to IWIMS. I do a lot of	Job not traditional and really not needed	Extraneous position—controller not needed

ACES work with our UTCs, trying to manage those and make sure we're good to go for deployments and stuff like that. We do a little facility management stuff, not me so much. I monitor it all but we all manage [omitted]. Other than that, everything else we do is not traditionally what 3E6s do. We have huge radio accounts that we manage, CRO accounts, personal wireless communication accounts that we manage even though we have comm folks, we serve as backups to those accounts. Other than that, not a whole lot not a real need for 3E6s [here] in my mind.		
How many are there right now? Just me. We have four authorizations and I've lost everybody but me.		
So you attended tech school back when you came in... No, I never went to tech school.		
Never went to tech school? How'd that happen? I joined in '89 back when they had what they called direct duty airmen, so I graduated from basic training, went on leave and then they assigned me right out to my unit in [omitted]. So I went straight from basic up there as a 1-level and they stuck me in my CDC 3-level upgrade. I had to kind of learn it from my supervisors.	Didn't go to tech school Learned everything through experience	Shows that all OJT can work
So what other academic background do you have? High school, CCAF and a little bit of other college.	CCAF and a little college	
OK, your CCAF, was that in maintenance production management? Yeah.		
Did it actually help in your 3E6 duties? No not really. Most of it you get from your military training, basic and your tech schools. Then you just take your core classes like speech, English, math, history. Maybe speech and English might have helped a little bit. But the other ones really didn't.	CCAF degree not helpful	CCAF degree not helpful
Have you had any other training since then? Any advanced course or outside	Tons of Alice Anderson courses	Reliance on outside course

classes? Yeah I've had some advanced courses—work order, cost management with Alice Anderson. She was one of the original people that developed IWIMS. She consults now and goes around to different bases and instructs in IWIMS and I've taken her RWP class, her funds class, her work control class, her advanced work order cost management class. I've gone down to the [omitted] and did a pretty in depth project management course down there and then we have some upcoming ACES training I'll be involved in.	Also involved in other courses	Some work done to develop courses
Who's offering that? Were actually bringing a guy up from Gunter, Alabama so he can train a bunch of us, you know, since budgets are so tight right now. It's more cost effective to bring him here than sending 25 of us down there.	Set up classes to get people trained in ACES—even other shops	
When you say a bunch of us you mean 3E6 and other shops? No I'm talking me and some other folks in the unit.		
I'm amazed by the whole Alice Anderson thing. You're not the first to mention it. The fact that she is our main source of training... She definitely has a monopoly that's for sure. She's been doing it for, the first class of hers I went to was back in the '90s. Then I went to classes of hers from everywhere I've been. She came to [omitted] as well as gave a bunch of classes. We paid for her to come and travel and put her up and then we paid additional for each student in the class. She's done fairly well off the Air Force for sure.	Alice Anderson used everywhere	
When you're working in traditional 3E6 roles, did you feel that you were trained to do all the stuff you were asked to do? Yeah if felt like I was trained to do what I was asked to do. Of course we do a lot of things that are outside of our career field since a lot of folks don't know exactly what we're supposed to do I guess. And that's been a sore spot for a lot of 3E6s over the years.	Extra jobs a way of life	Unawareness of role causes extra work

“Why do we have to do that, it’s not our job?” So you kind of gotta nip it in the bud and you know, suck it up and do it, I guess.		
Do you think there’s any training that would benefit you all that you’re not getting? Something that would help? Yes, as a matter of fact, with the new material control portion that was added to our CEFTP for the career field. It would have been nice if some sort of training would have been established before they dropped that bomb on us. What happened is that they updated the CFETP but didn’t offer any type of training to say “ok were going to put these 15 new tasks in your rating plan but here’s a class you can send your folks to in order to get them signed off.” For instance, here at [omitted], if I have a person that comes in that doesn’t have all those tasks sign off, I have to find some place to send that person because one, we don’t have access to IWMS, and two, I could send her to the base, but the base material control section is contracted out and it’s not in their contract to train a military person on material control. The 3E6s at main base that I often deal with a lot and sometimes I help them out with their training, they’re still not trained on all that stuff. It’s been close to a year since that stuff has come out and they still have to get their folks to a training course to get them signed off. The last girl [omitted] I had working here, she actually PCS’ed without having any of it signed off, had to get a special letter that the commander signed saying we didn’t have the capability to do it to get trained in those items. That would have been good if they had said, “Here are 15 new items for your plan. Here’s a course where you can send your folks and it’ll be funded by your command or Air Force, not your unit. It’s not their fault that new tasks got added.” But they didn’t, so that was kind of disappointing. A lot of times you don’t have the time to do all that research and find out. I called bases in Arizona and Georgia to see if	Material control course should have been figured out before the CFETP was changed Training is sometimes not being accomplished	Training not available for new tasks

they had some folks down there to help train these guys on material control. They didn't have time to do it.		
Do you see that there are enough senior leaders in your career field to account for all the younger troops, to mentor them? No, what I think is if you're lucky, you might come across a 3E6 that's been a 555 for a while and really, really knows the career field. We're critical on master sergeants and we only have 12 or 13 seniors. We're only about 400 strong anyway. The senior master sergeants, half of those are working outside the career field in different odd jobs. I just think that with master sergeants at 52%, not every base has a senior NCO that their airmen can look up to or ask for help. There's just not enough of us to go around. Nothing against the officers, but they're not trained in the production control side of things. They've probably been taught a little about it but nothing that will help as we go about in our training.	No senior leaders Most bases don't have a senior NCO in their sections	No senior leaders available at base level
I know, I was the ops support chief back at Barksdale and yeah, I was learning from them. I didn't know much. There was so much in it that I learned something new every day. What do you think about the expertise and experience base that exists in the techs and masters? I think it's a little on the, it could be better. There're a lot of techs and masters that haven't spent a lot of time in the career field. You can make rank if you study the books. You don't necessarily have to work in the job, all though it does help. Me, I've always worked in this career field since the day I came in. I was the heavy repair controller. I've known that since day one. A lot of guys are corss-trainees or brand new 3E6s. They don't really know the career field. They know IWIMS but the deep down bones, I don't think they know. That's kind of bothersome. For instance, there's a tech sergeant select coming here from [omitted]. I asked what her	The expertise and experience not necessarily congruent with the rank Many cross-trainees Some stay in jobs outside of primary role for a long time	Experience gaps at top Assignments outside of primary role prevalent

experience was. She said, “From 2002 to 2008 I was in a medical logistics office at [omitted] med center. I didn’t have IWMMS access, never fired an M16, never had radio training, never went to Silver Flag.” Now she’s at [omitted] doing a facility management job from 2008 to now. Still hasn’t, she wears civilian clothes, hasn’t fired a weapon, no 3E6 training. Now they want to send her here without any training, when she really needs to go to a main base so she can get all that training. Never been deployed never had contingency training whatsoever. Folks like that know the books but don’t know the job.		
She was a 3E6 the whole time or cross-trained? Yep, 3E6 the whole time. Went to tech school, got sent to [omitted] and then facility management. There’s another question you’ll ask later, but my answer is that there are a lot of 3E6s that work outside of the career field on special duty. I had a girl that worked for me at [omitted] that’s now at Fort Meade, Maryland that works as a facility manager. Not in a CE unit, but working for the army. Really anyone can do a facility management job, doesn’t have to be a 3E6. We have one in Belgium, a couple others spread out, one in Maui. All these folks could be brought in to units that are really stressed right now. That’s been a major concern of the career field. It’s been brought up a few times, reeling these guys back into the career field. Got to beef up the units that have two or three with six or seven authorizations.	Controllers used in facility manager jobs even though it can be done by anyone Should pull in extra slots and return them to base	Positions outside of primary job
Do you feel people in your career field have a fair chance at promotions? I do. As long as they study. Of course our career field is the smallest in CE, so historically the career field is the toughest to get promoted in with EOD, fire, readiness. Still over the years, if you look at promotion rates, we get what we deserve. At one point we had the highest cutoff in the Air Force	Promotions are fair Based on studying textbooks	

from senior airman to staff sergeant. Since 2003, I'd say, the cutoffs have dropped below 300 which was never the case when I was coming up in the ranks. It's getting better I think. Cutoffs are dropping. If they know the job or not, who knows yet. They know the books, but don't know the job.		
What do you think are the biggest hindrances for doing your job? [omitted] I guess in the squadron, I'd say all the non related 3E6 stuff that we do since we're up in the head shed. We get tasked with the odds and ends. It can be anything to cleaning the building to getting put on base cleanup teams, all the additional duty stuff usually comes down to the ops center because we're right there. The commander, first sergeant can point at us and say "the 3E6s can do it." I think that's the biggest thing over the years. We're just so close that we get stuck with the extra duties. Base details, urinalysis, that kind of stuff.	Extra duties biggest problem	Extra duties
Any other big issues? I don't think I've had a challenge big enough that we couldn't perform our duties. I could say prime beef, but that's the main reason why we're here. So it's not really a hindrance. Maybe training would be an issue. Tech school to me, our tech school should be completely rebuilt from the ground up. It's not doing anything for the airmen going to base.	Thinks tech school needs a complete overhaul	Training at tech school subpar
You want to expand on that? When I was at [omitted], I had 21 3E6s working for me. We were the largest 3E6 unit in the AF, maybe [omitted] rivaled us some. Whenever I get new airmen in, you get a report card from their tech school that follows them. "He was great, here are his scores." You then go online to fill out a critique and what you think about the airman. How they're doing in your unit after graduating tech school. So I'd sit them down one on one and ask "how's tech school? Looks like you did pretty well in all your areas." They'd say	Airmen not impressed with quality of tech school	

