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## The Achieve Model In Professional Experiences Of Information Technology Workers In Higher Education: A Phenomenological Study

Michelle Fahey Rakoczy

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The ACHIEVE Model in Professional Experiences of Information Technology Workers  
in Higher Education: A Phenomenological Study

by

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A Dissertation

Submitted to the Graduate Faculty

of the

University of North Dakota

in partial fulfillment of the requirements

for the degree of

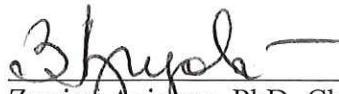
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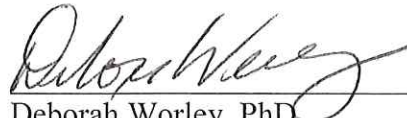
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This dissertation, submitted by Michelle Fahey Rakoczy in partial fulfillment of the requirements for the Degree of Doctor of Philosophy from the University of North Dakota, has been read by the Faculty Advisory Committee under whom the work has been done and is hereby approved.



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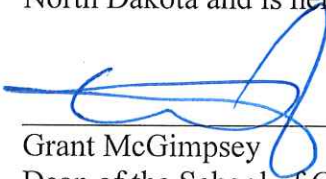


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November 28, 2018

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Title The ACHIEVE Model in Professional Experiences of Information  
Technology Workers in Higher Education: A Phenomenological Study

Department College of Education and Human Development

Degree Doctor of Philosophy

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Michelle Fahey Rakoczy

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## ABSTRACT

The information technology field changes at a fast rate and, combined with the fast pace of change in the higher education environment, it is more important than ever that Information Technology professionals be productive and that retention rate increase in this field. This phenomenological study is an exploration of the professional experiences of IT workers in higher education, including the organizational, leadership, and individual level qualities that shape that experience. The ACHIEVE model is utilized for the theoretical framework for this study as it relates to an impact of leadership practices on followers' performance. The results of this study provide recommendations to higher education leaders on how to assist IT workers to meet the needs of the institution, contribute to IT worker retention, and to support IT worker professional development and growth within higher education.

## **CHAPTER I**

### **INTRODUCTION TO THE STUDY**

The world of higher education is complex and ever-changing for IT professionals, due in large part to the recent shift of the student population. Many students now have full-time jobs and families to take care of alongside their education, which requires flexible learning hours and environments. Classrooms are now adding in more technology – including eTextbooks, simulation technology, game-based learning, and active learning technologies – and faculty are learning to integrate this technology into their teaching. During all of this change, institutions are also facing budget cuts, which frequently include equipment and support for technology.

Technology continues to be essential in our daily lives, creating a dependence on information technology workers (Ballenstedt, 2010; Gumport & Chun, 1999). Because of this dependency on technology, it is more important than ever to provide adequate technology in higher education. To do this, we need to ensure that staff can support the vast amount of technology available to students, faculty, and staff.

IT departments spend a lot of time and effort in purchasing, implementing, and maintaining technology systems for campuses. IT staff positions can be difficult to fill with qualified personnel within the budget of the university. Budget cuts impact IT departments through hiring freezes, reduction of professional development opportunities, and reduction in equipment replacement (Bichsel, 2014; Claffey, 2009).

The purpose of this study was to understand the essence of the experiences of IT workers being supervised/led in a higher education setting to help draw implications for theory, research, and administrative practice regarding IT worker retention, professional development, and growth in higher education. Through this understanding, leaders will have information to aid them in creating a motivated team to assist the organization in meeting goals, budgets, and timelines.

This study applied the ACHIEVE model for the theoretical framework as the model relates to an impact of leadership practices on followers' performance. In order to find how IT workers experience higher education, I used the ACHIEVE model to identify performance problems and develop strategies to overcome these problems (Hersey & Goldsmith, 1980) and to inform higher education technology leaders how to lead technology staff and improve motivation and retention. The ACHIEVE model maintained a helpful employee-oriented focus while acknowledging their perceptions about, and experiences of, environmental and leadership factors. This model had a potential to inform leaders in charge of IT teams, about what might be more or less important for IT workers in their achievement framework.

To answer these questions, I conducted a study by interviewing staff at an Information Technology department in a four-year university in the Upper Midwest of the United States.

### **Technology Workers**

Information Technology workers are individuals who use their specialized and unique expertise to solve problems, which makes them more valuable of an asset to the organization with time and experience (Drucker, 1994; Drucker, 2001; Petroni &

Colacino, 2008). The productivity of knowledge workers “requires that the knowledge worker is both seen and treated as an ‘asset’ rather than a ‘cost” (p. 84). It also requires that knowledge workers are motivated to work for the organization in preference to all other opportunities (Drucker, 1999).

Technology staff members must maintain their skills, because they specialize in the creation, maintenance, and support of technology, and these jobs require that they remain current on their technical skills (Glen, 2003; Shih, Jiang, Klein, & Wang, 2011). To remain current on skills, technical staff require ongoing learning to ensure that they can be effective and provide productive outputs (Shih et al., 2011; Byrd & Turner, 2000). These skills are required because of the vast amount of technology in higher education and the way that technology impacts student, faculty, and staff in many ways. Some examples of what technology can impact include classroom, pedagogy, data management, campus safety and security, and budget. Thus, working in higher education organizations, such as colleges or universities, may be a unique professional experience for IT workers due to a contextual complexity of higher education.

## **Context of Higher Education**

### **Role of Information Technology in Reshaping Higher Education**

**Student technology impact.** College enrollment has increased in the last generation because of a rising demand for postsecondary education being needed to obtain high paying jobs (King & South, 2016). The student demographic has changed, and the “new normal” (p. 60) student may have a family or dependents, may be working full or part-time, and may need flexible hours and flexibility of physical location for coursework (King & South, 2016). Students can take courses from the residence hall



room, the home, the workplace, or even across the globe, which puts technology at the forefront of providing a quality education to students. Glenn & D'Agostino (2008) found that students currently pursuing college degrees out of high school are “digital natives” (p. 5), and they come to college skilled in the use of smartphones, laptops, and iPods; they expect to be able to use these devices to continue their education at their convenience (King & South, 2016). This information is contrary to other studies that show that not all students have the same level of knowledge and comfort with technology (Kennedy, Judd, Churchward, Gray, & Krause, 2008; Margaryan, Anoush & Littlejohn, 2008). This shift in students' needs has required higher education to change the way students are taught and also causes additional complexity for university staff because of the varying degree of technology support needed for faculty, staff, and students.

**Technology impact on faculty, classrooms, and pedagogy.** Technology plays a key role in higher education, producing the ability to take classes online and providing tools in the classroom for both faculty and students to use towards the promotion of student success, which is defined by Kuh, Kinzie, Buckley, Bridges, & Hayek (2011) as “academic achievement, engagement in educationally purposeful activities, satisfaction, acquisition of desired knowledge, skills, and competencies, persistence, and attainment of educational objectives” (p. vii). To provide these services, technology staff must also provide support and services to faculty, staff, and students on campus and across the globe. According to Glenn and D'Agostino (2008), teaching methodologies will continue to be impacted by technology, and attracting new students will be negatively impacted if universities cannot keep up with these technological innovations.

With changes in technology and having more technology available, instructors must learn to use technology in their courses and to “reimagine courses” (King & South, 2016, p. 37) through the use of technology, and as institutions recognize that faculty need to move from a more traditional instructional method to include technology-based teaching (Glenn & D’Agostino, 2008). As encouragement for faculty to introduce more technology, incentives may be offered, such as positions that are there to assist other faculty, adjuncts, and instructors in integrating technology into the classroom (King & South, 2016).

**Technology changes in higher education.** With the changes to technology, job types, and the skills needed to support technology, higher education institutions have worked to accommodate contemporary students, to modernize the delivery of education, and to increase access to students (King & South, 2016). Many forms of technology are being utilized to meet new educational demands, and there are several technology-based practices or methods that take place specifically in higher education settings. The following list provides some examples to illustrate specifications for and use of information technologies in connection with educational purposes:

- ETextbooks may be used by instructors to reduce the cost of education and ensure that all students have access to course information (Ahalt & Fecho, 2015; King & South, 2016).
- Simulation technology actively engages students, provides flexibility in learning, and allows students to work in a safe environment to practice skills that may be dangerous to practice in person (Ahalt & Fecho, 2015).

- Game-based learning is a type of simulation technology based on the theory that “students will be more engaged with the learning process and will ultimately achieve greater academic success if learning is based on gaming concepts such as competition, incentives, and goal attainment” (Ahalt & Fecho, 2015, p. 7).
- Flipped classrooms allow students to review online lectures and lessons at home and classroom time is spent in discussions and activities (Ahalt & Fecho, 2015).
- Active learning classrooms engage students with educators using collaboration and meaningful learning activities (Ahalt & Fecho, 2015; King & South, 2016; Prince, 2004).
- Bring your own device (BYOD) covers devices that are brought by instructors and students, including laptops, smartphones, tablets, etc. (Segran, 2017).
- Learning Management Systems are utilized to provide tools to instructors and students, such as “automated administration (including integration with human resource systems), calendar support, course design, document and curriculum management, student registration support, tracking of student and organization progress, basic assessment and testing tools, synchronous collaboration tools such as webcasts, and a variety of other features, including training” (Ahalt & Fecho, 2015).

Altogether, these examples reveal the range and complexities of the technology support being provided to advance educational purposes in higher education and meet new teaching and learning needs.

Online and distance education assist higher education in meeting the needs of the “new normal” (King & South, 2016, p. 8) student by providing flexibility and expanded access to education and any resources that are needed, allowing more students to experience the benefits of higher education (Glenn & D’Agostino, 2008; Green & Gilbert, 1995). These programs

“have gained a firm foothold in universities around the world. What was once considered a niche channel for the delivery of educational content has rapidly become mainstream, creating wider access to education, new markets for content and expanded revenue opportunities for academic institutions” (Glenn & D’Agostino, 2008, p. 5).

**Data management.** As technology continues to expand, more informational data is available to faculty and staff, and higher education must determine how to use data to ensure student success, such as graduation rates and level of student engagement. Data are being utilized to make decisions and to evaluate teaching, evaluate technology, determine service needs, and analyze student success through technology such as information gathered from learning management systems, and electronic evaluations. Systems can be configured to alert staff, faculty, and students when certain conditions are in place, such as attendance, grades, tuition issues, etc. (Alexander, Grajek & Grama, 2017; King & South, 2016).

**Campus safety & security.** Staff in higher education also use technology, and one example is the expanded need to protect the physical safety of students, faculty, staff, and campus visitors through technology (Alexander, Grajek & Grama, 2017). According to Cortez, five ways that technology can assist in campus security include mobile apps

for emergency communication, security cameras, body cameras for police, digital signage, desktop alerts for emergencies, and wireless access controls for buildings (2016).

**Cyber security.** Security of data means that administrators, faculty, and staff need to understand the role that they play in the security of student information, and that they need to follow policies regarding data collection and access of data (King & South, 2016). Institutions should have a responsible use policy to assist faculty and staff in understanding the proper way to protect data (King & South, 2016).

According to an article in Forbes (2017), Kauflin found that cybersecurity positions are the fastest-growing IT jobs, and there is a huge lack of skills in this area. The current technology trends that impact staff include the challenge of data security, since higher education must work with a wide array of sensitive data. This includes personally identifiable information, the Family Educational Rights and Privacy Act (FERPA), Payment Card Industry data (PCI), protected health information data (PHI), research data, information gathered by campus safety and data security such as videos and records, as well as other sensitive information (Alexander, Grajek, & Grama, 2017; Segran, 2017). As technology continues to develop, security continues to become more complex, and the threats continue to expand (Alexander, Grajek, & Grama, 2017).

In a survey of Chief Information Officers (CIOs), 90% selected “greater security issues” as the potential problem with the trending Internet of Things (IoT) (Barden et al., 2016, p. 21). The IoT is the wide array of devices connected to the internet by consumers, which may cause security concerns for institutions in integrating these consumer-level devices into the enterprise systems, managing the increase in support

required, security, and bandwidth needs (Alexander, Grajek, & Grama, 2017; Segran, 2017). Today's IT environment is subjected to a barrage of constant threats that require multiple layers of security protocols to protect the complex technology architectures, especially in the environment of the IoT. IT professionals must ensure that they have the tools available to identify and mitigate threats quickly (Alexander, Grajek, & Grama, 2017). The IoT poses challenges to higher education because the users of these devices are focused on functionality and not on security. IT professionals need to ensure that both security infrastructure and staff skills are up-to-date and ready to respond (Segran, 2017).

**Infrastructure support.** Online learning is a way for institutions to advance their missions by reaching people they would not be able to reach otherwise, including people at a global level (Glenn & D'Agostino, 2008). This change brings the campus server and network infrastructure to the forefront because without this infrastructure online education would not be possible, but it adds expense and complexities in use and support. Take, for example, the installation of a campus network and how it impacts the on-going costs and support of online learning. On the surface, it appears that the cost of network installation is just running wiring; however, other "costs include additional equipment, initial user training, continuing user support, and software licenses" (Green & Gilbert, 1995, p. 4). The cost of this network is more than just a capital cost of installation because "the technical maintenance and user support costs are a continuing expense that over a few years can easily dwarf the initial expense for installing the wire" (Green & Gilbert, 1995, p. 4).

All in all, such broad contextual developments have certain implications on how institutions of higher education balance the pressures of technology-based operations and new educational delivery formats with the organizational resources at hand.

## **Institutional Context**

### **Staffing Patterns of IT Worker Professionals in Higher Education**

Technology needs to be considered at all levels of the institution and needs to act in tandem with academic policies to be as beneficial as possible to students (King & South, 2016). Because of the need to ensure that the technology benefits the students, institutions need to ensure that technology change, from applications to tools, have input from academic leadership (King & South, 2016). Faculty use of technology is increasing, however, IT support structures are critical to success implementation of new technology as well as existing technology (Whitaker & Coste, 2002). Faculty and students both use technology; however, the types of technology differ by needs, and different technologies may work better for one or the other, so it is important to consider both faculty and students' needs (Guidry & BrckaLorenz, 2010).

Leadership needs to prioritize technology to support students, and while that can happen by adding technology to existing structures, more significant reform can be made by reviewing technology and ensuring that Chief Information Officers (CIOs) have input to the overall strategy of the institution (Glenn & D'Agostino, 2008; King & South, 2016).

According to Byrd and Turner (2000), information technology infrastructure can be a competitive advantage to organizations; however, it needs to be flexible and responsive. When considering IT infrastructure, it is important that both technical and

human infrastructure are considered. As Byrd and Turner state, “the human IT infrastructure includes human and organization skills, expertise, competencies, knowledge, commitments, values, norms, and organization structures” (p. 169). The management of the human IT infrastructure is essential as that is the core of knowledge and experience to support the technical infrastructure, provide productive outputs, and assist in achieving strategic initiatives of the organization. This management of the human IT infrastructure must include flexibility of management skills of all staff to respond to the changing needs of the organization. Because of the in-depth technical skills and knowledge of IT staff, IT managers work with staff in a non-traditional hierarchy, which is more horizontal than vertical.

At the same time, by and large, higher education institutions remain traditionally hierarchical bureaucratic organizations with the vertical chains of command and communication patterns. These vertical chains allow for people of position and power to be at the top of the chain where they control employees through policies and rules (Bolman & Deal, 2008; Altbach, Gumport, & Berdahl, 2011; Manning, 2017). This type of hierarchy does not fit in an IT department because those with knowledge and expertise are not at the top but are often toward the bottom of the chain, and, because of this, it is necessary for IT to be able to coordinate technology beyond boundaries (Byrd & Turner, 2000).

**Budget.** When institutions make decisions on technology, the budget is a large part of that consideration. Even though institutions see the positive impacts of technology, this technology comes at a cost, and many institutions have insufficient resources or lack staff to assist with instructional design or technical support (Brown &



Grajek, 2012; Glenn & D'Agostino, 2008). Glenn and D'Agostino further state, "As ever, administrators will need to weigh carefully how budget funds are spent, decide what emerging technologies show the most promise, and determine how best to support these technological advances while avoiding the ever-present risk of obsolescence" (p. 16). In addition to struggles with finding funding for technology, many institutions are suffering from budget cuts and decreased state funding (King & South, 2016), which impacts IT departments through hiring freezes, reduction of professional development opportunities, and reduction in equipment replacement (Bichsel, 2014; Claffey, 2009).

The growth of IT in higher education has had an impact on IT workers. There are several studies that examined these technologies and found that IT staff must support all of the devices used by faculty, staff, and students – such as smart classrooms, simulation technology, distance learning, e-textbooks and online systems (Ahalt, Fecho, & Ahalt, 2015). This support is provided to ensure that faculty and staff have the tools needed to ensure student success (Aractingi et al., 2012).

Higher education budgets are tight, but "financial resources are not the only resources that are difficult to manage and limited; human resources are also scarce. Hiring and retaining key personnel is very difficult and likely to remain so in the near future" (Barden et al., 2016, p. 48). A survey by Pomerantz and Brooks (2016) identified that skills gaps were rated low, but that lack of resources, both staff and financial, were concerns. As budgets continue to be tight, it is imperative that higher education retain existing staff.

In institutions where staffing levels were decreased, reorganization of IT operations was more likely to occur (Pomerantz & Brooks, 2016). Positions that are

hardest to fill are also the most highly technical – such as developers, system administrators, and security management (Pomerantz & Brooks, 2016).

**IT staffing and retention.** When looking at retention of IT staff, consideration should be made that technology workers have a unique relationship with the organization due to the organization’s dependence on IT staff’s knowledge and the fact that this knowledge can be taken with them if they leave the organization (Drucker, 1992) and I believe that this is still the case today. Brown and Grajek (2012) found that 38% of technology leaders were over 51 years old, which was a 2% drop from the prior year. Thirty-seven percent of the technology leaders were female, and 63% were male, which is consistent with the prior year. By 2017, most CIOs in higher education were 50 years or older and planning for retirement in the next decade, which meant that new CIOs needed to be in place, and current CIOs needed to develop succession planning (Pomerantz, 2017).

In a 2016 study of the higher education IT workforce landscape, Pomerantz and Brooks found that workforce staff was comprised of 40% women and 60% men and that females make up only 30% of managers and 27% of CIO’s. The median salary for all IT positions – including CIO’s, managers, and staff was \$87,000 in a range of about \$51,000 to \$160,000. Female and male salaries were aligned with females making slightly more in the manager and CIO positions, but males continue to make slightly more than females in lower positions.

In a review of the EDUCAUSE report, Pomerantz and Brooks (2016) found that “nearly half of the IT workforce are considering pursuing employment opportunities outside their current institution within the coming year, a dramatic increase from the

previous workforce study published two years ago” (p. 4). The 2014 EDUCAUSE report states that more than one-fourth of the open IT positions have been suspended (Bichsel, 2014). These statistics mark the importance of reducing the turnover of IT staff because it is costly and disruptive to public higher education institutions. IT leaders need to work on increasing retention of IT staff to retain knowledge and skills and to reduce project delays and service degradation (Burrell, 2014; Hacker, 2003).

The CIO role has become critical to higher education by supporting the mission of the institution, enhancing cybersecurity, and ensuring investments are made in the right technology for the mission (Chatlani, 2017). Observing these retirement trends, consideration should also be given to the knowledge that current technology leaders came from IT positions such as systems director/manager, network director/manager, and other technology positions. This movement from lower level positions to higher positions shows that the possible career path in higher education to CIO is through other technology leadership positions, and current CIOs will need to cultivate current IT staff for these roles (Pomerantz & Brooks, 2016; Nash, 2007).

### **IT Workers as a Profession**

According to Byrd and Turner (2000), workers in the IT field provide qualities that non-IT staff cannot, such as “the experience, competencies, commitments, values, and norms of the IT personnel delivering the IT products and services” (p. 168). In order to retain, support professional development, and help grow current and future IT human resources, the institutions of higher education need to better understand who these workers are and whether they have unique and different professional needs compared with other professionals on their campuses. Based on available research, IT staff

specialize in creation, maintenance, or support of technology (Glen, 2003). IT staff may have a variety of job titles, including – but not limited to – programmer, system designer, system architect, program manager, database administrator, or desktop support technician (Glen, 2003). Referring to this rather specialized skill set, Glen labeled IT workers as “geeks” and shared the observation that “geeks are the highly intelligent, usually introverted, extremely valuable, independent-minded, hard-to-find, difficult-to-keep technology workers who are essential to the future of your company” (p. 5). Other research reports that IT staff enjoy solving problems and want to feel that they make a difference to the organization (e.g., Ivancevich, Duening, & Ivancevich, 2001). Lounsbury et al. (2009) also found that “an empirically-validated personality trait profile for IT professionals has not, as yet, been developed” (p. 4). Yet, when Lounsbury, Moffitt, Gibson, Drost, and Stevens (2007) researched personality traits of IT professionals concerning job and career satisfaction, they found eight important traits: assertiveness, emotional resilience, extraversion, openness, teamwork disposition, customer service orientation, optimism, and work drive. However, “extant empirical research on key attributes of IT personnel is sparse, fragmentary, and limited. It lacks empirical information usable to examine differences between IT and other occupations” (Lounsbury, Sundstrom, Levy, & Gibson, 2014, p. 38).

Some scholars found that IT staff “are more productive when they feel they are not a trivial part of the company and that the organization cares about them as individuals” (Petroni & Colacino, 2008, p. 29). Another finding by Petroni and Colacino (2008) was that “technical professionals seem to resent being supervised by someone who does not have a technical background” (p. 28). The same study revealed that there

was a lack of intrinsic motivation for technology workers and that “the task itself is, in fact, the primary source of motivation, since it provides the necessary excitement to the individual” (Petroni & Colacino, 2008, p. 28). Thus, considering these findings, it seems that the institutional factors – such as ways and provisions of supervision and performance incentives (i.e. task specifications) – may play a role in appealing or not appealing to IT workers as professionals.

Research focusing more on the individual level suggests that, similar to other positions in higher education, technology jobs require a significant amount of ongoing learning on the part of IT workers to keep their skills up to date since technology is continually changing (Glen, 2003; Shih, Jiang, Klein, & Wang, 2011). Another similarity with other higher education professionals is that IT staff hold power because they often have more expertise in their field than their supervisors, and, because of this, they tend to be resistant to authority (Glen, 2003). In a study on the personality traits of IT professionals, Lounsbury et al. (2009) found that IT staff are analytical, open to new experience, value learning and new experiences, and are overall more intrinsically motivated, less visionary, and less conscientious. They found that career satisfaction could be correlated with various traits, including emotional resilience, optimism, assertiveness, work drive, extraversion, and openness. These various traits would show that career satisfaction can be achieved in many ways. This study contradicts the study by Petroni and Colacino (2008), who found that IT workers were not intrinsically motivated, and this contradiction is worth further evaluation.

## **Problem, Purpose, and Research Questions**

While the emphasis on the need of IT support and infrastructure is growing in higher education, the retention issues and unique professional development needs of IT workers need to be at the center of research, policy, and administrative practice.

However, given the relatively new and unique nature of this professional role in higher education, little theoretical grounding and research-to-practice literature are available to examine, understand, or predict the specific nature of an IT worker's professional development under the supervision/leadership practices of higher education settings.

The purpose of this study was to understand the essence of the professional experiences of IT workers being supervised/led in a higher education setting to help draw implications for theory, research, and administrative practice regarding IT worker retention, professional development, and growth in higher education. Through this understanding, leaders will have information to aid them in creating a motivated team to assist the organization in meeting goals, budgets, and timelines.

The primary research question that guides this study is:

What is the professional experience of IT professionals, who are employed and supervised in a higher education organization? Three sub-questions are:

1. How did a higher education organization shape IT professionals professional experience in a Midwest research university?
2. How did the higher education leaders/supervisors (i.e. department heads, CIOs, etc.) shape that professional experience?
3. How did personal and professional characteristics of IT workers shape that experience?

Understanding the essence of the experiences of IT workers being supervised/led in a higher education setting will help draw implications for theory, research, and administrative practice regarding IT worker retention, professional development, and growth in higher education. Recommendations for higher education leaders and supervisors will be also drawn (i.e. how to assist IT workers meet the needs of an institution, how to contribute to IT worker retention, and how to support IT worker professional development and growth within higher education).

### **Research Rationale and Design**

As staff at universities in higher education, IT departments often bears the burden of technology changes. It is essential that IT staff work as effectively as possible, which frequently starts with correct guidance, but there is a gap in the literature concerning how to lead technical staff. In addition to all these IT-prompted changes in organizational developments across many sectors, other research (e.g., Byrd & Turner, 2000) confirmed that for organizations to remain competitive with their IT capacities, there was a specific characteristic of an organization's IT infrastructure such as flexibility due to a rapidly changing IT and continuous technological upgrades. The infrastructure of flexibility could be maintained through the combination of two components: (1) a technical IT infrastructure, and (2) a human IT infrastructure. The human element of IT infrastructures remains rather understudied, especially in higher education settings.

According to Maxwell (2013), a conceptual framework is constructed of pieces that are borrowed, with the overall framework being created by combining pieces from other theories and research discovered while working to understand the phenomena. The purpose of the conceptual framework is to inform the study design by “refin[ing] your

goals, develop[ing] realistic and relevant research questions, select[ing] appropriate methods, and identify[ing] validity threats to your conclusions” (p. 39).

## **Theoretical Overview**

### **ACHIEVE and Leadership**

Leadership is defined by Vroom and Jago (2007) as “a process of motivating people to work together collaboratively to accomplish great things” (p. 18). Despite leadership for technology staff being different because of the type of work that they do, “ultimately, every geek leader has one primary goal: to capture, apply, and leverage the creative work of geeks to enable business operations, improve efficiency, develop competitive products, fulfill regulatory requirements, provide management information, speed production, or improve customer service” (Glen, 2003, p. x).

The ACHIEVE model was utilized as a framework for leaders who oversee IT teams. The ACHIEVE model utilized an easily-to-remember acronym for managers to evaluate the performances of followers and to identify performance problems. The ACHIEVE model, which looks at seven variables – Ability, Clarity, Help, Incentive, Evaluation, Validity, and Environment – “is designed to help managers determine why performance problems may have occurred and then to develop change strategies aimed at solving these problems” (Hersey & Goldsmith, 1980, p. 40). A more in-depth discussion of the ACHIEVE model will be had in chapter two.

The ACHIEVE model and the leadership definition by Vroom and Jago are used in the research to interconnect the organizational, leadership, and professional-level experiences of IT staff working in the higher education environment.



## **Summary**

Changes to the higher education environment with regard to the expanded use of technology leaves a vast array of technology that needs to be implemented and supported by Information Technology staff. There is a gap in the research in understanding IT workers' needs and the roles of supervisors for that area. This paper explored leadership in higher education and the ACHIEVE model to assist managers in identifying performance problems and developing strategies for success (Hersey & Goldsmith, 1980).

## **CHAPTER II**

### **LITERATURE REVIEW**

The purpose of this literature review was to understand and uncover existing evidence and conceptual constructs pertaining to the role of supervision/leadership practices in higher education organizations and to the individual-level responses or driving forces that determine professional experiences. To complete the review of the literature, the following search terms were used: leadership effectiveness, leadership, IT traits, higher education technology, technology trends, higher education, IT workforce, motivation, ACHIEVE model, organizational behavior and phenomenology. I reviewed 468 articles and used 110 empirical studies and theoretical publications in this study. This literature review is organized in two main sections: (1) leadership in higher education organizations, and (2) theoretical orientations with the primary focus on the ACHIEVE model.