“the teachers would fall asleep, people texted in class, we didn’t learn a whole lot. I’ve learned more here being in your section for the last month than I did in all of tech school.” I don’t think they really teach the bones in tech school. They teach them how to put in a job order and that’s it. They teach maybe how to do a minor report in IWIMS. Teach them some radio discipline and DCC/UCC stuff but there is so much more that they need to know and learn. To make them mission ready when they come in, to be able to go down range, I don’t think it’s happening. At least not back a few years ago when I left [omitted].		
Do you have any issues with ACES or IWIMS themselves? IWIMS is an old system. It’s tough to navigate around sometimes. For me I haven’t used it in two years. I have it loaded to look at things but don’t have rights to actually go in and train anyone. ACES I use quite a bit. I think it’s a pretty good system. It’s web based so it kind of kicks you out a lot when you’re working if a lot of people are working at that time of day. As long as they keep ACES updated with the info it needs to have, it’s a super system. I think the upgrades that are coming to replace IWIMS sounds like it’s going to be a good system. Then again we tried that with ACES-OPS and it kind of floundered, so hopefully they get it right this time. But yeah I’ve worked with both systems, WIMS then IWIMS, for 22 years.	No real issues with ACES or IWIMS other than being slow	IWIMS and ACES need updating
So I guess it works a little bit. Yeah, well it’s grown and developed over the years. Now it’s come time to do a windows based program where it’ll drop down the different stuff you load into IWIMS. It would have been nice to have that. Would have been quicker to help customers. But nowadays these techie guys can throw in a job order in 30 seconds and move on to the next one.	Needs windows based program	
Do you feel like you’ve been used in your max capacity? If you had something to	Good bosses allowed him to	Awareness of boss ket to success

offer, they'd listen and take you up on it? Yeah I guess when I was in main base my first 20 years, I think I was used to the capacity I was trained. I offered stuff up and people seemed to be receptive to whatever I was saying or giving them. I think I was used based on the training and knowledge I had. Fortunately, I had bosses that took me in and trained me, took care of me. That doesn't happen a lot anymore. The past four years I haven't been used at my capacity because we don't do the traditional stuff. We don't have the need.	work at full capacity	
If you could put a number to it, back at base level, what percentage were you doing duties you were trained to do as opposed to extra duties? When I was younger, probably 90% of the time. Tech and master, maybe 75%. In [omitted], I was the real property liaison job, so I traveled a lot around [omitted].		
This is an extra question—whenever you're at a location like that and you're not doing a typical 3E6 job, do you see that someone else is though? Contracted, host nation, anyone keeping up with job order data, facility maintenance and condition? Is the job being done? Another group doing your normal job? When I was at [omitted], I was part of the transition team and had to train the civilian contractors to do our job. In 45 days of transition, we just monitored the last 15 to see them do our jobs. It was odd to watch how they did things differently. When I was in [omitted], I was a liaison between [omitted]. When there was any construction on the collocated base, I would go down and capitalize those in order to get them put on the real property records. On those little bases, they didn't have 3E6s, the Air Force guys just worked as QAs watching the [omitted], managing facilities. They did a great job monitoring those things, but there was nobody assigned to the bases that really owned the	At some places, the ops management job isn't necessarily done	Ops management not necessarily done in some places

process. There weren't many 3E6s out there other than on bases.		
Ok, so in an ops flight do you think other members and to go as far as the actual ops chief, do they understand your roles and abilities? I think yes if you have a seasoned ops chief. A lot of times you get a guy that come from either readiness or engineering flight. They don't really get 3E6s.	Ops chiefs not well versed on 3E6 capabilities	Low education for leaders
What about the other guys in ops flight? Well the other guys, yeah I think they have a pretty good knowledge of what we do and what were there for because a lot of the older guys have seen us when we used to work in the shops themselves. We were part of the shops instead of being in the ops flight office. We were part of a zone or the HVAC shop. We weren't set apart as a group of 3E6s.	Awareness good if shops leads are older	Awareness of role depends on experience of shop leads
I didn't even realize that is how it was. Yeah when I came in I was in heavy repair. I worked with heavy repair chief and the captain in charge. Sometimes I'd work in snow removal in the missile field with those guys, putting their labor in. Then I moved to zones and maintenance engineering. Since some of the guys at a base like that, who started the zone concept back in '89, they stayed in the zone the whole time. They were a part of the group. All crafts and 3E6s managing one sector. You also knew your customers and the buildings.	Working in zones improved awareness	Awareness of role increased through zone exposure
I'd heard of zones before but didn't realize that's how they worked. So you felt like part of the team in the ops flight? Yeah I felt like we were. More so at some bases than others, just the mentality they had there before I got there. When I was managing customer service, I tried to get us engaged in the unit. I moved guys around to the shops so they got HVAC calls, plumbing calls. Then when they came back to customer service, they asked better questions. They knew a little more. I moved them around. I had the ability to do that at [omitted] because	Exposure to other shops allows controllers to do a better job	

I had so many 3E6s. They were crowded in customer service, so I stuck them in shops. I tell you what, job orders got put in a lot more clear with concise descriptions. Their questions to the customer were better. “What kind of door closure? What type of lock? How many urinals and which one is running?” They were asking extra questions and it really helped the craftsmen. They could look at the order and be able to understand right where the problem was, especially if it was an emergency.		
How was your relationship with other flights in the squadron? I think we had a pretty good relationship. We had an asset management flight which was new to us in [omitted]. I stuck a few 3E6s in there a while so they could learn it and bring it back to us. Were they needed? No. Could they benefit there? Maybe. We’re a pretty diverse group of individuals.	Some controllers worked in asset management flight but not really needed	
Overall, your take on this is more optimistic than I’ve heard previously. It’s good to see that there are places where things are working more like they’re designed. I know a lot of 3E6s. I get a lot of emails from those that used to work for me. Some Silver Flag guys, Ellsworth, Alaska, Hickam, Fort Meade. They’re all over and they constantly email me with questions and issues with customer service. I try to help them as much as I can based on past experiences. What I do now in my position, it’s nice that they keep me updated on what’s going on. At times there are bases that had four authorizations that didn’t have any 3E6s. If you look at the number of people we have in the career field, we have more authorizations than airmen to fill them. Something should change.	Mentorship is needed	Experience gaps
Do you feel like your career field is respected then in the squadron? When I was in the squadron, yeah, but I think it was because we earned it. I would put in	Earned respect with performance	

my guys for awards. There were section that when it came for awards or BTZs, they were really hesitant to putting anybody in if they knew my section was in it. For the most part of my career, the 3E6 section was respected.		
As much as you're painting a better picture than I've seen, you're making a point that they've made. It seems that a lot of the success you've witnessed is because you're a good master sergeant. In a lot of shops you just don't have a strong master sergeant to lead them. Yeah there's not. I'm not saying the ones out there aren't any good. I've had guys that doubt themselves for making rank and I just encourage them and put them on the right path to get rank on their first tries. I just try to teach them how I was taught so that ultimately it will make the career field better.	Not many master sergeants	No senior leaders
So your happiness in your career field, did that make an impact on you staying for as long as you did? I like interaction with people and all the airmen and training. Deploying with these guys, you really get to know them. You meet a lot of great people. I've been fortunate enough to have great supervisors and leaders working above me. It just kept pushing me on. When I'm done, I'll have 24 years. That was always my goal.		
Do you feel that retention is a problem though? Obviously, the Air Force does since they're giving the 6% bonus for zone A. I don't think there's a huge retention problem. Not as long as there's a bonus. If there wasn't a bonus, there may be a lot that cross-train or get out. The trouble makers that everyone has.	Bonus makes retention better	Retention not a problem as long as there's a bonus
Do deployments have anything to do with it? What impact has that had? At one point, well we still get hammered pretty hard for deployments. I think it's because we go so much. As example, I had a buddy master sergeant. We came in at the same time. He did 11 years out of the career	Deployment tempo still a problem Perceived as not equal among available	No equity among deployments Tempo high

field and came back, was at [omitted] and just went on terminal leave. He deployed to Afghanistan at the same time I did. I just got back in April. He got back and in August they tried to tag him to go to Afghanistan again. Really? We have 60 other master sergeants in the career field and you're going to tag someone that got back six months ago? He was gone for seven, home for six and you're going to send him for seven? He dropped his paperwork. He's one of the guys that know the career field, a 555 like me. The Air Force lost a good one there. Don't know if they don't know how to spread the wealth or just too lazy to look. It doesn't make any sense to me. When I retire, they're going to have to fill this slot. It was advertised online. It retired three master sergeants before it got to me. Three master sergeants were non-voted here and dropped paperwork. I was looking to get back to [omitted] since my wife was here and they couldn't believe I wanted the job. I think it goes back to the girl coming here with no experience. They don't scrutinize at all. That's what I think bothers people and is the ultimate reason to get out.	personnel Current job undesirable	
I have a few questions about asset management. In your opinion what do you know of asset management and how do 3E6s play a role in it? In [omitted], they just stood up that flight. Is that what you're talking about?		
Well if that's what it means to you. From the officer academic side, it's huge, so I want to know what you think or have heard about it. When they started that flight, I was getting ready to PCS. We sent some guys there to work with them since I didn't know what it was. I haven't had a whole lot of interaction with asset management. Is housing under them? Real property?	Thinks asset management is just a flight	Poor idea of asset management and controller's role
Yeah both, and environmental. I worked a little with real property. Making a flight maybe was good. Is it the best thing, I		

don't know.		
Do you feel that you fit in with it? Well no, we never really did stuff with environmental. 3E6s didn't do stuff with housing. I guess we coordinated 332s with environmental.	Sees no real connection	
If you had to make a decision based totally on the data in IWIMS, how confident would you be? I'd probably be 85% confident based on my experience. It was one of my pet peeves was that we didn't procrastinate on updating IWIMS. We didn't go half way when we put a DSW in the system. On 332s, we filled out every field in IWIMS and ultimately it helps everybody. We kept it as updated as possible. If you asked the status and they said it was awaiting material, and then the shop said they had already done it, sometimes you see the lag with shops entering data after the fact. All around its good data if you have a customer service department that makes it a priority and shops too. It's only as good at the people using it.	Data is unreliable unless there is a strong leader enforcing entry standards	No data standardization
I'll say it again. You seem more optimistic outlook but that seems its coming from the effort you put in it. Yeah when I'd get to a base, I'd immediately go into IWIMS and look at a few obscure places to see if they were keeping stuff updated. If I went to those places and they didn't have data, I knew that we were going to have a problem. I'd sit them down and say "I don't know what you did before hand, but this is how we're going to do it now." They let a bunch of guys go at 15 years when they almost did away with the career field. Root cause of problem is the expertise that left the Air Force. Second problem is the tech school and third is people that don't care enough to put data in right.	Very proactive on up keeping data	Data quality directly linked to availability of senior experience leader