#### **Leadership**

##### **Higher Education Leadership**

Leadership of IT workers may happen across the institution because some institutions may have centralized IT departments while others may have decentralized IT support; however, Wetzel and Pomerantz (2016) report that a new model that incorporates both models may be the one holistic approach. This hybrid model of IT has advantages of being able to respond more quickly to scale applications, have a strategic

focus, and to be a trusted partner to users (Wetzel & Pomerantz, 2016). Both the decentralized model and the hybrid model of reporting leave IT staff reporting to non-IT leaders across the institution.

Because IT staff in higher education often report to non-IT leaders, it is important to understand the qualities and skills that are seen as important to higher education leaders. Bryman (2007) conducted a literature review of peer reviewed journals between 1985 and 2005 on higher education and found factors that impacted department leaders' effectiveness concerning leaders influencing/motivating staff to accomplish goals. Findings of this literature review included emphasis on higher education leadership qualities, such as preparing department arrangements to facilitate the direction set, being considerate, treating academic staff fairly and with integrity, being trustworthy and having personal integrity, allowing the opportunity to participate in key decisions and encouraging open communication, communicating well about the direction the department is going, acting as a role model/having credibility, and creating a positive/collegial work atmosphere in the department. In a study of faith-based higher education institutions, Haris et al. (2016) found that academic staff leaders who utilized leadership behaviors – such as displaying authenticity, building communities, and valuing people – positively impacted the employees' job satisfaction and intention to stay in their position. Amey (2018) states that higher education leaders, as keys to organizational function, need to "think critically about their roles rather than by relying on how-to writings" (p. 55). Academic leaders focus on collaboration by leading "via partnerships and teams in systems that are web-like and non-hierarchical" (Amey, 2018, p. 56).

Kalargyrou et al. (2012) found that business skills, including personnel management, financial management, and resource management, along with leadership skills, cognitive, interpersonal, and strategic skills, were the most important leadership skills for faculty and administrators. Skills to motivate personnel and to be able to develop the skills in employees were found to be important to administrators.

In a study utilizing the Katz three skills approach, Klishomi et al. (2015) examined the relationship between the technical (being able to work with things), human (working as a group member), and cognitive/conceptual (vision) management skills and performance and found that, in education, managers that have higher management skills see an increase in employee performance (Klishomi, et al., 2015). Mech (1990) studied academic library managers and found that all three skills are important, with conceptual skills most important at highest levels, human skills at all levels, but found that ranking of technical skills varies by the level of education of the person rating the skills, with lower levels of education rating technical skills higher than those with a higher level of education. Mech recommended that additional research be conducted if “managerial roles are influenced substantially by managers’ hierarchical levels and the organizational areas they manage” (p. 426). This finding stresses the importance of ensuring that managers have the proper training and support to improve effectiveness.

In an article by Vroom and Jago (2007), the focus is on leadership of public, private, or nonprofit organizations, and the findings are that “organizational effectiveness is often taken as a strong indication of effective leadership” (pp. 17-18). The article continues to describe that the “effectiveness of an organization [is] influenced by many factors other than the quality of its leadership, [and] there are [also] many processes by

which leaders can impact their organization that have little or nothing to do with what is defined as leadership” (Vroom & Jago, 2007, pp. 17-18). Vroom and Jago (2007) also indicate that leadership is “a process of motivating people to work together collaboratively to accomplish great things” (p. 18). Their definition expands as:

1. “Leadership is a process, not a property of a person;
2. The process involves a particular form of influence called motivating;
3. The nature of the incentives, extrinsic or intrinsic, is not part of the definition;
4. The consequences of the influence is collaboration in pursuit of a common goal;
5. The ‘great things’ are in the minds of both the leader and followers and are not necessarily viewed as desirable by all other parties” (p. 18).

All in all, the literature on leadership in higher education has been grounded in the growing assumptions that every corner of higher education organizations is increasingly adopting business-like characteristics that are predominantly performance- and outcome-oriented. Hence, this study on IT workers’ professional experiences in academia is also grounded in the assumption that the relationship between IT workers and their supervisors/leaders is built on the performance-based and outcome-driven constructs, which drive organizational and individual achievements.

### **Information Technology Leadership**

There is a gap in scholarly literature concerning the management and leadership of IT workers, so this review will rely on both scholarly and non-scholarly literature. Glen (2003) finds that leading IT staff is different from leading other staff simply because IT staff are different than other staff and the work they do is different. Leadership of IT

workers requires that leaders make meaning out of the chaos and ambiguities that are part of the technology work (Glen, 2003; Santosus, 2003).

Glen (2003) sees that most leaders have “substantial influence over the behavior of followers and exercise that power for mutual benefit” (p. x). With IT staff, that power is limited to the power over the behavior of the staff and not as much about the work itself because of the creative nature of IT work. “In contrast to the conventional model of hierarchical command and control, the leader plays a more enabling role, providing internal facilitation, furnishing external representation, nurturing, moving, and helping to manage ambiguity” (Glen, 2003, p. x). An article by Geary (2017), found that the eight most important things that leaders of IT staff can do are: provide tools they need, facilitate creativity, delegate, offer feedback, support but don’t micromanage, give credit where it is due, communicate by updating staff and listening, and deal with conflict head on.

Wu (2008) studied knowledge workers, who are defined as those who “work by knowledge and information,” and management needs to understand that these workers “are not followers but partners” because they hold the knowledge in their brains (p. 52). Organizational structures for these workers need to be horizontal “based on specialists and responsibilities” (p. 52). Because technology work is creative work, supervisors/leaders need to ensure that too much control is not placed on the workers because that will impact creativity. Drucker (2001) found that the incentive factors for these staff include personal growth, work that is self-determined, work achievement, and money.

## **Theoretical Orientations**

I reviewed theories to determine fit for the purpose of this research. Prior to beginning interviews, my research focused on leadership theories, including trait leadership approach, style approach, situational approach, servant leadership, and the three skills approach. Because the study was about the IT workers' professional experiences and their perceptions of how leadership and organizations affect their professional goals and achievements, the leader-centered leadership theories were not used. However, at that time, I made my choice to utilize the three skills approach for the study because it focused on the traits of the leader and what they do, instead of just on the traits they naturally possess (Katz, 1974). After the completion of the interviews and the preliminary coding steps, I realized that the data was more complex and further reviewed literature on Maslow's hierarchy of needs and the ACHIEVE model. The following section provides a review of these theories and discussion on the reasoning for choosing the ACHIEVE model as the theory for this research.

### **Three Skills Approach**

According to Katz (1974), the three skills approach focuses on what leaders can learn and not who they are, and includes technical skills, human skills and conceptual skills (Katz, 1974, p. 13). Technical skills include the people doing the hands-on work and who have the specialized knowledge with a basic product or process (Katz, 1974). Human skills are the people skills that allow the leader to work as a group member (Katz, 1974; Northouse, 2013). Conceptual skills allow leaders to see the big picture of the organization and allow organizations to have vision and strategic planning (Katz, 1974). Technical skills allow people to work with things where human skills allow people to

work with other people (Katz, 1974). Leaders at different levels of the organization utilize different levels of these skills; leaders at lower levels of an organization tend to use all three skills, while leaders at the top management use fewer technical skills, and supervisory leaders use fewer conceptual skills (Northouse, 2013; Katz, 1974). The amount of human skills is consistent across the different levels of management because these skills allow a leader to be successful working with others by accepting other viewpoints, making others feel comfortable, and communicating effectively (Katz, 1974). This theory, however, focuses solely on leaders without providing any explanations or points of discussions on how each level of their skill set may impact followers' professional experiences (i.e. satisfaction, performance, motivation, etc.).

### **Maslow's Hierarchy of Needs**

Maslow's Hierarchy of Needs stresses that motivated behavior must channel through basic needs and that there is more than one motivation (Maslow, 1943). The basic needs in this theory are physiological, safety, love, esteem, and self-actualization. Maslow found that "we are motivated by the desire to achieve or maintain the various conditions upon which these basic satisfactions rest and by certain more intellectual desires" (Maslow, 1943, n.p.). These five needs are presented as a hierarchy pyramid with the needs becoming more complex as individuals move up the pyramid. Maslow found that until the lower level needs are met, an individual cannot move up to satisfy other needs. The most basic needs in the Maslow hierarchy include psychological needs and safety needs, including items that the body automatically regulates such as food, water, temperature, rest, having a job, having a safe environment, and having stability in life (Poston, 2009; Maslow, 1943; Hersey, Blanchard & Johnson, 2013). Psychological



needs include love needs and esteem needs such as the desire to build relationships with others such as friends or romantic partners because they will now notice the absence of friends and a need for individuals to have a “high evaluation of themselves” (Maslow, 1943, n.p.) to be accepted and respected by others and to have status, recognition, fame, reputation and appreciation (Poston, 2009; Maslow, 1943; Hersey, Blanchard & Johnson, 2013). Self-respect will become permanent when an individual develops confidence in their ability or mastery of something (Poston, 2009; Maslow, 1943; Hersey, Blanchard & Johnson, 2013). Individuals, who are self-actualized, know how they feel, are not worried about what others think of them, are not worried about pleasing them, but work to make themselves better, expand their skills, and “focus on what matters most in defining who they are” (p. 352) (Poston, 2009; Maslow, 1943; Hersey, Blanchard & Johnson, 2013). Similar to Katz’s three skills leadership theory, this theory also centers on individuals, however without any lens of looking at these individuals from a leadership or followership perspective. This theory simply explains an internal/intrapersonal human development processes.

### **Theory Choice**

After completing both rounds of interviews with participants, while in the second stage of data analysis, such as coding and categorizations, I found that codes and categories were more than just about skills or personal needs. Instead, these categories included organizational elements, leader-follower dynamics, and more. That made me realize that both theories did not represent the experiences shared by participants because both theories did not explain the interplay and dynamics of organizational elements, leadership, and IT workers that appeared in the data/initial coding and categorization. I

decided to look further for theories or models that would help explain and interpret that interplay. This change in the research process agrees with LeCompte, Preissle, & Tesch (2003), who state that “through this process, the salience of theoretical categories and properties to empirical units is reexamined, allowing for refinement, modifications, and reassessment of theoretical constructs” (p. 143).

At this time, I conducted a review of other theories that were relevant and could represent the data more accurately (LeCompte, Preissle, & Tesch, 2003). Considerations for theory review included the need to incorporate and possibly explain the interplay and dynamic of organizational elements, leaders, and IT workers that appeared in the data/initial coding and categorization. In review of the initial theories, I determined that Maslow’s model only focused on the employee needs and the Katz three skills approach only focused on the leadership abilities. Looking for other theories, I discovered the ACHIEVE model. The review of the ACHIEVE model in the next section will show that this model interconnects the three lenses (Cederblom & Pernerl, 2002; Jacobsen & Anderson, 2014; Saber, Tabatabaei & Afrazeh, 2015). For this reason, the ACHIEVE model was used in this study.

Because the ACHIEVE model was selected after the data collection and the initial data analysis (i.e. coding and categorization), I did not impose it on the study, but used it instead to regenerate the research questions and as a “convenient way to divide the data” (LeCompte, Preissle, & Tesch, 2003, p. 149) or conceptually connect data categories into the themes and answer my research questions.

## **The ACHIEVE Model**

The ACHIEVE Model, created by Hersey and Goldsmith (1980), used a memorable acronym for managers to evaluate performance of followers and identify performance problems and implement changes needed. The variables used in this model are: ability/knowledge, understanding/clarity, organizational support/help, motivation/incentives, feedback/evaluation, validity, and environmental fit (Pathak, 2011; Hersey, Blanchard & Johnson, 2013), as illustrated in table 1.

The ACHIEVE model relies on ensuring that staff understand what is expected of them and that they receive the feedback needed to meet goals and objectives. Most people feel that performance appraisals have little value; however, for employees to improve performance and to increase motivation, it is important that there is a process in place to provide the feedback needed from supervisors (Cederblom & Pernerl, 2002; Jacobsen & Anderson, 2014; Saber, Tabatabaei & Afrazeh, 2015).

This section defines the ACHIEVE model and how managers utilize performance management to help employees achieve success. Examples of how the ACHIEVE model is reliant on performance management include evaluating skills, education, understanding how to do tasks, motivation to complete tasks, legal justification, day to day evaluations, and rules and regulations that impact performance (Pathak, 2011). The ACHIEVE model is discussed in greater detail below.

### **Ability**

Ability addresses the follower's task-relevant education, knowledge, experience, and skills. If a manager evaluates and determines that the employee is lacking in ability,

Table 1. ACHIEVE Model.

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A	Ability	Knowledge & Skills
C	Clarity	Understanding or Role Perception
H	Help	Organizational Support
I	Incentive	Motivation or Willingness
E	Evaluation	Coaching & Performance Feedback
V	Validity	Valid & Legal Personnel Practices
E	Environment	Environmental Fit

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*Note.* Pathak. (2011). *Organizational Change*. India: Pearson Education India. pp. 330-332.

training (formal and informal), coaching, or reassignment of duties may be necessary (Hersey & Goldsmith, 1980; Hersey, Blanchard & Johnson, 2013; Pathak, 2010).

Robbins & Judge (2012) define ability as being able to perform job tasks, and they discuss abilities that are related to job performance and stress that everyone's strengths and weakness are different. They break ability into two categories: physical and intellectual. Physical ability includes three categories with a total of nine subcategories, which are: strength factors (dynamic, trunk, static, explosive), flexibility factors (extent and dynamic), and other factors (body coordination, balance, stamina). Intellectual ability includes the reasoning, thinking, and problem solving needed to perform mental activities.

### **Clarity**

Clarity is ensuring that the employee understands how to accomplish the tasks, major goals, objectives, and priorities set in place by the leader or organization. The

employee understands and accepts what to do, when to do it, and how to do it. If the manager evaluates and determines there is a problem with clarity, the employee should be encouraged to ask questions, and there should be a review of the performance-planning phase (Hersey & Goldsmith, 1980; Hersey, Blanchard, & Johnson, 2013; Pathak, 2010).

### **Help**

Help addresses the need of the organization to assist the employee and ensure their needs are met so that they can complete the task (Hersey & Goldsmith, 1980; Hersey, Blanchard & Johnson, 2013; Pathak, 2010). “Some organisational support factors might include adequate budget, equipment, and facilities that are suitable for task completion, necessary support from other departments, product availability and quality, and an adequate supply of human resources” (Pathak, 2010, p. 330). Managers need to address items that employees are lacking, and address issues while providing resources (Hersey & Goldsmith, 1980; Hersey, Blanchard & Johnson, 2013; Pathak, 2010).

### **Incentive**

Incentive is the motivation to complete the task, and individual people may be motivated differently. Incentives may include feedback, recognition, rewards, and punishments (Hersey & Goldsmith, 1980; Hersey, Blanchard, & Johnson, 2013; Pathak, 2010). “The follower should clearly understand that performance on this task is related to pay, promotion, recognition, and job security. People have a natural tendency to pursue tasks that are rewarded and to avoid tasks that are not” (Pathak, 2010, pp. 330-332). In IT, learning behaviors must be supported and are seen as an incentive for staff; these behaviors include continuing education, training, job transfers, and redesigns. Another variable to consider is that IT staff feel that the work itself is the motivation, and

these staff need to feel that they are a valuable part of the team (Petroni & Colacino, 2008).

Motivation has many definitions which have to do with having a desire to move toward an end or “what moves people to act, think, and develop” (Deci & Ryan, 2000, p. 54; Deci & Ryan, 2008, p. 50). Zareen, Razzaq, and Mujtaba (2015), define motivation as “that which energizes, directs and sustains behavior” (p.537). There are varying levels of motivation that are influenced by the individuals’ attitudes and “goals that give rise to action—that is, it concerns the why of actions” (Ryan & Deci 2000, p. 54). In 2008, Deci & Ryan conducted another study that looked at the “conditions and processes that facilitate persistence, performance, healthy development, and vitality in our human endeavors” (p. 50).

The motivation of employees relies upon the values and leadership given by managers. If an employee is motivated, they are typically more involved and tend to commit themselves more to tasks and assignments (Zareen, Razzaq, & Mujtaba, 2015). These employees become essential and committed to the organization, stay in their positions longer, and give the organization a competitive advantage (Zareen, Razzaq, & Mujtaba, 2015).

According to Herzberg (1987), motivational factors for staff include “achievement, recognition, advancement, the work itself, personal growth, and responsibility” (p. 9). Supervisors impact employee motivation by encouraging and helping staff during difficult tasks, and this can vary by employee and situation (Zareen, Razzaq, & Mujtaba, 2015). “Motivation activities are very complex social behavioral

systems that cannot be influenced by manipulating few variables, so people/workers can be motivated for better job productivity or efficiency” (Eyob, 1994, p. 28-29).

Information technology staff need to be motivated differently than other staff because of the creative nature of their work (Glen, 2003; Foster, 2016). It is important to provide the right balance of motivation but also to concentrate on not demotivating information technology staff (Glen, 2003). According to Zareen, Razzaq, and Mujtaba (2015), motivated staff place an emphasis on developing their capabilities and understanding their value to the organization. A 2016 EDUCAUSE survey found that half of the surveyed IT staff were considering leaving their employment in the next year. Technical staff turnover is costly to the organization, and motivated staff stay in positions longer and give the department an advantage because of the knowledge that comes with this longevity (Zareen, Razzaq, & Mujtaba, 2015; Foster, 2016). It is important that supervisors understand the importance of motivating technical staff to improve retention.

Motivation can be categorized into two types: intrinsic and extrinsic. Intrinsic motivation is demonstrated by people doing things because it gives them personal satisfaction, while extrinsic motivation happens because there are consequences to not completing tasks (Deci & Ryan, 1985; Deci, Vallerand, Pelletier, & Ryan, 1991). Managers of technical staff have greater influence over extrinsic motivators such as incentives, rewards, or deadlines than over intrinsic motivators such as enjoyment, curiosity, or challenge of the work (Glen, 2003). Glen (2003) discovered that “most people find that motivation for a particular task is formed by a combination of intrinsic and extrinsic factors, creating a complex of reasons that provide the drive to engage in and complete a particular task” (p. 106).

In a study on the personality traits of IT professionals, Lounsbury et al. (2009) found that “IT professionals are more: tough-minded and analytic, more open to new experiences and learning, emotionally resilient, customer-oriented, and intrinsically motivated. They are also less conscientious, less concerned with image management, and less visionary in their thinking style” (p. 18). They also found that career satisfaction could be correlated with “the traits of Emotional Resilience, Optimism, Assertiveness, Work Drive, Extraversion, and Openness” (p. 18).

Research that examined a combination of institutional level (HR) practices and individual attributes or intentions of IT workers found that IT staff that develop an emotional attachment to the organization are less likely to quit their jobs. Emotional attachment was found to be fostered through interpersonal contacts among employees and relationships with supervisors. Motivation of employees with emotional attachment is higher, and employees are more likely to take on tasks that are not part of their assigned duties. Organizations that value their staff’s own professional development and training also increase their employees’ longevity because it helps to develop that emotional attachment to the organization, but also may make that employee specialized in an area that is not relevant to other employers (Paré & Tremblay, 2007).

### **Evaluation**

Evaluation includes informal performance feedback and reviews so that employees can understand how they are doing and have an opportunity to improve performance. Managers need to ensure that they address both the positive and negative performance on a day-to-day basis and not wait until formal reviews (Hersey & Goldsmith, 1980; Hersey, Blanchard & Johnson, 2013; Pathak, 2010).



Performance management is a process created for going beyond performance appraisals to improving the performance of individual employees, teams, and the overall organization through the individuals' goals/performance tied to the company's strategic goals and objectives. Performance management holds the manager accountable, provides for performance improvement, training and development, pay, goal setting, providing feedback, and analyzing and assessing performance (Armstrong, 2015; Cederblom & Pemeerl, 2002; Dransfield, 2000). Performance management ties together the company's strategic goals and objectives with the individual's goals/performance and includes not only performance appraisals but also “manager accountability, pay, promotion, training/development, and discipline” (Cederblom & Pemeerl, 2002, p.132).

For performance management to work, line managers must be willing to contribute and own the process, it must have the full support of top management, and it must be a continuous process (Armstrong, 2015). Performance management is about developing people and having a continuous dialog between supervisors and employees to strive to achieve goals by creating improvement and personal development plans (Armstrong, 2015). Management and individuals benefit from performance management as illustrated in Table 2.

A study by Cho and Lee (2012) finds that “performance management drives organizational performance – it positively affects both work-unit performance and agency performance” (pp. 252) and further finds that performance management positively impacts the trust between employees and management. This study found that the culture within the organization of trustworthy supervisors, training programs, and management being fair are also important factors (Cho & Lee, 2012). Cederblom and Pemeerl (2002)

found that performance management is “doing what most managers want a performance appraisal system to do – guide, energize, and focus performance efforts in desired directions and then appraise, recognize, and adjust these efforts” (p. 139).

Table 2. What Managers and Individuals Gain From Performance Management.

Management Gains the Opportunity to:	Individuals Will:
integrate individual, team and corporate objectives;	know what is expected of them;
guide individual and team effort to meeting overall business needs;	know how they stand;
motivate and engage employees;	know what they need to do to reach their goals;
recognize individual contribution;	be able to discuss with their manager their present job, their development and training needs and their future.
plan individual careers (talent management);	
introduce relevant and effective learning and development programmes to meet identified needs.	

Adapted from Armstrong (2015, p. 12)

### **Validity**

Validity of legal personnel practices includes the human resource decisions that are made by the managers. Managers need to ensure that all laws, regulations, and company policies are followed in all decisions, must be documented and justified by using performance evaluations and by following documented promotion criteria (Hersey & Goldsmith, 1980; Hersey, Blanchard & Johnson, 2013; Pathak, 2010).

## **Environmental Fit**

Environment fit is a combination of external factors such as competition, market conditions, suppliers, and government regulations that may limit the performance of the employee (Hersey & Goldsmith, 1980; Hersey, Blanchard, & Johnson, 2013; Pathak, 2010). “Followers should be expected to perform at the level consistent with the limitations of their environment” (Hersey & Goldsmith, 1980; Hersey, Blanchard, & Johnson, 2013, p. 68).

One study utilizing the ACHIEVE model has found that validity and organizational support may improve employees’ performance and that ability should be supported through training; however, environmental factors including feedback are also important (Saber, Tabatabaei & Afrazeh, 2015). Another study conducted on employee performance in a university setting found that employees’ ability, clarity, the amount of support received from the organization, motivation, and the evaluation process all impact employee performance (Dehaghi & Rouhani, 2013).

All in all, if the achievement-oriented leadership is the cornerstone of the higher education organizations these days, the question remains to be how IT workers experience and perceive their professional roles and the supervision/leadership being exerted over them in this organizational environment.

## **Studies**

Although there were not many empirical studies that used the ACHIEVE model, three were found and an overview of each is provided. A study of performance factors found that the ACHIEVE variables could have multiple interactions and were not independent of each other (Saber, Tabatabaei, & Afrazeh, 2015). Kohansal, Alimoradi,

& Mahdi Bohloul (2013), used the ACHIEVE model to study how organizational practices impact employee performance and found that knowledge sharing by the organization and between team members “improves employee performance either by affecting factors such as knowledge, skills and abilities or by increasing motivation of knowledge workers” (p. 294). Ziapour, Khatony, Kianipour, & Jafary (2014) used the ACHIEVE model to analyze labor productivity and found that all seven variables of the ACHIEVE model had a positive effect on increasing labor productivity. The two variables of environment and evaluation were found, from the university staff viewpoint, to have the greatest impact on productivity. These studies show that the ACHIEVE model has been successfully used in other studies.

### **Summary and Conclusions**

Information technology is becoming more critical to higher education as more systems become automated and as students’ expectations of technology increase. Efficiency, effectiveness, and technological innovations are new norms in outcome-oriented (yet traditional) academic organizations, where IT professionals play an increasingly important professional role. Because the work of IT requires nimbleness to remain responsive to the rapidly changing technology and increasing demands of higher education customers, understanding IT workers’ professional experiences and their perceptions of a successful leadership/supervision is an important task for scholars and practitioners (i.e. leaders in higher education). Following the emphasis on employee motivation and the relational (between a leader/supervisor and employee) construct of the ACHIEVE model, this study aimed at conducting interviews with IT staff to determine which organizational elements, leadership elements and individual qualities shaped the

experience of IT workers in higher education. The ACHIEVE model was selected because, after conducting interviews and breaking the information down to codes and categories, this model best represented the needs participants expressed and provided a conceptual tool for seeing linkages between participants' personal needs and characteristics, organizational elements, and leadership/supervision that they experienced in a higher education setting. In other words, the model assisted in answering the "How" of the research questions.

## **CHAPTER III**

### **RESEARCH METHOD**

This phenomenological study explored the inner essence of the IT workers' cognitive processes regarding their professional development needs through their experiences of being supervised/led in a higher education setting. The qualitative research was gathered from interviews with current IT workers to shed light on how to lead IT staff. This chapter outlines the research approach, study design, data collection, and data analysis procedures that aimed to answer the following research questions:

What is the professional experience of IT professionals, who are employed and supervised in a higher education organization? Three sub-questions are:

1. How did a higher education organization shape IT professionals professional experience in a Midwest research university?
2. How did the higher education leaders/supervisors (i.e. department heads, CIOs, etc.) shape that professional experience?
3. How did personal and professional characteristics of IT workers shape that experience?

#### **Phenomenological Lens**

This study used a phenomenological perspective where, through individual interviews, staff were able to use their own words and beliefs to describe their professional experience in higher education. The phenomenological approach was used

to conduct research to find the essence – such as that of meanings or consciousness – through the perception of the experience of the individual (Ponty, 1958; Lester, 1999; Eagleton, 2003). According to Crotty (1998), phenomenology requires us to put aside what we know about a thing (phenomenon) so that we can revisit the phenomena and gain a new meaning. Considering this definition of phenomenology, my study concentrated on how IT staff experience their professional roles/lives under various forms of supervision/leadership in the higher education environment.

To understand the lived experiences of the participants, the relationships between subjects and objects, wherein “object is understood in the broadest possible sense” (Giorgi, 1997, p. 3), must be examined. Husserl (2012) rejects the common belief that “objects [exist] independently of ourselves in the external world, and that our information about them [is] generally reliable,” and instead argues that “we” (subjects) can only be confident and assured of an object’s appearance as it presents itself in the subject’s immediate consciousness, perceived through a lens of the subject’s individual experiences (p. 98; Eagleton, 2003, pp. 47-48). For the purpose of this study, the object in question is the leadership placed upon the subjects, who are the participating IT staff in higher education.

In order to collect data from a study that does not result in quantifiable numbers, I followed the five-step approach to data analysis created by Giorgi (1975). The five steps are: reading to get a sense of the whole, re-reading with the intent of discovering the meaning, eliminating redundancies, reflecting on the given constituents and transforming the meaning to the psychological science to reveal the phenomenon of learning, and to

synthesize and integrate these reflections into a description of the structure of learning. These will be discussed further in the data analysis section below.

Using phenomenological procedures, my presupposition and constructions of the data was used to minimize researcher prejudice throughout the interview process. I took an unbiased view of the information that was presented as phenomenon and ensured that personal past knowledge was not considered.

### **Constructionist Perspective**

The research for this study was examined through a constructivist perspective, wherein constructionism is defined as “denot[ing] the essential relationship between the conscious subjects and their objects and the two cannot be described separately” (Crotty, 1998, p. 79). In this study, the constructionist perspective was essential, as it examined the way IT staff (the subject) interact with their leader and their environment (objects), and that interaction cannot be qualified as separate pieces.