Appendix D

Question and Response	Open Codes	Selective Codes
Subject D Have you always been a 3E6 and if not, what were you prior? Before I was a 3E6 I was a 3D, information management.	Cross-trained a year ago	
What exactly is that? I worked for generals and commanders in the command section, orderly duties. That was my whole career for 13 years.	Worked for commanders	
How long ago was it that you cross-trained? I put my package in two years ago and then went to cross-training school back in June/ July. Graduated July 20 th of last year.		
Ok, cross-training school, that's at Sheppard? Yes sir.		
Is it a different school than the tech school that people straight from basic go to? Yes sir.		
So it's an abridged version since they assume you already know about the military? Actually we did have, we were mixed in with the basic trainees. We had priors and non-priors.	Attended same school as newbies	
As far as your duty history, where else have you been based and what did you do? I was stationed at [omitted] up to '98. Then I moved to [omitted]. I worked as an info manager for the wing commander. Then I moved in '06 to [omitted] and then moved with the wing commander at the time. Usually when you work for a commander, if they prefer, they take their admin troop with them. So they pulled me with them. I worked as [omitted] A3O and then A3/5 after he retired.		
What drove that change to cross-train? I was on the forced cross-training list.	Forced out of previous career field	
Hmm it's funny because when I was at Barksdale, we pushed a girl out of 3E6. In just a few years, it swung the other way. So then tech school was a year ago?		

Yes sir, last July.		
What other academic background do you have? Any other training or degrees? I graduated with an associate's in legal assistance, a bachelor's degree in organizational management with a minor in legal and I'm working on my master's degree in public health.	Plenty of academic background	
Have you done your CCAF? I have two, one in information management which is computer background and I'm also about to graduate with the CCAF for ops management.		
Have you gotten any specific 3E6 training since tech school? Maybe not because it's only been a year. I'm already a 5-level and already finished all tests for my 7-level, so I've completed all my hard core tasks. I've been trained a little more than the other 7-levels here because I had the chance when we merged into material control, I actually was one of the first to go over there. For six months I was trained up on contracting duties and how to do QAE duties.	Within a year, almost a 7-level	Rank and position with no 3E6 experience
You're talking OJT stuff? Yes sir.	OJT for all training	Reliance on OJT
So far, do you feel that you've been adequately trained for the duties you're being asked to do? Yes sir.		
Is there anything you wish you had more training in? Any gaps? The one I'm kind of missing is because I don't understand it, the IWP and also the WRRB and then also what the planners do. We were pulling guys from the shop to be planners and that's one area of training that I'd like to have since you're putting money and costs to the 5 digits. I'd like to touch on that.	Wishes there was more WRRB and IWP planning	Needs more training
What are your biggest problems day to day? Your biggest hindrances? I'm a new supervisor, I've never supervised. So that's my biggest hurdle right now. I'm supervising four guys and then there are seven of us and I'm the NCOIC of the shop. So on top of supervision I'm also the office manager. That's the biggest hurdle.	Brand new supervisor	
Are you NCOIC of just customer service or whole ops support element?	Has a full shop	

Just ops management career field, a total of seven of us.		
So yall have seven 3E6s there? Yeah.		
Wow that must be nice. Yeah were all sitting on top of each other, though.		
Do you ever send anybody out into the shops? Not yet. When the new tech sergeant comes in later this month, once she gets here, once everyone gets settled in, we're going to start sending people out to the shops. We do work hand in hand with the shops.	Will start to move people into shops once they get trained up	Looking for chances to increase exposure
Cool I spoke with someone that used his extra troops in the shops. It really helped them with better work orders. Anything else? No sir.		
Everything else is fine?? So, does the job you're in now, is it what you were told you would do in tech school? We do a little but more because of where our office is. We get tagged for a lot of the stuff that's our higher ups kind of need. We end up doing SharePoint and other fun stuff. They can't really get the guys in the shop to do it so they come to us. We have most of the additional duties.	Once again extra duties They can't get guys in shops to do it	Extra duties from other shops not cooperating
Would you like to expand? What other duties? Well one of my troops owns the SharePoint website. He has to update it when the shops won't. We in process all the guys into ACES and out process them. We've taken over some of the labor and some of the weekly schedule because some of the guys don't know how to input in correctly.		
So it's not extra from squadron but guys in shops not knowing stuff that you now pick up? Yes sir.	Doing others' jobs	Extra duties
Do you have any specific issues with ACES or IWIMS? I don't like ACES. It decides when it wants to work and when it doesn't. It locks up. If you go into it too quickly and click on something, it just locks up.	ACES locks up	ACES needs updates
Do you feel there anything you know how do that you're not being asked to? Anything your shop could offer the squadron that you're not? One thing when I went to Silver Flag and talked	Wants more exposure to what shops do	Needs experience in other shops

with other 3E6s, one thing we're missing is going out into the shops and learning. Especially us females when we come into this career field. Like who does hot water? I didn't realize HVAC did that until I talked to them. Things like that, getting hands on experience with what they really do.		
People at Silver Flag said they had the opportunity to do that? Yeah, a lot have.		
What's driving that missed opportunity? I think it'll take a little bit before we get the airmen up to 5-level. Once we get them trained, we'll move in that direction.	Manning and inexperience is limiting factor	Manning is preventing shop exchange
What percentage do you think you spend doing your core job as opposed to extra duties? About 95%.		
Is that case with your airmen as well? No probably more like 75%.		
So you have a full shop them. What about deployments? Have you been deployed as a 3E6? No sir and that's one of the drawbacks here. As soon as I got here, one staff sergeant was deployed and another about to. When my bucket came around again, we didn't get taskings. They went to the utility shop. He ended up taking a 3E6 job. I'm just, that's frustrating because I came in to this career field and one of the biggest draws was to deploy and now I'm not getting the opportunity.	Upset about no deployments Entered career field based on promises of deploying	Little deployments as opposed to "too high tempo" Shows disparity in deployments
Wow this is why I need a wide range of people because that's opposite of what I've heard. Yeah I've been here a year and three months and no taskings.		
Do you have any senior leaders or guidance in your career field that you can turn to? Not really, since I've been here, we've had three master sergeants in the ops support superintendent position so far and they keep changing out. We'll see what happens, when the new tech sergeant gets here, maybe I'll move into that position.	No senior leaders Other career fields used as element chiefs	No senior leaders Led by non controllers
What AFSCs were they? A plumber, utilities and electric		
Do you feel that the other people in the shops understand what you do? They do, they come and ask us and were more than	Orderly duties base on prior experience	Extra duties Good relationships

willing to help them. Since I've been here, all the shop leads have come over. I think I've had a personal touch with them. They pulled me for orderly room duties as well. I'm filling that position as well as supervisor. I think that has opened the door for the shops. When I first got here, I don't think they had that work environment where they worked with the shops that close. Now they have that.	Exposure has made way for better relationship with shops	key to getting stuff done
Do you think the ops chief knows what you do? Yes, I think he does.		
Does he ask interesting 3E6 questions or do you just feed him stuff he's already asking for? If that makes sense... I know what you're asking. Yeah he does. He comes in here, he's already asked to change scheduler meeting slides to get changed. We're revamping the facility manager program since our commander and other squadrons have been asking about it.	Proactive ops chief seems more knowledgeable of the 3E6 shop	Good boss helps significantly
Do you feel like you're part of the team? Yes sir.		
Between yall and the shops, any "us versus them" in meetings? No, like I said, when I first got here and they found I did orderly room duties, they pulled me for that job. Ever since then, I think the guys have started to meet all the guys here and we know all the shops now since they all come in if not for 3E6 duties, they come in for orderly room stuff. So we've built a pretty good relationship with them.	Good relationships and exposure helps shop run better	Good relationships key
What about with the rest of the squadron? Do the other flights understand what you do? I don't think so, not the fire department or EOD.	Other flights unaware	Unawareness of role
What about programs? Yes, we work closely with programs.		
And that relationship is good? Yes sir.		
So overall, you feel respected by the rest of the squadron? Yes sir.		
What about quarterly awards and yearly awards? Do you have a fair shot? Yeah we do. One of our staff sergeants actually made it to the group for quarterly awards. We had	Can compete for awards	Competitive

an airman with a BTZ and were putting in another. We've had an opportunity to compete.		
What about promotions being fair? Not sure yet, I haven't tested in our career field. I'm still exempt. I only test PEG this coming year.		
Do you feel that there are any retention issues in your career field now? Talking to new airmen and even me as a cross-trainee, when the job is advertised as a critical career field and then we come here and there's no deployments, and it's not how it's written in the AFSC guide, it kind of blows you away. My airmen are already thinking about cross-training. One's thinking of OTS. It's obviously too late for me to cross-train since I only have a couple more years before retirement.	Advertised as something it's not Leads to desire to cross-train	Unawareness of Air Force of what job entails No senior leaders available to educate
When you say they're not written correctly in the guide, what do you mean? The job sounds more like you're not just sitting behind a desk. It sounds like you're a part of the shops or outside working and really getting involved. As opposed to sitting behind a computer, which this job should be listed as an administrative job. I understand that we hold the shops together and make sure work gets done. But at the same time they should probably advertise it a little different.		
So you're planning on staying in for your full 20? Yeah hoping to retire as a senior or chief.		
And how many years is that? About five.		
Does your current career field have any bearing on that decision? No not really. I think this career field might be good for me as soon as I make master. What might hurt me is the whole person concept since I don't have a deployment. I hope deployments start picking up for us. I've actually put in for a 365.	No real attachment to career field	
Have you had anyone in the shop deploy over the last year? Just one staff sergeant but he was our last one.		
So wrapping up with asset management questions, what does asset management mean to you when you hear that term?	Perception revolves around money	