Constructionists believe that understanding of the world is created as the world is engaged with social context (Crotty, 1998). Due to the understanding of the world being created individually, there is no absolute truth and meaning. Nothing is simply subjective or objective thanks to interpretations of interactions between subjects and objects. Interpretations may be useful or serve no purpose, liberating or oppressive, fulfilling or rewarding; however, that does not change that there is no one absolute truth, and no one valid interpretation (Maxwell, 2013; Crotty, 1998; Loseke, 2017). This is exemplified in the current study, given that every participating staff member is an individual with their own interpretations of their environment, and thus there can be no completely unified



thread of truth between them but there is an intersection of those experiences between individuals.

Utilizing Crotty's (1998) above-quoted definition of constructionist perspective, leadership in itself can be viewed through this lens, as it involves a person and a situation and acknowledges that there can be multiple truths for each situation (Billsberry, 2009; Fairhurst & Grant, 2010). Social problems, including the problems that revolve around leadership, "are socially constructed, both in terms of the particular acts and interactions problem participants pursue, and in terms of the process of such activities through time" (Schneider, 1985, p. 1). Following the realization that leadership is socially constructed and that individual people help make their own reality, one can conclude that there is not going to be a single best way to meet the leadership needs of every individual. The leadership needs will instead depend on experience and the environment.

### **Pilot Study**

A pilot study was conducted to ensure that interview questions were appropriate to the research. The site of the pilot study was a four-year university in the Upper Midwest similar to the research site. The pilot study used the same instructions, instruments, and protocols as the study; however, the pilot only included two participants. The purpose of the pilot study was to confirm the validity of the process and the interview questions, which were modified based on the pilot study results.

Demographic information on staff at the university was requested; however, information was not released by the university until the IRB process was completed. I worked with the head of the Information Technology department to receive permission to

conduct the research. Timelines for the interviews were coordinated with the participants to ensure convenience both to them and to the university.

Requests for interviews were sent via email to all IT staff. The two participants were IT staff that reported to different supervisors. Because two participants were found via the first email, further recruitment was not needed. Interviews were conducted at the convenience of the university and were recorded utilizing a digital recorder. Participants were informed, in writing as well as verbally, that interviews were being recorded.

Interview recordings were transcribed utilizing a professional transcription service; documents sent online to this service did not contain participants' names. This transcription service was selected by reading user reviews of online services, and the service selected had the highest review through third party reviews. Confidentially statements were reviewed to ensure that the service provider would maintain the transcripts in a confidential and secure manner. Once interview transcripts were received, I listened to each interview while reading the transcript and made corrections needed to ensure accuracy. There were many changes to the transcripts that were needed, some because of the background noise on the tapes, some because of not understanding terms. Additionally, some typos were corrected.

The interview process followed the data analysis plan, including the use of open ended and probing questions, and the use of follow-up questions for deeper responses. After utilizing Giorgi's (1975) five-step process to analyze the transcripts, responses were categorized and reviewed for key phrases for each category, and then these phrases were arranged by topic.

Experience during the pilot study revealed the need to modify the recruitment process. I had difficulty finding two participants, and, because of this difficulty, I included additional recruitment steps. These steps included attending meetings at the research site to introduce the study and myself and random drawings for gift cards for each round of interviews.

Interview questions did gather significant data, including 149 significant statements. Theme clusters that were found in the pilot study included:

- IT staff must be able to translate technical concepts to non-technical staff; however, IT staff must also accept advice from other IT staff for it to be successful.
- There may be times that supervisors and staff do not agree on how to solve technical problems.
- IT staff in this study held master's degrees, however, they were not always related to technology. IT staff may gain technical experience through work with a variety of systems and use that in combination with their formal education.
- Funding of projects, equipment, and staffing can come from a variety of sources, including grants, and IT staff may be required to forecast what they could do if funding was available. Lack of funding may cause responsibility changes, department mergers, or even loss of jobs.
- Job duties of IT staff vary by the needs of the users and by the level of the position. Not all staff enjoy the same duties.

- When IT departments merge, users need to learn the new way that the department will function to fulfill their needs.
- Leaders can assist employees by understanding and fulfilling their needs and providing vision, while also challenging them to grow as professional employees.
- Leaders can positively or negatively influence employee motivation. Departmental funding of staff and resources, fair workload, helping others, and mentoring were all important to motivation.
- Having peers at work plays an important role by providing advice and friendship; however, not all IT professionals have peers that do the same type of work that they do. Peers can also be a source of conflict when they undermine work or ideas.
- IT staff must maintain skills in both the old and new technology, which can be overwhelming. Having a work environment that supports teamwork can assist staff in balancing the workload and any impact from their personal life.

The pilot study was used to finalize the interview protocol and found that questions did provide information on the leadership preferences of IT staff. A review of the pilot study found that questions and responses were not leading. Although there was data to answer the research question, two questions were added and two other questions had additional prompts added to ensure rich data from participants.

Questions that were added:

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*Interview Question Added*

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<b>Question</b>	<b>Prompts</b>
If you could change one thing about your last job, what would it be?	Environment Supervisor Peers
How do you define success in terms of your work? Describe as best you can anything that has helped you become successful, by your own definition.	Environment Supervisor Peers
<hr/> <p>Interview Questions with added prompts</p> <hr/>	
Without using names, describe a person you would nominate for the best leader award?	What was your connection to them  What makes this leader special  What was their super power  Behavior/attitudes  Teamwork  How did they treat the worst performing member of the team  How did they treat the best performing member of the team  Leadership style (this prompt was used in the pilot)
Without using names, describe a person you would nominate for the worst leader award?	What was your connection to them  What makes this leader special  What was there super power  Behavior/attitudes  Teamwork

---

How did they treat the worst performing member of the team

How did they treat the best performing member of the team

Leadership style (this prompt was used in the pilot)

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By adding these questions, I was better prepared to yield in-depth data to answer the research question. A complete list of first rounds interview questions can be found in appendix B and second round interview questions are in appendix C.

### **Institutional Review Board Approval**

Participation agreement from the head of IT for the research site, and Institutional Review Board (IRB) approval was obtained for the pilot site and the research site. The human subject review application was completed disclosing information that was provided to the participants such as consent forms, the interview questions, and how data was handled. Once IRB approval was received, I contacted the human resources department to obtain names, phone numbers, and email addresses for IT staff; however, the request was denied, therefore the information on IT staff was obtained through public websites.

At the start of each interview, I introduced myself, described the interview process, reviewed the consent form, and provided an opportunity for the participant to ask questions prior to the interview. The participant signed the consent form prior to the interview beginning.

All recruitment material was provided to the head of IT at the research site prior to being sent to potential participants. This was done to ensure that research was conducted ethically as well as providing information to ensure that the IT department was able to assist with the recruitment of participants.

All information and data gathered during this research study is stored at my home in a locked safe. All electronic information and data compiled during this research are securely stored online utilizing storage that is provided by the university. Electronic data includes audio files of interviews, verbatim transcripts, and written notes taken during the interviews. All data is secure and must be accessed utilizing a username and password. The only information gathered that may contain sensitive information are the participants' names and personally identifiable information. To ensure information is secure, each participant was given a gender-neutral pseudonym that was used throughout the research project to ensure that the identity of the participants remain confidential. The only location of participants' names is on a paper document, which is stored in a safe at my home. All data will be retained for three years following the study, at which time it will be destroyed.

### **Participant Selection and Recruitment**

Participants in this study consisted of IT professionals working at a large public four-year research university in the Upper Midwest. One of the considerations for selecting the site was the university having a large number of IT staff with many of them reporting to different supervisors. Other criteria for selecting participants was that they were IT professionals who had been in their positions for over one year at the time of the interviews, thus ensuring that they had experience within their position and were familiar

with the current university culture and leadership. The participants included staff from both central IT and from decentralized units; however, there were no participants that represented research technology support and not all decentralized units were represented. Both males and females participated in the study. Participants all reported to different supervisors.

This study’s goal was to have 8-10 participants with a minimum of six finishing all interviews. The study successfully interviewed nine participants, with eight participants completing both interviews. Demographics of participant education is shown in Table 3. This table shows that the majority of participants do not have formal education in a technical field.

Table 3. Participant Education.

Participant Education	
Bachelors non-IT	4
Associates non-IT	1
Certifications	1
Masters non-IT	1
Bachelors	1
Tech School-IT	1

### **Recruitment**

Information on staff at the university was obtained utilizing public websites. I received permission from the head of the Information Technology department to conduct the research after the Institutional Review Board (IRB) process was completed. The head of the Information Technology department was informed prior to first contact with



potential participants to ask for support of the study and in recruiting. An email from the IT department was sent supporting the research study and encouraging staff participation. Next, an email requesting participation in interviews was sent to all IT staff, yielding two volunteers, and a second request, which was sent two weeks later, brought another seven participants for a total of nine. To encourage participation, all participants were placed in a drawing for a gift card at the end of each set of interviews. Gift cards were valued at \$25 per interview with one winner for each section. No additional recruitment was needed.

Once participants were identified for the first round of interviews, a confirmation email was sent to participants to confirm the date, time, and location of the interview. Timelines for the interviews were coordinated with the head of the Information Technology department to ensure convenience to participants and as not to disrupt work responsibilities. This confirmation email also included instructions for the interview, a description of what the interview would cover, and a copy of the consent form for their review. Second round interviews were scheduled by emailing participants directly.

### **Interviews**

Interviews were conducted at their convenience of time and location with second interviews being conducted four weeks after the first round of interviews were complete, allowing for analysis of data from the first interviews. All attempts were made to conduct interviews at the location preference of the participant; however, due to availability, some interviews were conducted by phone.

Prior to the conduction of the interview, I introduced myself, described the interview process, reviewed the consent form, and provided an opportunity for the

participant to ask questions before the participant signed the consent form. Each participant was given a gender-neutral pseudonym that I chose from a website of “The most common unisex names in America: Is yours one of them” (Flowers, 2015) and used throughout the research project to ensure that the identity of the participants remain confidential.

Interviews were scheduled for 60 minutes with each participant and ended up being 20-60 minutes in length. Second interviews for follow-up questions were scheduled for 30 minutes and lasted 14-30 minutes. Interviews were recorded utilizing a digital recorder. Participants were informed, in writing as well as verbally, that interviews were being recorded with no objections from participants.

### **Instrumentation**

The interview questions (Appendix B and C) probed areas of individual accomplishments within an organizational setting and meanings of best work and success. Additionally, some questions gathered information concerning leadership characteristics. This relationship is discussed further in Chapter IV.

### **Data Analysis**

To understand the essence of the participants’ experiences, I created interview questions that were open-ended and probing. I used follow-up questions to search for deeper responses, which were categorized using techniques such as bracketing and horizontalization. Interview recordings were transcribed utilizing a professional transcription service which was identified during the pilot study and the same methods

and actions were taken after the transcripts were completed to ensure terminology and grammar to be correct.

Once the transcriptions were provided, the questions needed to be qualified. Phenomenology, as addressed by Husserl (2012), is an act of reflection, which was conducted by the researcher utilizing Giorgi's (1975) five steps. Below are the five steps in the procedure as abbreviated from Giorgi:

- (1) The researcher reads the entire description straight through to get a sense of the whole.
- (2) The researcher reads the same description more slowly and delineates each time that a transition in meaning is perceived with respect to the intention of discovering the meaning of learning.
- (3) The researcher then eliminates redundancies, but otherwise keeps all units.
- (4) The researcher reflects on the given constituents, still expressed essentially in the concrete language of the subject and transforms the meaning of each unit from the everyday naive language of the subject into the language of psychological science insofar as it is revelatory of the phenomenon of learning.
- (5) The researcher then synthesizes and integrates the insights achieved into a consistent description of the structure of learning.

Following these steps to review the interview transcripts, I was able to find the essence of the participants' voices. As these steps were completed, I was careful to ensure that prior experience did not influence the data.

### **Researcher Positionality**

As an IT leader in higher education, my personal experience has provided me with insight to the work of IT staff. I obtained an Associates of Science degree and spent the first 10 years of my professional career doing secretarial work, bookkeeping, and human resources. Returning to school for my bachelor's degree in management of information systems, I began working as an IT support technician. Upon completion of my bachelor's degree, I moved to the higher education environment where, over 10 years, I held three positions managing IT staff. In my current position, I am responsible for leading three IT teams. I have found that IT staff are different than other staff, have different needs from leaders, and are motivated differently than other staff. As a graduate student studying leadership in higher education, my lens combines my experience in the workplace as well as classroom discussions, readings, and coursework. The lens that is used to examine information helps to shape the way the world is perceived. In this research, I used phenomenology and constructionism to view and present information.

### **Bracketing and Horizontalization**

As an IT manager, it was important that my prior experiences and beliefs did not overly impact data collection or data analysis that took place as part of this study. I used a technique referred to as bracketing to help me put my own opinions aside and to ensure that separation remained between the study and me. Bracketing, which removes the effects of researcher preconceptions to ensure that they do not taint the research process, allows one to experience phenomena before thinking about and interpreting them (Crotty, 1998; Giorgi, 2008). I used horizontalization, which is the process of

determining what in the data is central and what is peripheral (Giorgi, 2008), alongside bracketing to ensure further separation between my bias and the study.

After utilizing Giorgi’s five-step process, I categorized responses and reviewed the key phrases for each category; then these phrases were arranged by topic – these are examples of bracketing and horizontalization. For example, I reviewed the first transcript, breaking it down into significant statements. Each of the statements was reviewed for a key phrase (or codes), once all transcripts were reviewed, categories were grouped together by topic. See table 4 for an example of coding and analysis.

Table 4. Example of Coding and Analysis.