Everything on the base money wise that we might work on. I also think that goes into resources. Right now is a bad time for it. To me its money and materials.		
So how do you see 3E6s fitting into that? I'd say on this base right now, I don't see it. The only thing that we may do is how we get into IWIMS to put in work orders, maybe the Top 20. I really don't see us touching more than that.	Doesn't see that 3E6 fits into asset management	Sees no role in asset management
If you were a decision maker and were looking at IWIMS data alone, how confident would you be using that data alone? I wouldn't. IWIMS is great on some terms but not always. Sometimes the data can be wrong if it's pulling the rejects or it's not talking to the history, just the active and it doesn't compare. When you're pulling data, you have to actually pull the history.	IWIMS loses data Hard to use correctly	IWIMS needs updates
So it can be done, so the issue is how it's being used or the data itself? If someone else were to walk in and want it all in one, I'd rather pull it all at once than doing it two different times. As far as how they use it, they get numbers and see how the shops are doing.	IWIMS data may be pulled out incorrectly	Needs more training in IWIMS
Lastly, do you see any big problems on the horizon? Anything for your career field that might be a problem? Nope.		

Appendix E

Question and Response	Open Codes	Selective Codes
Subject E Have you always been a 3E6? Yes sir, since 1991.		
Please go through your duty history—where you’ve been and what jobs you did while there. I started off at [omitted] working the service call desk as an airman basic. While I was there, we went from doing it in paper and BEAMS to implementation of the WIMS system and also the zonal concept initiative. So I went from service call desk to a zonal customer service section. Stayed there for two years, then went to [omitted], where I was also assigned to a zone for the first year and a half. After that was moved over to the self help store. I processed all the work orders and did some planning and also took care of replenishing the store shelves while I was there. Then in 1996, I went to [omitted]. I was in customer service doing scheduling as well as answering phones and processing work orders. Then in 1999, I was picked up as [omitted]. From there, I went back to [omitted] on a special duty assignment as the facility manger for [omitted] and I spent a year and half doing that job. When I made master, I was taken above the line and put in [omitted] on the A7 staff. I did that for five years and then during my last year, I went down to [omitted] to help them transition [omitted]. After that last year, I’m now at [omitted] working in ops support.	Mostly traditional roles One tour as facility manager	One job outside of primary role
Did you go to tech school? Yes I did. When I was there, they taught us how to do everything three ways—on paper, in BEAMS, and then WIMS.		
What other academic background do you have? My concentration on my bachelor’s is in	Other secondary education	

information systems.		
What about your CCAF? I have three. I have one in military instruction and also production management.		
That production management course, was it any help? It's more just a qualification based on your training experience.	CCAF no help	CCAF no help
What other training either inside the Air Force or not have you got? I've gone through PMP courses, the PMI course offered, the prep courses for certification. I've also done quite a lot of IT type classes. I'm also pretty skilled with the office suite, especially Excel and Access. I've taken a lot of courses on those.	Management certification classes	
Cool, a lot of people don't know Access. They just use Excel. Yeah you don't have to tell me that. Yeah it's always misused.		
Did you feel you were adequately trained in the jobs you had? Yeah absolutely. I think growing up coming in when I did and going to tech school. Having the chance to work with NCOs of the '90s era brought me a long way. They shared a lot of knowledge with me that you don't find published anywhere today.	Main knowledge imparted by supervisors Knowledge not published	Reliance on OJT No published guidance
If you could get any other training, is there anything you wish you would get trained in? At this point in my career I think I'm fully qualified in my career field. Don't think there's anything else out there for me.		
What do you think are the top roadblocks for 3E6s in general? What hinders day to day performance? I think it goes back to '93 when they did away with Air Force regulations and went to AFIs. A lot of the processes that apply to doing work in IWIMS, they were outlined in those publications. Then in the AFIS, they were just so thin. For reference for future generations to develop training using AFIs or if they were trying to pick up extra skills with	Main problem was regulation cuts No standardized guidance	No standardized guidance

no one to help them it was impossible. Plain and simple, good old fashion guidance—standardized guidance.		
It's funny to hear this. The master sergeants I interview say there's a knowledge gap but the younger troops say they know everything. Well they do for the generation because there aren't really a lot of things they can go out there and read and know. The master sergeants are right when they say there's a void of knowledge. When they had the early out, they drew down the career field and a lot of smart 3E6s got out and the knowledge went with them. You went through a phase where you had to cross-train into the 3E6 career field again. It was '95 or '96 when they basically turned off the pipeline for the career field. So you had to be a prior CE staff sergeant to get cross-trained into it. So they were bringing in craftsmen in the lower management levels with no experience and all the people that would have been around to teach them were gone because they had dumped a bunch of the 3E6s back in the civilian world. So you had this void of knowledge. There are very few 3E6s that came in at the tail end, the early '90s and were the people to get exposed to the people that knew their job really well and had rock solid guidance.	Newer SSgts and cross-trainees are under the impression they know everything because there's not much written. Draw down in 94 cut most experience	Experience gaps at top
Anything else? Other challenges? Yeah, career progression for 3E6s right now. The way that we have to compete with the blue collar work force for chief slots. What you wind up having is very few 3E6 chiefs who are able to affect the future of career field and have enough clout to make sure that things are progressing in the career field, guidance being published, CFETPs, training in place. You just don't have it anymore. Ever since they moved the promotions to chief together, you don't have a lot of 3E6 chiefs out there.	Lack of chief prevents anyone from advocating change.	No senior leaders to advocate changes
What about deployments? Is that a problem or not?	Being used and abused on	Extraneous deployments

When I went on plenty of JET taskings with the Army, I didn't work as a 3E6 downrange. From what I've seen, a lot of tech sergeants and staff sergeants were deployed to jobs that anybody could have done. As a result we were losing a lot of tech sergeants that then lead to the shortage of master sergeants. You get used and abused and you end up getting out. And there's not a chance in the promotion pool. That's why we're at 60% right now.	deployments make people leave	
As far as the job you're in, or last base level job, do you feel like you were used in the capacity that you could be used? Yes, at my last base I was fortunate to work with a commander and ops chief that were willing to listen. They understood when it came to getting info out of the computer, putting it into a format that meant something to them, they'd let me do that. They weren't just telling me what slides they wanted to see. They left it up to me to gather info that meant something. I was allowed to make the decision to help them make good decision. At some bases, I've seen ops chiefs that tell them what they want to see without really understanding what they're looking at. Like "let me see the 10 oldest work orders." It's useless information. You need to break it down by shops, take a look at the entire backlog, how long it's been there, how long to get materials, how long it takes the shops to get materials on order—you know, meaningful information, not just scratching the surface. I've also seen bases where there's the tendency to misinterpret the data. For example, I've seen bases where they try to hold the shop accountable for availability rates—how productive versus not productive. The problem is it's a direct measured time—just time cost accounting. If the availability time is low, it's not the shops fault but maybe leadership's for not streamlining ancillary duties and training along with the jobs. That's done on a daily basis. In my	Commander and ops chief left decision of what to show up to 3E6 Sometimes, ops chiefs ask for data that is actually pointless Another problem is that data requested is misinterpreted.	Data often taken out of context or misinterpreted

experience, the majority of ops chiefs that I've worked for have been very willing to listen to the information and willing to allow us to explain what it means rather than them drawing conclusions.		
As far as extra duties, what percentage of your time is spent on core duties? At base level, my last experience I would say 90% of my time. I was in the ops support super position. With all that was going on they turned me loose and let me focus on the ops support side to keep things going through the transition.		
Were other ops managers that were around you doing ops management jobs? Yep they were gainfully employed.		
As far as deployments... We were always at 50% manned—three here, three downrange.	50% manned considering deployments	Manning low
And they weren't necessarily doing 3E6 jobs? The ones from my office were, but I meant mostly the senior NCOs were filling JET taskings.		
Whenever you're at a place not doing ops management, did you see that other people were doing it? Facility maintenance being tracked and work going into different facilities being tracked? Not particularly, when we're stifled or there's no one there, it's pretty much by the seat of your pants. It's really kind of ad hoc and not done very well. I've never seen it run smoothly at all. Like any business, you have blue collar employees and white collar. White collars have done administrative for years and blue fixing equipment and managing their schedules. But when they're forced into the situations, they don't like it and they don't or understand everything that needs to be done.	Doesn't see ops management at many deployed locations	Ops management poor in AOR
Do you feel like there are ample senior leaders in your career field to mentor? No, there's only 11 seniors.		
But even at base levels, are there masters in	Senior leaders	No senior leaders