Significant Statement	Code	Category
“[best performing team member] gets the job done with very minimal supervision” (Casey).	Self-managed	Work Style

**Clustering and Themes**

After the process of bracketing and horizontalization was complete, there were 1,176 significant statements that emerged from the data. These significant statements are represented in Table 5 and are broken down per participant. The next step was to code the data by giving the data a word that represents the statements (shown in Table 6). Once codes were determined, data was again analyzed, and each code was broken down in to categories grouping the codes shown in Table 6, and then further into common themes which is discussed in the next chapter.

Table 5. Significant Statements per Participant.

Participant	Number of Significant Statements
Avery	118
Casey	85
Jackie	204
Jessie	104
Jody	108
Kendall	183
Kerry	125
Peyton	180
Riley	69

Table 6. Codes and Categories.

Codes	Categories	Significant statements per category
IT education, non-IT Education, tech school, Certs, no Education, no support	Education	23
Career trajectory to IT, previous IT work, non-IT work, job satisfaction, no peers	Work experience	53
Tech changes, HE is different, customer service, projects, users' needs, hierarchy, budgets, culture	Institution needs	77
Centralization, Decentralized IT, co-workers, user acceptance, paperwork, team work, changes, autonomy, support of supervisor, co-workers, challenges, basic needs. Managing up, respect of expertise, supervisor without tech skills, respect, HE is Different	Work environment	219

Table 6 cont.

Codes	Categories	Significant statements per category
Manage staff, manage students, mentor students	Supervision (duties)	25
Tech support, self-managed, no problems	Responsibilities	50
Intrinsic, extrinsic, autonomy, helping others, lacking	Motivation	79
work passion, job satisfaction, appreciation, rewards, flexibility, equity in position, leadership support	Retention	24
Self-taught, continued education, research, conference, career growth, skills	Professional growth	52
Staff cuts, lay-offs, equipment needs, funding issues	Budget cuts	32
Impact on family, Work ethic, self-awareness, define success, beliefs of customer service, confidence, extravert, introvert, pay, threat of job loss, on call, difficult, skills, lacking skills, good listener, bad listener, communication lacking, individual needs, engaged, lack of vision	Personal characteristics and needs	105
Trust, allows your judgement, hands-off, engaging, supports team, freedom, reward skills, rely on team, tech skills not needed, good decisions, communication, strategic, hands-off, vision, appropriate corrections, experience in tech, empathy, individual needs, respect	Best Leader	191
Not engaging, micromanages, publicly embarrasses, does not reward success, treats everyone the same, negative employee bonding, your reaction matters, promoted without leadership skills, autonomy, funding issues, narcissism, negative teamwork, silo, support, unaware, personable, lack of vision, hostile environment, not supportive, politically motivated, no trust, no action	Worst leader	93

Table 6 cont.

Codes	Categories	Significant statements per category
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Learn by doing, online learning (or technical training), learn by discussion, research, writing down, peers, by example	Learning style	61
Discussions create projects, emails (or tickets) create projects, provide solution, attention to detail, problem solver, effective, cannot find answers, self-managed	Work style	53
Delegation, confidence, required, communication, subpar, self-starter/motivated, calm, informal leader, tactical/strategic	Team member leadership skills	39

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After creating the categories, the next step was to reanalyze the data to look for additional similarities – these were defined as theme clusters. As sample of Theme clusters is listed in Table 7. Theme clusters then merged into themes, which are listed in Table 8. Themes are further discussed in the next chapters.

An example of moving from a significant statement to codes, categories, theme clutters, and finally to themes is demonstrated with the following statements in Table 9. The significant statement was reviewed for an overarching code and then further generalized into a category. Once all significant statements were coded and categorized, they were grouped into theme clusters and then an overarching theme.



Table 7. Significant Statements per Theme Cluster.

Theme Clusters	Significant Statements per Theme Cluster
Adapting to change	30
Background information	23
Budget Cuts/Staff Cuts	5
Culture Considerations	79
Customer Service and Support	97
Funding cuts/Staff cuts	32
Higher Education Culture/Environment	27

Table 8. Significant Statements per Themes.

Themes	Significant Statements per Theme
Fitting in a University Culture/Environment	345
What Matters in Leadership?	335
Who We Are and What We Need: The Tech Staff Characteristics	473

Table 9. Example of Coding and Analysis.

Significant Statement	Code	Category	Theme Cluster	Theme
“He was there when I needed him” (Peyton).	Support of Supervisor	Work Environment	Leader-Follower Process/Relationship	Leadership

### **Phenomenological Analysis**

From the 19 theme clusters, three themes emerged. Themes were created utilizing the coding technique of first breaking down the interviews into significant statements, coding these statements, and then grouping them into certain categories. Theme clusters were created from the categories and were made by grouping the theme clusters. The three themes that emerged from the data include what matters in leadership, fitting in a University culture/environment, and who we are and what we need: tech staff characteristics.

The reduction from theme clusters to themes showed that the data were evenly split between the significant statements with 345 significant statements in university culture/environment, 335 significant statements in leadership, and 473 significant statements in who we are and what we need: the tech staff characteristics. Theme clusters were representative of the participants’ voices as indicated by Table 10. Theme clusters were also representative of participants’ voices with every participant having significant statements in each of the three clusters.

Table 10. Theme Matrix.

Theme Cluster	Avery	Casey	Jackie	Jessie	Jody	Kendall	Kerry	Peyton	Riley
Adapting to change	✓		✓		✓	✓	✓	✓	✓
Background information	✓	✓	✓	✓	✓	✓	✓	✓	✓
Budget Cuts/Staff Cuts			✓		✓			✓	
Culture Considerations	✓	✓	✓	✓	✓	✓	✓	✓	✓
Customer Service and Support	✓	✓	✓	✓	✓	✓	✓	✓	✓
Funding cuts/Staff cuts			✓		✓	✓	✓	✓	✓
HE Culture/Environment			✓		✓	✓	✓	✓	
Job Responsibilities	✓	✓	✓	✓	✓	✓	✓	✓	✓
Leader-Follower Process/Relationship	✓	✓	✓	✓	✓	✓	✓	✓	✓
Leader's Acts	✓	✓	✓	✓	✓	✓	✓	✓	✓
Leader's Characteristics	✓	✓	✓	✓	✓	✓	✓	✓	✓
Personal Characteristics	✓	✓	✓			✓		✓	✓
Personal Needs	✓	✓	✓	✓	✓	✓	✓	✓	
Professional Characteristics	✓	✓	✓	✓	✓	✓	✓	✓	
Professional Qualities	✓	✓	✓	✓		✓	✓	✓	✓
Retention in Position	✓		✓		✓	✓	✓	✓	
Tech staff learn differently	✓	✓	✓	✓		✓	✓	✓	✓
Type of Motivation	✓	✓	✓	✓	✓	✓	✓	✓	
Works Independently			✓				✓		✓

The overall relationship between the theme clusters and the themes are represented in Table 11. Each of the themes are discussed in detail with examples of significant statements provided from participants.

Table 11. Themes to Theme Cluster.

Themes	Theme Cluster
Fitting in a University Culture/Environment	Adapting to change Budget Cuts/Staff Cuts Culture Considerations Customer Service and Support Funding cuts/Staff cuts Higher Education Culture/Environment Job Responsibilities
What Matters in Leadership?	Leader-Follower Process/Relationship Leader's Acts Leader's Characteristics
Who We Are and What We Need: The Tech Staff Characteristics	Personal Characteristics Personal Needs Professional Characteristics Professional Qualities Retention in Position Tech staff learn differently Type of Motivation Works Independently

### **Validity and Reliability of Study**

In this section, I discuss researcher experience and how I mitigated bias, established transferability, and ensured credibility of the research.

## **Clarifying Researcher Bias**

Because “the researcher’s subjectivities and beliefs may bias the data” (Roulston, 2010, p. 55), and because this research is from the view of constructionism, it is imperative that the voice of this research is that of the participants and not my own. Constructionism means that “our understanding of this world is inevitably our construction, rather than a purely objective perception of reality, and no such construction can claim absolute truth” (Maxwell, 2013, p. 43). It is this perception that I worked to obtain through this study.

My experience was a factor in this phenomenological study. As an IT professional working in the field for over 15 years, my personal views and opinions could have potentially influenced this research. Giorgi (2012) believed that researchers’ attitudes were imperative to research, I must not bring in past knowledge, and I must concentrate on the information presented to me without bias. I put their own beliefs and bias aside, and to do this I acknowledge that my professional and academic experiences must not influence the study. Wertz (2011) says that a researcher must disclose all “interests, traditions, preconceptions, and personal relationships with the subject matter” (p. 84). In this research, I considered my own personal leadership beliefs that must be accounted for my bias. At the research site selected, I have no direct power over the participants; however, because of the relationship between my employer and the research site, it was important for participants to understand my role and how the research will be utilized.

Researcher bias was addressed by utilizing open-ended questions that start with general information and move to more specific information. I developed a rapport with

the participants to ensure that they were comfortable with the questions and to provide detailed information. I ensured the questions were not leading and tested the questions through the use of the pilot study. Although steps were taken to control for researcher bias,

reality is seen as personally constructed and located in the combined experiences of many people. Truth resides in presentation of multiple realities, voices, or stories – including that of the researcher – none of which tells all but the combined group of which may come closer to it (LeCompte & Preissle, 1994, p. 7).

In agreement with LeCompte & Preissle, I understand that my “stance toward the phenomenon observed [therefore] determine[d] the information which [was] obtained” (LeCompte, Preissle, & Tesch, 2003, p. 145).

Because of my relationship to the research setting, I took extra precautions to ensure that participants understood my role. I spoke directly with the university technology leader at the research site to ensure that there was not a perceived conflict of interest. I also spoke with the Attorney General’s office to clarify the role of the research and determine that, in the capacity of graduate research, the role of mandatory reporter did not apply.

### **Member Checking**

Member checking was utilized by asking participants to review their interview transcripts to ensure that I had “developed an adequate understanding of the phenomenon investigated” (Roulston, 2010, p. 87). At the time of scheduling the second interview, I sent transcripts from the first interview to each participant and asked them to ensure that

it accurately reflected what participants shared during the interview and whether they wanted to clarify any points or add additional thoughts. During the second interview, I asked the participants if they had any questions concerning the transcript and if it accurately reflected the meaning they intended to portray and offered to make any corrections needed. Second interview transcripts were sent to participants via email requesting the same review be conducted. After the preliminary defense, I sent chapter IV to participants to allow them the opportunity to give feedback. Two participants responded and neither requested changes to either set of transcripts and they felt it accurately represented their experience.

### **Triangulation**

Data triangulation was utilized to check my understanding of the participants' views. I completed data triangulation by conducting the research utilizing the same social setting but with staff that were from different groups. In this study, participants were selected in a way that ensured that there were staff who reported to multiple supervisors. Another way that the data was triangulated was by conducting two interviews with each participant to “confirm the accuracy and stability of interviewees' reports” (Roulston, 2010, p. 86).

Audit trails were used to validate the analysis of data by the academic advisor reviewing data collection and analysis as well as information such as the number of times each key phrase or category was found and compare to the analysis completed. This was completed by the researcher sending the spreadsheet of significant statements to the advisor while including pivot tables that showed categories, codes, clusters and themes.

Tables with sample significant statements vis-à-vis codes vis-à-vis category and clusters were shared with the academic advisor during the data analysis and data write-up process.

One participant did not complete the second interview of the study, but the data that was gathered was used because the participant did not revoke their consent. Eight participants completed all rounds of interviews.

### **Summary**

This phenomenological inquiry used interviews at a four-year research university to gather the lived experiences of the participants to help understand the experience of being supervised/led for information technology workers employed in higher education.

Data was analyzed using Giorgi's five steps, then responses were categorized, reviewed for key phrases, and then bracketing and horizontalization were utilized. Researcher bias, credibility, and trustworthiness was addressed with steps to ensure the validity of the research. A pilot study was conducted to test the research approach, study design, data collection, and data analysis procedures.



## **CHAPTER IV**

### **ANALYSIS AND FINDINGS**

#### **Introduction**

This chapter describes the data analysis process for the themes as well as ties this analysis to the research questions. The research questions are discussed with quotes provided from the participants' statements to add credibility and authenticity to the data. The end of this chapter synthesizes the information and ties the research findings to the tenets of the conceptual framework.

#### **Themes**

Three themes emerged from 19 theme clusters, and this reduction included first breaking the data down to significant statements, then codes, categories, theme clusters and finally the three themes that emerged. The three themes were: what matters in leadership, fitting in a university culture/environment and who we are and what we need: the tech staff characteristics. In this section, I provide an overview of each theme and provide examples of how the theme emerged using the participants voice.

#### **Theme 1: What Matters in Leadership?**

The leadership theme portrays the key elements of leadership (i.e., the leaders' acts, the leaders' characteristics, and the leader-follower relationship) and conveys significant leadership elements in the participants' professional experiences of the participants. The leadership theme represents the leader-follower relationship, the acts

leaders take, and the characteristics of leaders. Leadership characteristics that were found to be important were vision and strategy, communication, empathy, and confidence. Less desirable leaders were seen as those without vision or strategy and were politically motivated. As Kendall describes, what makes a good leader is “[their] big picture thinking, [their] vision for new concept[s], new ideas and ways of providing things, and [their] knowledge base in pretty much everything.” Kerry went into more detail describing the importance of vision:

If ... a leader can see that vision, and if they can see the five main steps to achieve that vision, and they're sharing that, and they're truly getting everybody to understand that, they're excelling as a leader. Because everybody will follow a plan. It's just nature. They may not agree with the plan, but they will follow out of loyalty because the [leader] has a plan, and the [leader's] role is that they get to set that plan. I may disagree with how they want to approach that, but they're the ones calling the shots. They're also the ones responsible for, but if they tell me we need to do these five things, I will do those five things. And I will work to make sure that we do. And that's kind of a leadership to me is that's key.

Participants also felt that, along with vision, IT leaders need to understand strategy to move forward with growth opportunities.

You know, where do you fit into the picture? How do you serve people? How can you do more with less? How can you do more with more? How do you communicate those things? If you aren't doing that in IT, it's easy for other people to consider you a cost center and consolidate you accordingly.

Participants felt that to not lead with a strategy is to remain stagnant, and that can leave leaders unadaptable and disliked by their employees.

The relationship between the leader and follower were discussed while asking questions about the best and worst leader experiences that the participants have had. The best leaders were described as someone “who can give you direction if you need it but doesn’t force it upon you when it’s not needed” (Peyton) and who gives staff autonomy to do their work. Kendall recalls the first time that someone let them make decisions:

Because I'll never forget, I went in and I asked [them] a question...it had something to do with a strategizing ..., I don't recall exactly what it was, but I remember him leaning back and saying, I don't know, that's up to you. And it, like, clicked, it was like, hmm, nobody in this organization knows this stuff. So, I get to decide that.

As these participants spoke of their leaders, it was apparent by their tones and gestures that this level of autonomy and trust meant a lot to them.

As acknowledged by participants, leaders need to genuinely care about staff. “It just makes a huge difference,” Casey says, “especially [concerning] the morale of the people working.” To show that leaders care was important to participants and they felt that leaders should go above and beyond just listening. Kerry noted that their leaders “made sure that they were at the demos. They made sure they were at the celebration parties.” Leaders are a huge part of the staff support network, and a large part of leadership is “taking care of your people and understanding the role which they best serve.” It is not just about caring for the individual, however – the whole of the staff should be encouraged to work as a team, and their leader and their working environment

should reflect that. According to Avery, “the first thing [my leader] viewed us as [was] a team, and so I felt like we were working together on everything.” That sense of camaraderie is important among staff so that they don’t feel in competition with one another, allowing them to work and grow at their own pace.

When asked the question “how does your supervisor handle situations where you have made a technical or customer service mistake,” all of the participants expressed that this was not an issue and that their supervisors understand that mistakes and problems happen in technology. In fact, they stated that they felt supported by their supervisor after making mistakes. Avery confided that they would always “get a sense that he still has confiden[ce] in [them].” There was always an understanding that it was always Avery’s “mess” to take care of, but they always understood that their leader knew that the mistake was “an anomaly” and not “a character flaw.” Handling mistakes respectfully and talking about them privately, as noted by Kelly is a huge step for leaders to maintain the trust of their staff.

A quick way to become a bad leader is to do the exact opposite of what participants highlighted as good leadership qualities. Participants listed their worst leaders as not supportive, not trusting, and not providing a sense of autonomy. In addition to those established traits, public embarrassment was addressed by four participants as being the worst trait, expressing that the worst leaders “berate” their staff and “discuss their performance in front of other people” (Jackie).

Participants felt that it was important for leaders to address concerns privately with staff and to help staff make the appropriate corrections to behaviors and skills. This performance feedback was discussed by other participants which stressed that coaching

and performance feedback needs to address both the positive and negative situations. Avery described an appropriate response to performance as “not just lecturing but actually having a conversation,” and Casey felt that leaders addressing concerns should be “more of [an] opportunity to learn what we can improve” as opposed to just listing all the mistakes and the places they went wrong. When asked about poor performing team members, Riley expressed that “they probably need a lot of help. They probably need some guidance on how to work with others, or training with how to work with other people better.” Creating an environment where mistakes can be made with understanding and looking at it as a growing opportunity instead of a dragging weight is felt to be important in the IT field because, as Jessie described it, mistakes, and the opportunity to learn from them, are likely the keys to success. This is not a view held only by Jessie, either. Peyton agreed with that view, saying, “you almost can’t be afraid of making mistakes because most of the time you figure out how to do something by doing the wrong thing first.” If mistakes are taken as a sign of learning, then being allowed to fail, as seen by Avery, is a show of support from the leader

Participants expressed that leaders also need to provide an environment that offers support for both the staff as a team, but also for each staff member as an individual. Engaging staff for input and conversation is seen by staff as vital. Having a system like an open-door policy, to Jody, is a mark of a good leader. Jody said that they have a leader they “can call anytime and say, ‘Look, I need to talk. This is what’s going on’” and their leader will listen. For Jody, that open relationship with staff is critical for a leader to possess. On the other hand, Casey seemed to prefer that their leader came to them, but not to “micromanage at all,” just to check in. Casey said their leader would ask

questions such as, ““Is there anything we can do to improve communication or are there tools you’ve seen that might be convenient for us to have as well?”” and it was a good gesture instead of an imposing one – a sign that the leader cared.

The participants noted that another important aspect to good leadership is, in fact, the environment. Working in a setting where leaders support and encourage professional development was of high importance for participants who felt that showing organizational support was a key to leadership success. Avery expressed that a leader should not only encourage professional development but should model it as well. Indeed, remaining stagnant seems to be a danger zone, with participants expressing that it is important to continue to grow skills, because “the reality of the matter is [that] you will never know it all ... and, ideally, your leadership understands that.” However, continual growth is encouraged, and if staff see their leaders learning, they will be more encouraged to do so as well.

All in all, the participants stressed that leadership involved a strong and supportive leader-follower relationship, big picture thinking, and a leader who will be understanding of mistakes, who will encourage professional growth, and who will provide feedback. Participants were consistent in answering questions between the worst leader and the best leader by stating the same qualities of leaders.

## **Theme 2: Fitting in a University Culture/Environment**

The university culture/environment theme portrays how IT workers experience the university environment and felt that they have to adapt to the environment to be able to fit in. The university culture/environment theme discusses staffs perceived need for technical staff to adapt to change, work through budget cuts (including staff), provide

customer service and support, handle job responsibilities, and work in the higher education environment. Because the IT landscape changes quickly, staff shared that they must be able to adapt and learn new skills quickly to keep up with the needs. The higher education environment is also continually changing, and staff also need to adapt to meet the changing needs of the institution. Teamwork, respect for expertise, and job security were expressed by participants as important aspects to the institution and workplace culture for them.

Given the participants' tendencies to enjoy working with student employees, it was no surprise that teamwork is valued among participants. Working as a team was seen by some participants as being more productive, because if "you work better as a team ... you can accomplish more" (Jackie). When asked about what makes an excellent team member, Riley responded by stating that "they'd have to be motivated ... to work together, and to get something, ... to complete the project." Casey found the value in working with others on projects and tasks, stating "I like working together as a team, and if they need things I can help them," because it is not always about having a good team member – sometimes it is about being one.

Teamwork was important to participants, and they expressed that part of being a good team member is recognizing where you're most knowledgeable. The expertise of technical staff needs to be recognized by other IT staff and university employees. Just because someone has a higher position does not mean that they are more knowledgeable about a topic. Frequently in higher education environments, "performance doesn't matter, but titles do" (Jody), and understandable frustration comes with this. "No one's listening to me," Jackie says, "when I tell them this is a bad idea. It's a little bit of

feeling [that] my expert opinion isn't ... heeded to." It's not just about their professional opinions being heard – it's about being listened to. Riley has the same experiences stating that when

somebody asks me for my opinion or how we should handle this or whatever and I imagine most people do, but I value when somebody respects my opinion. But... and sometimes people do that, but then they end up doing something completely different based on someone who has little to no ... experience.

Participants expressed recognition as essential to motivation and willingness.

Another impact on motivation and willingness of employees is staffing and, specifically, staffing problems. Participants expressed concern about staffing not only in higher education, but in the technology industry, voicing their worries over the impact to everyone. However, participants explicitly gave examples of positions and funding being cut at their university, leaving staff feeling insecure in their positions. Some staff members have already been let go, while others have left voluntarily, and the latter positions have yet to be filled, which, as Kendall expresses, can cause burn-out with staff due to the remaining employees having to take on extra work just to fill in the gaps.

The centralization or decentralization of IT is another concern for participants because it impacts their job responsibilities, making staff feel insecure about their jobs. Centralized IT happens in and out of higher education and is done to save money; however, participants felt it often ends up costing more money. Jody recalls listening to an IT leader discuss the way "IT goes through trends" pertaining to centralization and decentralization. The organization will say, "Hey, we need to consolidate everything to save money," but then they'll turn around and say, "Wait, this isn't working, and this is



horrible. We need to decentralize everything to save money and our jobs.’ And ... this [kind of] goes back and forth every five years.” This flip-flopping is because there are advantages and disadvantages to both centralized and decentralized IT.

Centralized IT is more removed from “the action,” as Jody says. “And that is a blessing and a curse, depending on what type of person you are.” Having a central IT means having an IT that is further removed from the user, creating a greater difference between users and staff. Centralized IT also “provides quite a few services for the whole campus; we get our fingers into all kinds of business” (Jackie). There are also more promotion opportunities in a centralized IT (Jody), due to having a larger staff body. On the flip side, decentralized IT has better relationships with a smaller user base, more empathy in the work environment, less promotion opportunities, and a smaller amount of staff means that mentors and technical staff are often left without peers. The decentralized environment does not provide for co-workers, peers, or mentors. Jody says that “throughout [their] career ... [they have] always been the lone cowboy. So [they haven’t] had a mentor ... to show [them] the ropes.” Interacting with users is one of the more positive things about a decentralized IT. As Jody explains it, “generally people are happy when things are working. And if they’re not working, yeah, they yell at me, too. But they have a little more empathy than if I were [in] central IT.” Participants felt that this imbalance of distance and a good customer service network is what causes organizations to switch back and forth between a centralized and a decentralized IT system.

Successful customer service/support was a high priority for the participants interviewed. Determining the definition of success was difficult for participants, with

some feeling that if nothing is heard from users, you are doing a good job, and others feeling that feedback is needed from users to know if they are happy. Participants expressed that they “care about the customer” (Kerry is referring to faculty, staff and students), and that they value providing quality customer service to users, wanting to “make sure that they’re happy with the product and service” that’s provided (Casey). Peyton also cares about the service he provides, stating that “if [their] customers are happy, then [they’ve] been successful.” There’s often a sort of pride that comes with providing good services and knowing that customers trust your judgement, as exemplified by Kerry:

...anytime anybody needs something, they come to me, and I make sure it gets done whether I do it or somebody else does it. I think I kind of built that environment myself. I hated it when people never knew who to go to, so I made sure that everybody that needed anything done just came to me, and not necessarily to me, but some, maybe in other systems that I put into place.

Participants in this study had a wide variety of positions, with some having more direct contact with users than others; however, there was a general understanding across participants of the importance of meeting the needs of both the institution and the user, while also making sure staff have the tools and environment they need to provide good customer service. Jody says that

I’m successful if the staff and faculty have the tools to do their jobs. It’s very simple. You know, if stuff is working, then life is pretty good. If stuff is not working, then life is somewhat less happy.

Jessie sees that the big picture of IT on a campus is maintaining focus, because

once you get away from the technical aspect and once you get away from the core understanding of why we're here to better the environment, to better the working environment for faculty and staff, then, you get into politics and then you get into pissing matches and things just goes sideways.

A proactive approach could be one of the best levels of customer service, and it's frequently showcased by IT staff. Sometimes, customer service requires thinking about "not only how do we solve things quickly, but how do we stop calls coming at all because there wasn't a need for somebody to call" (Avery). Jessie also acknowledges that IT staff "could do more stuff proactively," providing services that customers never see or that they are unaware of, in order to prevent future problems.

Participants expressed that feedback from users is another large part of customer service, but unfortunately, feedback seems to only come when it's negative. As Kendall says, "you get feedback, [but] not everybody wants to give feedback all that often ... like, if it's bad, they want to, [but] if it's good you don't always hear." Users have different expectations of different technologies. Jody

certainly [has] a lot of sympathy for [their] colleagues in central IT that, they're the utility. Right? No one comes to work saying, 'man, my wireless network is great today. I'm so happy.' It's, 'What isn't working, and I am pissed about it if it's not

Some more basic needs of staff in the workplace were also expressed by participants, including items such as having whiteboards in their spaces (Kerry), having the proper temperature in the office (Jackie), having quiet spaces when needed (Jackie; Riley), and having physical comfort (Jackie).

The higher education environment is different than other environments, however, which is something that is acknowledged by IT staff. Working with both faculty and students can hinder IT staff's ability to implement technical changes across the organization because both groups tend to bring their own devices and feel that they have a right to do things differently than others. Jackie shared frustration with this, stating that, "we don't stand in a position to be able to say, 'No, you can't do that because the business has chosen blah as the way we're gonna do this'."

Another difference between IT staff and other higher education staff is the use of student employees in technical positions. Many of the participants stated that they were involved with student employees, including some that had been student employees and then moved into full-time positions. Some of the participants supervise student employees, and some work directly with student employees in ways that include mentoring. This aspect of student employees was discussed in a positive light by participants, and they seemed to enjoy the challenge that this aspect of their jobs brings. Kerry describes it:

I have come full-circle in my career, you might say, because now, I am the mentor for students, as they are learning and when I see them grow and when I see them realize how they take what they learnt in class to reality, it really feels good as having "come full-circle" in [their] career

Other participants agree with that, saying that mentoring the student employees is a good thing that often brings "warm fuzzies" (Jackie).

A challenge that many IT staff face is the amount of politics and paperwork that are required of technical staff. Kerry explained that one of the key struggles to working in higher education is

learning all the rules and reg[ulations] and processes; there are areas that are very regimented and... well ... we're going to kick this back to you because you didn't do this in the right order. Because we have some kind of a higher echelon of pecking orders and things of that nature.

Peyton also struggles with the amount of tracking and paperwork, stating that

I'm still fighting recording everything we do. I've worked in environments where you have to record every little thing you do, and it is very non-productive. So I'm still fighting that, but I fear the day that somebody's going to come up and say, "How many problems did you solve last year." "I don't know. If you want, I'll tell you next year." It'll be less than last year, because we're going to have to do all this paperwork.