the shops? Well only 60% will have a master sergeant in the shop. It's just going to take a lot of time to grown master sergeants. You can't just cross-train them in. You can't cross-train experience. You got to let it grow up.	lacking	
Do you feel like the other people in the shops, flight know what you do? No they don't. Most of the people you talk to think all you do is answer the telephone. That's your whole job.	Flight doesn't understand them	Unawareness of role
What about ops chiefs? Ops chiefs? I don't think they get taught much of anything at the ops chief course. I saw the curriculum once and it was basically just talking about base appearance and ride arounds. Didn't really talk about day to day operation, maintenance functions. It's like the industrial engineers do a little input.	Needs to look at ops chiefs' course to add some 3E6 knowledge	Unawareness of role by boss
Yeah, I'm actually going to talk to a few ops chiefs. Did you feel like you a part of the team? Yeah I've been lucky every place where I've been I've been with good people. And a good team of people. I was an appreciated part of the squadron. You'll see some of the 3E6s have the wrong approach. Instead of trying to help the shops, they get focused on pointing out the problems, finger pointing all the shops. You just can't do that. When you show a problem or issue, you got to present it not as a shop supervisor issue but as a problem for the ops flight that needs to be resolved. You got to say, "Here's the issue. You got a backlog. But why do you have a backlog? Is it because of the time they're spending doing honey-do's this quarter? Is that why there a backlog?" That's what you got to do. You can't point out that there are 500 job backlogs. You've got to find out why so you can help.	Some problems are brought on from 3E6 not approaching problems right Controllers need more ops focus than individual flights	Controllers need mentorship in handling conflicts within flight
What about the other flights in the squadron? No, nope, not even the EAs. I don't know what they do every day and I doubt they know		Unawareness of role

what I do.		
What about programs? Naa we don't really work with them.	Doesn't consider that they work with programs	
Really? I think that they should be linked a little more. Are yall competitive for quarterly awards? I'd have to say no.		
Is it the blue collar/white collar thing again? Yep that's exactly what it is. All the glory is in the shops. Typically, the 3E6s are hard to write a package on administrative accomplishments that can be comparable to the shops "responded to in flight emergencies" or "mission critical facility." It's like apples and oranges. There shouldn't be, how do you compare those two totally different functions?	Lacks justification for awards	Unawareness of role in awards
You kind of touched on promotions earlier... In a small career field like this, it's very difficult to get promoted. It took me seven years to make staff sergeant. I had a 324. I got that the last year I didn't get selected. My friend in the other shop only had to get a 200 something to get staff. That's the disparity we have between small and large career fields because they work off of percentages. So that year—this is not a lie—I was the highest scoring non-selectee in the United States Air Force that year.	Promotion rules are tough for small career field	Tough to promote to high levels
So do you feel that retention is an issue for you? I think it is. I think that at the 7-level, techs and masters it is a problem.	Retention problems at top	Experience gap at top
So what do you think is driving that problem? Ops tempo, lack of manning. You have a lot of tech sergeants put in a position where they know their job, they want to do the right thing, but because we're so light in master sergeants, they want a master sergeant in the shop. They put an outside craftsman in as NCOIC. While there may some that can do it,	Retention an issue since they aren't led by 3E6s Sees a ceiling in rank	No senior leaders available to lead shops Small room for growth

a majority of them don't know what they're doing and they butt heads with that tech sergeant who knows what needs to be done but can't do it.		
Obviously you're at 20 or over. Did your happiness in the career field have anything to do with that? With me? I'm a type A sir. I like frustration. I like a challenge, so that's not an issue for me. I don't want to be bored.		
Are there any ideas you could suggest to relieve some of the tempo problems? We had some guys that got deployed and did nothing. Just across the board they need to get a grasp on what they actually need down range. The problem is that most positions, once they're on the books, they never come off. Even if the function goes away, the slot doesn't get turned off. Well there has been some progress because a lot of Iraq stuff has gone and the Air Force has put the brakes on the stuff going on in Afghanistan. They're getting a little more critical with what they need.	Deployed positions unneeded	Wasted deployment taskings
What is asset management to you? The way I understand it is identifying your assets, assigning mission critical, then managing risk. It's tied into programming, what level are you going to maintain this? How long do you want it to last? How much risk do you accept? Being more effective with managing your resources.	Good asset management definition	
So how do you feel that 3E6s fit in with that? That's a good question. I was trying to think what really do we do. I guess for us, I right now primarily support A4/7A with information. I've seen other people try to produce products out of IWIMS in order to develop asset management plans. They'll do some analysis and the stuff they've been getting is suspect. So I'm pulling info out and sharing it. Doing what we do, being data managers and analysts, being able to pull info and change the context for what you're	Data is misused by asset management	Misused data

presenting to asset management is what our role is really.		
Well that's a good answer. I think yall are a critical piece of that that's getting lost in that. Well that's what I've been doing for the two months here is getting asset management information.	Just gets data for asset management	
If you had to make a decision based on IWIMS data alone, how confident would you be? Well if you know what you're doing and you know the base. Well first you have to know the base and how well they're managing their info. Then how much do you understand about IWIMS and how it's stored and processed. If you know both of those, then nine times out of 10, you'll get good stuff. Maybe one of the bases not doing it well could drop to 60%. The base quality goes back to the lack of standardized guidance on the procedures on how to directly input the data. Like how do you account for people while they're deployed? It took AFCESA nearly two years to figure that out. That answer used to be out there. The thing is you won't find the answers written down anywhere—you just have to know it. I'm not talking about playbook. I'm talking good old fashioned instruction manuals.	Data quality dependent on base emphasis	No standards for data
So last question, do you see any critical problems coming down the pipeline? Well with the money the way it is, you'll have to look at how to be more efficient. One of things that I think needs to happen is more centralization and standardization. For ops managers, we work in ops support. Well what is that? Its planning, materials, service contracts, data analysis. The 3E6s aren't being used in all those sections. What makes sense to me is to take the experience and knowledge of these functions and centralize them into one office. If you don't do that, move them to one spot, you'll never build up an experienced work force than understands	Proposes interesting idea that 3E6s should work in an ops support office that centralizes all aspects of ops support. Uses utilities/LFM and exterior/interior electric as examples.	Ops support needs realignment to function more efficiently

all these things. All the functions. Not only that, I always equate it to the merging of the multi-skilled craftsmen—fuels and utilities or exterior and interior electricians—you merged the shops to share knowledge and experience to do better at both. Right now where at the same situation where were being asked to do the material control job as well. A lot of places they're just sticking a 3E6 over there in the material control office for 3-6 months and then bringing them back. Then you still have "them versus us" when it's really just "us." You need to merge the administrative pieces into one office that's the ops support office God forbid. If you have one office, it just makes sense. Good for the career field and good for the squadron because they'll realize more efficiency.		
I guess service contracts as well. Well if you have COCESS, then the 3E6s would have experience as QAEs of that contract. You wouldn't have to take it out of hide. You could do more than one job. That's how the whole Air Force is. We all wear more than one hat. I see the same need for the 3E6 career field and material control. There's no reason someone can't answer the phone and then go back to ordering materials.		

Appendix F

Question and Response	Open Codes	Selective Codes
Subject F If you could give a brief duty history as far as when you came in, started tech school, bases you've been at, deployments, what you did at each. Sure. I came in in September of '90 and basic training until November. It was about six weeks, longer for holidays. My first base was [omitted] in the service call section. I stayed there for about three years. Then I went to [omitted] where I did more customer service for about two years. While I was there at [omitted], went to [omitted] for four months. Then at [omitted], I went to [omitted] for my second deployment for four months. [omitted] was going through a closure, so I left early and went to [omitted], where I worked outside of career field as a facility manager for [MAJCOM]. I stayed there for two years then was assigned to [omitted]. It was a two year assignment and was mostly customer service aspect, not getting too much into work orders or the different aspects of the job. From there, I went to [omitted] for about four years. After that, I went back to [omitted] where I worked in housing as a dorm manager for officers. After [omitted], I went to [omitted] for two years. After that, I went back to [omitted] for almost five years. Now I'm here at [omitted].	Traditional roles	
So tech school in '90? What other academic education have you had since then? Got my CCAF back in 2000-2001. I just recently finished my bachelor's in education and development.		
Did you feel the CCAF helped you with 3E6 work? A little bit in the manner that I had more of a background and expanse of knowledge to pull on dealing with other aspects, communicating	CCAF helped with leadership	CCAF useful

requirements, dealing with leadership. As for dealing with building and production management, no.		
What other training job specific have you received? There's not that many classes out there for the career field specifically. There are some popular ones through a consultant Alice Anderson. She offers classes specific to us. She does RWP, IWP, report writing and some others. I attended one or two of those.	Alice Anderson courses	Reliance of outside courses
In the jobs you've been in, did you feel you were adequately trained? I do for a majority of the aspects of the job. The hands on training when I first got there was very good, a lot of depth back then. As folks started thinning out thru VSI of the '90s, the people weren't available and the pool of knowledge started to shrink in the career field. As the most part, I'd say yes due to hands on training. There are still holes out there in my knowledge.	Got most training from supervisors Early '90s VSI pushed out experience	Reliance on OJT Experience gaps after VSI
What other training do you think would be beneficial? If someone would train you, it would be a big help? I think I've actually been out of the career field since I've been a master for five years. I think the younger guys would definitely benefit from more project management side, IWP is kind of a lost art, not many people know how to do it. A piece I seldom do is life cycle cost analysis piece, kind of a lost art as well.	IWP and life cycle costing is a lost art	Certain skill sets lost
Well we'll get to that later. Back at base level, what do you think were the top issues for the career field? What keeps you from doing your day to day job? Not for me, but for others in the career field it is definitely the manning. It seems to be excruciatingly low here. Leadership still asks the same things from us in the career field, but they just don't have the manning to accomplish it all. Work orders, area programs, doing in depth analysis of RWP, guys are not there to do it. Simple things,	Some jobs just aren't being done	Not used at full capacity

customer feedback and survey programs, no time for that either.		
What other problems other than manning? Other big problems? IWIMS is extremely antiquated. It did what it was designed to but that's changed. It's not very user friendly.	IWIMS outdated	IWIMS needs updates
Any specific problems with ACES or IWIMS? If folks knew how to manipulate the data, it would be a very good tool to use. But because of the shortage of manning and the loss of knowledge, we kind of lean on the shops to input labor and sometimes work order stuff. We've turned it into a junk in junk out problem. It's not the most reliable stuff out there. From a connectivity issue, it's a pain to use. From what I saw, it wasn't user friendly either. Seemed like there was a steep learning curve for it.	3E6 work is being pushed out to the shops	Bad data from shops
As far as what you've been trained to do, did you feel like you were being used at your full capacity, that you were doing what you had been taught? Oh, very limited.	Not used in full capacity	Not used in full capacity
How so? What else could you offer? A lot of times back then it was just customer service when there was so much about IWP, Top 10 programs, actually programming a project. We were looking at data, that life cycle analysis, trend analysis, looking at data out there to develop management tools.	Plenty to offer that wasn't used	
As far as extra duties, how much are you doing core duties? Now or back in the squadron? Because today it's never.		
No, I guess back in the squadron. I guess about 75% of the time with 25% in additional duties.	Extra duties	Extra duties
Are there other 3E6s in your job right now? Well I'm the ops flight super, so we have four military and two civilian.		
All in traditional roles? Yes they are.		

You touched on deployments earlier. Were you doing typical 3E6 jobs while deployed? Yes.		
Do you see that your career field has ample leadership at the top to fight for you and to mentor you? Well I guess I am the guy they go to now. As far as people above me, I don't even know who's left out there.		
Well looking the other way where you are that guy, are there enough of "you" out there? Nope , I don't think they're distributed around out there where the young guys can pick those minds. There's not actually a master sergeant slot here. I got here on my wife's orders. There was only a tech sergeant slot here. There weren't any 3E6s above staff sergeant here when I came, so there was quite a bit of knowledge gap to be made up.	Not senior NCOs at each base	No senior leaders
Are people coming to you to get that mentorship? Are previous workers coming to you with questions? Definitely. We have two tech sergeants that are leaving us with just a senior airman and a one striper, so yeah, they do come up frequently.	Experience and mentorship in high demand	No senior leaders
What about other guys in the ops flight? Do these shops know what you do? Absolutely not. They think they do. They know about the piece they see every day, customer service, taking calls, putting in labor. Outside of that, their view is pretty limited.	Shops unaware of what they do	Unawareness of role
What about the Ops chief? Yeah I believe so.		
Do you feel then that you're a part of the team in the ops flight? Yes, but I don't know if that applies to the guys down in the ops section.	Service section not part of team	Not part of team
Do you notice any problems between customer service section and the other shops? Any disagreeing in meetings where there's animosity? Continually yes.	Strained relationships between shops	
What do you think is driving that? Not	Continuous	Bad relationships

knowing what they do? It's a combination of things. Personality differences of course. Then the piece of not being knowledgeable of what we do. There's distrust at the perceived lack of training. Certain sections will question data no matter what.	animosity brought on my many things	because of lack of training
What about the other flights in the squadron? Asset management and programs? Do they know what you do? In a limited fashion. A lot of the retired guys grew up in CE and know what's going on.		
Are those relationships good? In some case I guess so. There's still some juggling between real property and us and asset management folks.		
So then overall, do you feel that you're respected in the squadron? Yeah, I think so.		
Do you feel like you're competitive for quarterly awards and yearly awards? The folks in the career field have a hard time with it because they don't have the hands on impact other guys do. They're the funnel. It's harder for them to build up the duty bullets. They aren't always as strong like fire or EOD. Other bullets are on them.	Hard time showing impact on awards	Hard to compete
What about promotions? Does your career field have a fair shot at those? Yeah, how the system is set up, I don't think that's a problem.		
So you're obviously in over 20 years. Do you think retention is an issue for you? I do. In recent years I've seen a lot of young folks that want to get out the door. They've articulated that the skills they've learn aren't going to be that beneficial in the future and they're overall not that interested in the job. In a lot of cases, these guys came in and didn't really get to choose what they wanted. The Air Force threw them into a slot. The deployment rate is pretty high for the younger guys. Yeah, it's an issue.	New guys coming in don't care for the career field	Low identity within career field
Well you're staying in for 20. How much did your happiness with the career field		

have to do with that? It was a portion but it was more establishing a family and providing for them. I knew I'd eventually promote out of day to day stuff.		
You mentioned deployments having an impact with younger guys. Yeah we had one airman here that before she even went into her duty section, she was immediately assigned to honor guard. She stayed there for four months. Immediately upon return to the squadron, she was tasked to deploy. That was a huge factor for her decision to separate. She's on her way out.	Deployments affect retention	
Any of those deployment related issues you have an answer for? Not really at my level. Maybe if we did a better job of managing our people so that we didn't throw people into awful situations.	Deployments need to be managed more	Wasted deployment taskings
How do you see asset management and how do 3E6s play into it? When I think of the term, I think of the new concept that we're moving towards. It's having a better grasp of knowing what the infrastructure systems are on base. One way we fit in is a firm oversight of the RWP program would be one. A few years ago there was a call where they asked bases to beef up their RWP program to what it was back in the mid '90s when we had the huge strength. That's a piece of it, to go in and manage that program, how it should be and identify all the pieces that play in it. Making sure the data is accurate so that life cycles could be analyzed. At one point, they wanted programs to load everything in ACES that was identified out there. They wanted that from ops as well. So getting that in there, identifying options, providing a picture for them to look at.	Good definition	
So my biggest question is if you had to make a decision based on IWIMS data alone, how confident would you be? No very. Not very. There would be certain pieces I'd be confident in and others not.	Not confident in data	Bad data
Explain a little about which parts are good and not.	Data from shops is unreliable	Bad data

I'm relatively confident in the status of the current RWP program. The labor reporting has been farmed out to the shops, so I know there are gigantic holes in that. The manner we go about doing that isn't good. There's probably better ways to do that.		
As kind of an overall opportunity, do you see anything critical on the horizon? Big issues? I think it's the huge knowledge gap where folks don't know all the aspects of the job. Due to all the things we've mentioned, manning is bad. We can't provide the services to leadership that I think we should—IWP, Top 10 programs—so we don't have knee jerk reactions to work orders.	Manning limits what shop can offer leadership	Manning low

Appendix G

Question and Response	Open Codes	Selective Codes
Subject G Please give me a background on your career, where you've been based, deployed and what you did at those jobs. I was stationed at [omitted] at the beginning. I was a supply troop that eventually cross-trained into 3E6. Then I moved to [omitted] where I was stationed for four years and deployed to Afghanistan for six months out of there. Then I was at [omitted] and deployed to Kosovo from there. Now I'm here at [omitted] and deployed to Oman and getting ready to deploy again to Kuwait. During my time at [omitted], I did labor, RWP, work orders. At [omitted], I did the same things. In Afghanistan, I actually was not able to do ops management. I just ran the CQ there. In [omitted], I was able to do resources. I did everything for the ops flight. It was a small GSU with only nine military, so I was highly involved in everything for the entire ops flight. I even stood in as ops flight chief for a period of time. I was deployed to Kosovo where I was a facility manager for all the dorms, so I didn't do a lot of the ops management stuff, just managed all the maintenance work orders for the dorms. At [omitted], I've been the NCOIC for customer service doing report analysis, running all the programs for ops management. I deployed to Oman where I was able to do the full ops management job, resource advisor, admin, UDM, every aspect of our career field. I was able to do that while deployed to Oman because of the commander I was with. Returning from Oman, I've been down at the UDM position for the past year.	Did traditional roles and a lot of other stuff	Many jobs outside of primary duties
How long ago did you go to texh school? I went in 2002 when I was a senior airman as a cross-trainee.		

What academic background do you have? I finished both of my CCAFs, but prior to that, I graduated high school and joined the military.		
The CCAF in maintenance production? Yes.		
How helpful was that as far as helping with ops management? I don't believe it was helpful at all. We have to have it but all the stuff I've learned about ops management has been from being thrown in the fire, figuring it out and asking questions.	CCAF not helpful	CCAF not helpful
Did you have someone in your shop that was responsible for that or did you learn it on your own? There was a lot of learning on my own at [omitted]. When I went to [omitted] there was a few NCOs there. Master sergeant [omitted] who is now [omitted], he helped a lot. I was moved to UDM in [omitted]. This is my third base doing UDM rather than ops management.	Mostly learn on your own, not even OJT	OJT not organized
Have you had any training since tech school? I went three different Alice Anderson classes. I did report writing, an RWP class and also a work control class.	Alice Anderson courses	Reliance on outside courses
And those were good? They gave you a basis but not an in depth look. Just "here this is what's possible and here's how you figure the rest out."		
You already spoke to this, but do you feel you were adequately trained to do the jobs you were asked to do? No.		
The stuff you're doing now, how does it compare to what you thought the career field would be when you came out of tech school? I don't think tech school prepares people for what you will be doing. Tech school teaches you a lot of labor and gives you a background. Doesn't give you any IWIMS experience because it is usually down. Everything you're going to learn is going to be on the job. They	Tech school doesn't prepare you	Reliance on OJT Poor training at tech school

say, “this is stuff you could be doing. Go to your base and figure it out.” That’s how I felt when I graduated.		
What other areas do you wish you had more training in? Most of the items that we deal with are in IWIMS and work orders. They don’t touch on work orders because most won’t deal with them until the NCO level. But since we don’t have that many NCOs, many airmen are dealing with them as soon as they get to a base. There was no training whatsoever on work orders.	Needs more training on work orders	Needs more advanced training
Anything else? Well the career field as a whole. When I went to tech school, I didn’t learn anything actually. There was a lot of background but since I had already been a part of CE, I knew how they ran already. I didn’t learn anything. So I know what I should have learned since I’d been in a squadron for three years.	Didn’t learn much at tech school	Tech school training poor
So you were an LRS troop assigned to CE? Correct.		
What do you think are the top issues that hinder your day to day performance? I think it’s a lot of the mind frame of civil engineers. I don’t think that most understand what we have the capability to do and what we could do for them. That and the training aspect of it. A lot of things are being thrown our way with no training. Supply came into the career field recently. I’m lucky because I was a former supply troop, so I had the back ground. Unfortunately, most of the troops will just learn on their own by sending them down there to figure it out on their own. I think the leadership of the whole engineering world in the Air Force doesn’t really utilize us the way they could. When I was in [omitted], they utilized me because I was the only one there. We had a craftsman master sergeant that had never dealt with the management portion of it. He had just run heavy equipment his whole career. He was like, “I don’t know what to do. Tell me what needs to	Rest of squadron doesn’t understand what we do Supply was added without any training Underutilized by leadership	Unawareness of roles in squadron Not used to capacity

be done.” I was able to do a lot of stuff, but that’s not because he knew what I could do for him but because we were both helping each other out, if that makes sense.		
Do you want to expand on any of the stuff you think you could do that you’re not being used to do at full capacity? I think we could do more management portion of it. Right now, they just come to us and ask for a report and we give them a report. They ask us for information and we give it to them. There’s no decision making process on our end even though we have the ability, especially at the NCO level. We have the ability to give them the information, give them the best guess based on what we see. We’re never asked those questions. We’re never given the opportunity to give our input. We’re just data entry and data collection for the civil engineers.	Not in the decision process but rather information providers	Not taken seriously as experts Unawareness of abilities
Yep, that’s the overwhelming response I’m getting. As far as extra duties, how much time do you spend that is not ops management? Throughout my career, most of the time. Like I said, it’s my third out of fourth assignment that I’ve been the UDM. I’ve been on three deployments and only one of them I have actually been able to do my job. Therefore, it’s usually a lot of extra stuff. I know my ops managers here do the commander’s calls. They set up all the multimedia for the commander’s calls. We do a lot of slides shows for the ops chiefs for their meetings and stuff like that. You have safety. Right now we have three ops managers at this base not doing ops management. Myself as UDM, another NCO down here in the Prime BEEF section doing logistics, and we have a senior airman over in EOD doing their logistics. That’s what’s happening. When I was in [omitted], I was the UCI monitor, safety NCO, vehicle NCO, I was everything. When I was at [omitted], we had three to four of the 23 triple nickels farmed out to extra duties.	Often works outside of primary role as UDM Worked as safety NCO, vehicle NCO, UCI monitor Other controllers working outside of main duties	Works outside primary role

Do you have any issues with ACES or IWIMS? Both actually. IWIMS, if you know how to use it, you have the experience in it, it's a good system because it will give you the data that you need. Running those reports—if you know how to run those reports you can do miracles just about. Unfortunately, it's an archaic system from the '80s. It doesn't allow us a lot of things we could do. It doesn't allow us to put in more information so that we can pull the data better. Does that make sense?	IWIMS outdated and only works if you are very experienced with it	IWIMS needs updates Inexperience key reason for poor data
Yeah. The only time I've dealt with ACES is down here in Prime BEEF with personnel and readiness. It's great if it works.		
Yeah that's been my experience with it as well. IWIMS isn't a horrible system. You could still do your stuff. Unfortunately 90% of civil engineers don't understand IWIMS therefore they don't use it. The data being input, there's not a lot being input because they don't like using it. They want to use emails and Excel. Word documents instead of using the system for what it's for.	Most CE doesn't know how to use IWIMS so they don't Use other systems like Excel	Needs training for controllers and other users in squadron
That's a good point. I haven't quite thought of it that way. Yeah down range we use Excel sheets and I love it. I have everything on one document that I know I can always pull it up on my desktop or a disc and can filter it. I love Excel. When I go down range, I look forward to using the Excel spreadsheet so I can get my info right then and there.	Uses Excel in AOR because it's easier	
You said you weren't necessarily doing ops management stuff at deployments. The times you weren't, did you see another group doing that work? Was anyone doing it? Well I've never actually tracked labor while deployed. Never seen that myself. They don't see how many hours are spent on a building. They pretty much just track whether	Had wasted deployments Never tracked labor in AOR	Wasted deployments

work orders are open or closed. When I was in Afghanistan, the senior NCOs took control of all that and I spent six months watching Oprah. In Kosovo, we didn't do any of that because a contractor kept track of the work orders. When the contractors called us, we did our part but that was the only time. In Oman, I was able to track work orders but not labor. They don't track labor in the AOR from what I've seen.		
Do you feel like you've had senior mentors in your career field to mentor you? One in the past 15 years. When I was at [omitted], I had a supervisor retired on active duty. He was a good guy but he was on his way out. I had a two in [omitted]. In [omitted], I was the only one and here I'm the senior 3E6, so I too reach out and get answers on the COP. It's mostly just sink or swim.	Not many mentors available	No senior leaders
Do you feel like other people in ops flight know what you do? No, not at all.	Ops flight doesn't know their job	Unawareness of role
What about the ops chief? It depends on which one you get. That sounds bad but some of them use us fully. Before I deployed, I was only here four months. Ours was fully engaged in the ops management, she used us fully, asked us for information, allowed us to give our input on how to build the work order priority program. That was great. Other bases, they didn't deal with us at all. Other than telling us, "run this report, run that report." That's all we were utilized for.	Had good boss that let them make decisions Other bosses just ask for data	Misused data
Do you feel like you're a part of the team in the ops flight? Not so much. Like I said, people look at us like we're their admin troops. I had a master sergeant say, "here's a deployment for admin. Would you like to go?" I said, "I'm not admin." He said, "then what are you?" I said, "I'm a 3E6 in the CE career field." That pretty much spoke to my whole career. We're more or less treated as admin troops than actual civil engineers like structures, utilities, those guys.	CE thinks they are admin troops	Not a part of team

Do you feel that there's any friction between your shop and the other shops? I don't believe its animosity because most of them just do what they have to do. They give us their labor and such. I don't think its animosity. I know the 3E6s hate that other guys are getting the glory while we do all the paperwork for them to let them do their jobs, but I don't think its animosity.	No intentional bad feelings, but friction because controller's impact isn't seen	
What about other flights in the squadron like asset management or programs? Mostly what they feel is that we're just keeping track of work orders. That's the extent of what they believe that we do.	Other flights don't know what they do	Unawareness of role
Do you feel that you're respected in the squadron? I don't feel the career field is respected in the squadron. I don't think that it is respected Air Force wide.	No respect in squadron or Air Force	No respect
What about awards? Do you feel that you're competitive? I believe we are. Unfortunately, when you're building a million dollar building rather than doing the parts that go into it, you don't get as much credit as the craftsmen with the action. Therefore, when they sit on the boards, it looks like the guys are doing more of the work. That's why I try to sit on boards so I can make them understand. So I don't feel that we are competitive. We have to fight a lot harder than the craftsmen do.	Hard to win awards because of justification	Hard to compete
What about promotions? Are they fair? I feel like there are more opportunity for promotions in other CE career fields than us because they are larger. They have more positions. We don't have many leadership positions to go in to. The only way to go further in your career is to do a headquarters job, go be an instructor. But sitting at base level doing customer service, you're not going to go that far.	Few opportunities to go to other jobs in order to promote better	Small room for growth
What about retention? Is that an issue? Absolutely. I even thought of changing myself. I love my career field, but as I said earlier, there's no room from growth. I know	Retention is an issue because of being underutilized	Retention from unawareness of capabilities

a lot of things I can't do, I'm not being utilized and I wanted to get out. But I can't do anything. I can't even apply for a special duty. But I'm not even doing my job.		
How long do you have until 20? I have five years and three months left.		
How much is your satisfaction with your career field play into that decision? It didn't play into it at all. I'm finishing my five years because I love wearing my uniform. But if it was based totally on my career field, I wouldn't have stayed in.	No connection to career field	
Do you think deployments have a direct on retention? The deployments are extremely aggravating. It's a tossup of whether you're going to do your job or be bored for six months. That and a lot of the deployments are looking for E6 minimums. I'm the only one here, so I know I'm going to go every single time. I'm not sure about other bases, but I see a lot of under utilization in the AOR for the 3E6s. They ask, "why I am here?" We're sitting over in the AOR being looked at like "why are you even here? Someone else is doing your job." But I still have to be away from my family. So I feel like they're deploying a lot of us. They have two or three of us at one location when there's only enough work for one.	Disparity between useful and wasteful taskings	Wasted deployments
What do you think could help some of that stress? They need to really pay attention to the manning over there, what's actually needed versus what they'd like to have to do all their admin and extra duties.	Wasted manning for deployments	
So what's your definition of asset management? I don't have a lot of understanding of asset management. It's more managing all the assets on the base. Whether it is the buildings, the roads, the grounds, those types of things. Taking care of making sure that the base is managed properly and the utilization of the buildings and stuff.	Weak idea of asset management	
How do you see that 3E6s fit into that?	Believes they	

I think that because we deal with the roads, grounds, buildings, pretty much everything. I think that we would fit very well into asset management portion of CE. We could do so much more than just cutting work orders and taking service calls.	could have a role in asset management	
So if you had to make a decision based solely on IWIMS data, how confident would you be? Not at all because unless you're a 3E6, you're not using IWIMS. The craftsmen don't use it because they don't like it. Therefore the data is not being input correctly. Sometimes it just dumps stuff as well. Things I know I put in that I go and look for later and it's not there.	Poor data quality because of other shops that enter work	Bad data
Well for the data that does go in, does anything we've talked about affect the quality of it? Yeah, like I said, the craftsmen want to do their job and get on with it. They don't want to deal with this archaic system, so they don't. Remarks aren't being put in so there's a lot of research. If someone calls me about a work order, I should be able to look into IWIMS and find everything I need to know about that work order but I can't. I have to research, find out who was on the job, all the craftsmen, talk to other people. It takes me what should have taken five minutes takes me a few hours in a day to get the proper data for that work order.	Incomplete data is entered because shops don't want to do it	Incomplete data
Do you see that you're career field is in trouble? Anything critical coming over the horizon? The new airmen aren't going to stay in this career field. They're going to see it as the guys in CE that are pretty much the stepchild of CE. That's what they're going to feel like and they won't stay in. I've had conversations with a lot of the young airmen. I had a staff sergeant tell me that one of his airmen said that a monkey could do our job and that he's not staying in. He's still here. We had a lot of conversations while deployed to help him see the bigger picture. But we don't have leadership telling us the capabilities that we	Retention will suffer as controllers are seen as unimportant Leaders aren't telling them they are important	

have are important to the squadron therefore you have this sense of not belonging, not being understood. What's the point of staying if I could make more of a difference somewhere else? The airmen don't see the difference we make in CE.		
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Appendix H

Question and Response	Open Codes	Selective Codes
Subject H Could you please give me an idea of your background? Where were you based and what did you do in those jobs? First base was [omitted]. I was there from 2002 to 2006. From there, I PCS'ed to [omitted] and did the standard one year remote tour there. I had my follow on to [omitted]. I was there for the past four years and I was transferred over here to [omitted] where I'm currently stationed.	Traditional roles	
What kind of jobs did you do at those other places? I've always done 3E6s duties. The only exception was at [omitted]. I was actually assigned to [omitted]. I was the UDM there. I did that for the whole year I was there. Basically that was my only time out of the 3E6 realm. Just did mobility training and equipment and then also preparing logistics. That was the last year [omitted].	Did UDM job	Job outside primary role
What about deployments? So far I have two deployments. One to Kuwait back in 2005 to Ali Al Salem air base. I did 3E6 duties there. My second deployment was to Kyrgyzstan or the transit city of Manas. On my second deployment, I was still in customer service, but I was only doing QA duties versus actually traditional duties. Now currently, I'm tasked to deploy again in March and this time headed to Africa.	Traditional jobs while deployed	
I hear it's up heating up there. The place I'm going has been there since 2001, so it's pretty established.		
So what year was tech school? In 2002.		
What other academic background do you have? Some college, basically three credits shy of the CCAF for my AFSC.	No CCAF yet	

How useful have you found that to be for 3E6 duties? Leadership and management, I thought it was pretty useful. Without taking those classes, I'm not sure how effective a leader or mentor I'd be without those skills.	CCAF helps leadership	
Have you received any other career specific training since tech school? The only training I've received was the QA training I had to knock out before I deployed to Kyrgyzstan.	Only extra training was for QA	
Yeah I thought it was odd that QA was in the job description thought no one knows much about it. Well yeah they changed the CFETP but it's not actually a core task.	QA an extra duty but no training for it	Needs more training
Well that's tough if they update one document but not the other. Have you heard of the Alice Anderson courses? Looking to go to one of them? Yeah for sure. I've seen some she has available. We've sent a few individuals from this base to go get whatever she's offered.	Wants to go to Alice Anderson	Reliance on outside course
Do you feel that you've been adequately trained for the stuff you've been asked to do? When I first came in, tech school was supposed to provide a foundation for our training. I feel they could have hit on a couple things a little more effectively.	Wanted more from tech school	
Like what? Like how to run certain programs. How RWP and IWP play into things, how to manage labor, how to basically command and control a customer service shop basically.	Wants more training in running a customer service shop	Needs more training
That leads into my next question. Are there any areas you wish you had another course for? I'd probably say IWP. Some bases I've seen don't do it, some do it halfway. It's a good tool if used to its full potential. Obviously if people aren't trained adequately, they'll cut corners and just tailor it to accommodate whatever location they're working out of.	Wants more training on IWP	Needs more training
What would you say are your top problems	Not enough	Experience gaps at

with day to day performance? I'd probably say being taken away to do upgrade training. I understand we have to provide some more training at home station than what they learn at tech school. Granted, I realize that every situation is unique. When I came into here, they didn't have a trainer slash certifier. Everyone they had here was a cross-trainee that needed to get upgraded to become a trainer or certifier. Without a trainer slash certifier, they're basically just at a stand still waiting for someone to come here and sign off on a task. Once we catch up to that, I don't think it'll be a factor anymore, but that's what I'm dealing with now.	qualified people in shop to sign off on training tasks	top
Cool, I haven't quite heard that aspect before. Yeah they're given the military rank, put in key positions but they're still learning the job and what not. It's hard to learn to train and understand what to do in that position if you don't know what to do in the first place.	Supervisors are still learning the jobs themselves	Experience gaps at top
Anything else? Big problems? I'd probably say our training could be better. I understand that LRS pulled the 2Ss out of the 3E6 realm, so naturally we had to incorporate that workload. Our CDCs were redone, but our TTPs were released immediately but some were delayed. Without having those TTPs, that may hinder people getting upgraded and trained on time successfully.	Poor introduction of supply tasks	Needs more training
Do you have any big issues with ACES or IWIMS? ACES intermittingly works when it wants to. It does what it's supposed to do.		
Do you feel there are things you can provide that you're not being used for? Are you working at full capacity of your abilities? No.		
What is it that you think you could offer? Coming from [omitted], I was fairly busy. There was a joint mission. Being in the positions I was in, I was the section chief	Not being used at full capacity—just training	

more or less. Back here, I'm just a trainer. My main goal is just to train. I know that's where we're lacking, but still I feel I could be utilized in other programs our section is responsible for.		
How much time to do spend doing additional duties? Probably maybe 2-4 hours.		
Cool, so mostly 3E6 duties. Are all the 3E6s there actually in 3E6 jobs? Yes, the only exception is one position we're doing. We call it a floater. They go to the individual shops and do the controller duties for that respective shop.	One controller floats between shops	Extra effort to increase exposure in shops
How many do yall have there? Currently we have 10 with one in bound from tech school. I guess when I first came in there were too many so they started kicking people out. A few years went by and then they said, "wait, there's not enough." I think we're starting to get fat again.	Full shop	
Do you feel like you have senior leaders to lean on and mentor you in your career field? It's been hit or miss. I've had leadership that hides behind a computer and don't do face to face.		
Do you feel like other guys in the ops flight know what you do? Yes, yes. And if they don't I like to make it known that without ops support you pretty much won't have ops.	Good relationship with rest of flight	Relationships key to working well
What about the ops chief? The ops chief is behind us 100%. If we need something he'll give an extra 50%. He'll give us what we need because we all play our role and if we don't get the proper support we need, he's there to back us up. Everywhere I've been has had good ops chiefs.		
Is there ever any friction between you and the other shops? The only friction we get is in the update meetings. We run our reports and show the trend analysis, Top 10. Naturally, whenever a shop gets called out, they'll respond, "oh we	Some disagreements at meetings	

had an issue trying to close it.” No one identified it to us, so how could we help? We can’t know what’s wrong if you don’t tell us.		
What about the other flights? Programs? Asset management? Is hit or miss. There’s a disconnect here. From what I see, they program something into ACES. Then when it comes to funding, they ask for a 322. If they followed the process, they wouldn’t have to backtrack or jump through hoops at the end. At other bases, I’ve seen a fairly good relationship. I’ve tried to work with asset management so that we can get good data in. If we don’t, then we can’t accurately account for the true maintenance costs for a facility.	Project process out of order between flights	Unawareness of where controllers fit in process
Do you feel like you’re competitive for awards? Oh yeah. We had a guy get the group. Not the wing yet, but we keep trying.	Competitive	
What about promotions? Do you have a fair chance at those? Yeah definitely. I haven’t had any issues with that.	Promotable	
So what are your intentions as far as staying in until 20? You know, I’m continuing to make a difference. I’ve been training everyone beneath me to replace me for whenever I leave and someday retire. I think I’ll stay in as long as I can. I don’t have a problem with taskings or deployments. I think it’s something we have to do just part of the job.	Very happy with job	
So your satisfaction with the career field plays into that? Yeah I’m happy with what I do. I feel I have a pretty specific role in the work of the Air Force. As far as how things get done and making sure the mission stays good to go. Being able to keep the planes in the air and the infrastructure running.		
So what’s your definition of asset management? Managing all your assets on base whether is facility or RPIE, making sure you have the	Great definition	

correct date installed, making sure you have the appropriate preventative maintenance program to keep the RPIE meeting or exceeding the life expectancy, being able to capture and show all of that to higher headquarters. That's my definition of asset management.		
Where'd you learn that? Just working in IWIMS, different bases, just seeing the whole big picture.	Learned asset management from doing job	Asset management obvious if job is done correctly
Well that's the best answer I've got so far. Yeah if we don't have the correct customer account codes or the wrong user for the facility, it's a waste of time. If we don't have the right data in, then we won't get the right data out.		
So if you had to decide something based solely on IWIMS, how confident would you be? ID probably be 80% for the fact that there's a chance that a lot could be wrong.	A good chance data can be wrong	Suspect data
Do you think there are any problems coming? I'd say the training. With budget cuts coming, we need to be able to filter some of the requests.		

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