Peyton also addresses the struggle for IT staff in dealing with the politics in higher education, noting that

we have layers, official layers of approval that needed to happen. If you're a grad student, it has to go to your advisor or your sponsor – we're still not really sure what to call them – for approval

Kerry has experience outside of the institution and finds that "it isn't the state, it's higher ed as a whole that the level, there's so much of a classroom warfare on a college campus that nobody understands."

The institution has proper processes in place for disciplinary procedures, including termination, and Jessie says that the employee can see the writing on the wall. Which I think is fantastic because you're informed again, but, you know, you start off with 90-day probationary periods, prior to that, probably a letter of intent and any probationary period, the 30 day probationary period after that and then ultimately, by that time, you already have the paperwork signed by HR.

The use of disciplinary procedures was expressed as a positive impact, which fits in with the desire for feedback that participants expressed.

### **Theme 3: Who We Are and What We Need: The Tech Staff Characteristics**

The theme of who we are and what we need: the tech staff characteristics portrays perceptions of who they are as IT professional and what they need from the organization and leadership to be successful. These traits were compiled from traits listed in various questions, including the questions of “describe the characteristics of the best (worst) performing team member” however, there was not a question related to their own traits. Participants expressed that IT staff need to have good communication skills (talking and listening) to have effective collaboration and teamwork skills, be able to ask for help when needed, and to have a desire to assist users and solve problems. Customers need to see that tech staff have confidence in their ability and skills, and tech staff need to be able to communicate with the users so they understand their needs and can explain what actions will be taken.

Because IT is in a state of constant change, participants expressed that processes, systems, and support of systems must be continually re-evaluated. This never-ending

state of fluctuation requires staff to continually learn and expand skills, and staff need support from their leaders and the organization for ongoing training. The challenge that comes with this constant change, along with the standard demand of troubleshooting and implementation, is felt as a positive for most participants. In a question on how participants learn best, it was found that learning styles varied by individual. Some participants learned best in conferences and structured environments, but most learned best by physically doing the task. Avery described it as:

a process that involves, research first. It used to be books but now it's more Internet-based research. And it depends on how in-depth I need to get in the subject. So, if it's very in-depth, I'll start with Internet, [then go to] books whereas Jessie says that "my own personal method would be hands-on, visual." Casey is in the middle, stating that "reading it and then actually doing the hands on works well." It is not surprising that most participants describe themselves as hands-on learners and that most participants did not have formal education in IT. This hands-on learning style assists staff in being able to figure out how to solve problems.

Micromanagement came up during questions about leadership, and participants felt that staff should be able to work independently, with direction given on tasks and duties, but with the freedom to accomplish those duties in the manner the employee prefers (Peyton; Avery; Jackie). There was also recognition from Jackie that "some people really like to be micromanaged," frequently asking questions in a step-by-step manner. However, micromanaging was still viewed among participants as being largely negative. "If [a leader] needs to get something done," explains Peyton, "[they] should have a team that can get stuff done just by explaining, 'This is our project,' ... and then

being there to help them if they have any hurdles, but not standing over them and directing their every motion.” Participants also expressed that micromanaging has a negative impact on employee motivation.

Participants expressed that motivation and job satisfaction of technical staff comes from solving problems and providing systems for the users that make their jobs easier. Staff receive satisfaction through mentoring or supervising others, as well as through the challenges that IT brings them. “To not have a challenge is just a boring old job” (Casey). Participants expressed that most technical staff are self-motivated (Casey, Avery, Jackie; Kendall) as Peyton describes it “I’m very self-motivated. I don’t sit there and wait for somebody to tell me what to do. I, when I see something that needs to be done, and I get it done,” and that they do the job because of their desire to provide a good service and use of their skills. For Avery, personal success was about “contributing in a way that is enjoyable” and “using the skills and talents that [they have] to the best of [their] abilities.” Because of this self-motivation, most technical staff feel that supervisors should be hands-off, leaving staff to have the autonomy to do their jobs in the manner they choose; however, there was a recognition that there are some technical staff that do need a higher level of supervision, but supervisors need to figure out which staff need to have which level of supervision to find a balance for staff instead of micromanaging everyone.

Despite some negative sides of working in IT, job satisfaction and work passion were expressed by participants, and the love of their jobs really came out in these moments. Peyton says that



I do enjoy my job, and I enjoy coming here every day, and I enjoy being hit one after another with different things and not knowing what it's going to be like, and I like that. It's just adventure for me. I mean, literally, you never know what's coming at you next.

Jody expressed that her satisfaction comes from working in higher education:

It's been really rewarding, being an IT professional within higher ed. I can see the results of my work daily. I can see the impact on students, and faculty, and staff, and, I find that very rewarding in [a way] that other opportunities in the private sector wouldn't be quite as rewarding.

The constant change in technology also adds to the job enjoyment as expressed by

Kendall:

So, it's fun and exciting and I love it, but, with my job ... being in IT, it's always changing. Just when you think you're getting comfortable with what you're in charge of and how it's flowing and rolling, there's something new. And I actually really do enjoy that.

Peyton loved making people happy by solving problems, stating that "I enjoy making people happy. I make... I enjoy solving their problems so that they can move on with their lives."

Although discussed in the leadership theme, participants expressed that they feel leaders should address performance problems directly with staff and that it is important to address these items in private. Kerry described their experience:

the only way an outsider knew it was when the person who didn't get done shared. It was one on one, quietly, talk it through, and go fix it. And it was very

much that way. “You let me down here. What can we do? What needs to happen to fix it?” And there [were] times I was on the receiving end of those conversations just because of life, there’s times you let somebody down. But they did it privately. They did it professionally. And it was never about the failure, it was about learning from that.

In describing how the best leader treats the poorest performing member of the team, Riley states that

I would hope that they would try to help figure out why they’re poorly performing and then help them ... if they can, whatever it might be. If they’re having some personal problems at home, or if [they] just need more training. That somehow, if possible anyway they would help them, and I guess, on the other hand, if it continues to be a problem, ... that they would get rid of them and, trying to get somebody else ... that can be more productive ... that’s the tough part.

Participants were asked how their supervisor or other team members handled it when they make a mistake. Kendall stated

Well, I’m always very open to my mistakes. Like, I don’t try to blame anybody else. I don’t try to hide them. So, I think we’re all...like, me and my entire team... I feel like we’re all really open with just sharing with each other how things... We all are open to that everybody makes a mistake, and we’re all open to, you know, just... Like, I have worked on not really asking my team to take care of a mistake I’ve made. If I made a mistake, I call, and I take care of it. but, you know, they... they listen and ... I don’t ever feel judged. I mean, maybe they are and I don’t know it. But I never feel judged. You know, I feel like we all

realize that we all can make a mistake. You know, they'll talk about mistakes they've made, and I've talked about mistakes I've made, and I think we're kind of a good group that way, that we all feel pretty comfortable owning up.

Kendall has also had to work with staff that have been the ones that have made the mistakes and has handled them "through our performance reviews and talking to him, he's started delegating some work off and has just been so much better."

### **Summary**

This chapter examined the research questions through the voice of the participants. The themes of what matters in leadership, fitting in a University culture/environment, and who we are and what we need: the tech staff characteristics were explored in relation to participant interviews and the literature. In the theme of what matters in leadership, participants described a strong and supportive leader-follower relationship, big picture thinking, understanding of mistakes, supportive of professional growth, and willing to provide feedback. The theme of fitting in a university culture/environment discussed the ability to adapt to change, customer service, job responsibilities, and the higher education environment where the participants felt they had to fit in rather than being accommodated by the institution. The theme of who we are and what we need: the tech staff characteristics included the desire to solve problems, customer service, communication skills, and teamwork. The next chapter will provide findings on the implications to theory, practice and research.

## **CHAPTER V**

### **DISCUSSION, CONCLUSIONS, AND RECOMMENDATIONS**

This qualitative research study examined how IT staff perceive leadership and organizational environment in higher education through the lived professional experiences of IT staff. The goal of the study was to uncover the essence of the professional experiences of IT workers being supervised/led in a higher education setting. I used the Vroom and Jago's (2007) definition of leadership that indicates that leadership is "a process of motivating people to work together collaboratively to accomplish great things" (p. 18). I adopted the ACHIEVE Model, created by Hersey and Goldsmith (1980), as a way to understand IT workers' professional experiences in a university setting and suggest ways that the managers may consider for evaluation of professional performance of their followers in addition to the diagnostics of performance problems and required changes (Hersey & Goldsmith, 1980; Pathak, 2011; Hersey, Blanchard & Johnson, 2013). In this chapter, I discuss the findings as they relate to the research questions while incorporating the ACHIEVE model. Also, I address the implications for theory, research, and practice as they connect to the role of information technology reshaping higher education.

#### **Discussion of the Findings**

Giorgi (2008) states that as researchers we must adopt the attitude of the discipline that is being studied to "bring the proper sensitivity to the analysis and provide

a perspective that enables the data to be manageable;” (p. 2) however, this perspective cannot be stronger than the data itself. While bracketing personal knowledge on the topic, the researcher searches for the essence of the experience of the participants. This is done by examining the experience of the participants and finding the essence of the phenomena to discover new meaning (Crotty, 1998; Merleau-Ponty, 1958; Lester, 1999; Eagleton, 2003). In this section I review the relationship between the themes and the research questions.

### **Research Questions**

The research question used in this study to find the essence of the IT worker experiences was:

*What is the professional experience of IT professionals, who are employed and supervised in a higher education organization?*

This question was answered utilizing the three sub questions below and then, in its entirety, in the summary of this section. Three sub-questions are:

1. How did a higher education organization shape IT professionals professional experience in a Midwest research university?
2. How did the higher education leaders/supervisors (i.e. department heads, CIOs, etc.) shape that professional experience?
3. How did personal and professional characteristics of IT workers shape that experience?

Three themes – what matters in leadership, fitting in a university culture/environment and who we are and what we need: the tech staff characteristics – emerged from the data.

Leadership represents leader-follower relationships, acts leaders take, and characteristics

of leaders. Institution culture/environment concerns the ever-changing environment of both higher education and technology. Tech staff characteristics includes the skills and abilities needed for technical staff working in higher education.

The ACHIEVE model was used to relate the findings to the research questions and assist managers in helping employees succeed. The ACHIEVE model includes: knowledge and skills (ability), understanding and role perception (clarity), organizational support (help), motivation and willingness (incentive), coaching and performance feedback (evaluation), valid legal and personnel practices (validity), and environmental fit (environment) (Pathak, 2011).

### **Interpretation of the Findings**

This study's conclusion is that the three factors of leadership, culture/environment, and technical staff characteristics are prominent in the way that IT workers experience higher education. The relationship between the research questions, interview questions, and theory are shown in Table 12. These themes are related to the research questions below.

However, it is important to note that while present in each level (per my research questions), the elements from the ACHIEVE model had a varying degree of relevance in the participants' perceptions of the role of leadership, organizational environment, or personal characteristics in their professional experience. Therefore, in the following sections, I will discuss these ACHIEVE elements as they appear in a more explicit connection to either organizational environment, leadership, or personal characteristics.

Table 12. Relationship Between Research Questions, Interview Questions, and Theoretical Framework.

Research Questions (RQs)	Interview Questions (IQs)	Tenants of Theoretical Framework
What organizational elements shape that experience?	IQ 1.2. Describe your role in the department, including those that are in your position description and those that are not.	Clarity, Ability
	IQ 1.3. How do you define success in terms of your work? Describe as best you can anything that has helped you become successful.	Ability, Clarity, Help
	IQ 1.4. Tell me about a time that you were able to do your best work and you accomplished a lot of work on operational work and projects?	Ability, Incentive, Evaluation
	IQ 1.5. Tell me about a time that you dreaded coming to work and accomplished much less work and projects than you should have.	Ability, Incentive, Evaluation
	IQ 1.8. If you could change one thing about your last job, what would it be?	Ability, Clarity, Help, Evaluation, Environment, Incentive
	IQ 2.2. How do you learn best? How does your supervisor support your need for professional development?	Ability, Help, Incentive
	IQ 2.3. Describe the characteristics of best performing team member.	Clarity, Help, Environment
	IQ 2.4. Describe the characteristics of worst performing team member.	Clarity, Help, Environment
IQ 2.5. Describe the characteristics of the worst performing team member.	Clarity, Help, Environment	

Table 12 cont.

Research Questions (RQs)	Interview Questions (IQs)	Tenants of Theoretical Framework
What leadership elements shape that experience?	IQ 1.3. How do you define success in terms of your work? Describe as best you can anything that has helped you become successful, by your own definition.	Ability, Help, Environment
	IQ 1.6. Describe the qualities of a person you would nominate for the best leader award.	Help, Evaluation, Validity, Environment, Incentive
	IQ 1.7. Describe the qualities of a person you would nominate for the worst leader award?	Help, Evaluation, Validity, Environment, Incentive
	IQ 2.1. How do you learn best? How does your supervisor support your need for professional development?	Ability, Help, Evaluation, Validity, Environment, Incentive
	IQ 2.2. How do you prefer that your work/project are presented to you by your supervisor or users?	Help, Evaluation, Clarity, Incentive
	IQ 2.5. How does your supervisor handle situations where you have made a technical or customer service mistake?	Ability, Help, Evaluation, Clarity, Incentive
	IQ 2.6. How does your supervisor handle situations where you have made a technical or customer service mistake?	Ability, Clarity, Help, Incentive, Evaluation



Table 12 cont.

Research Questions (RQs)	Interview Questions (IQs)	Tenants of Theoretical Framework
What individual-level (i.e. personal or professional) qualities shape that experience?	IQ 1.3. How do you define success in terms of your work? Describe as best you can anything that has helped you become successful, by your own definition.	Ability, Clarity, Help, Incentive, Evaluation, Environment
	IQ 1.4. Tell me about a time that you were able to do your best work and you accomplished a lot of work on operational work and projects?	Ability, Clarity, Help, Incentive, Evaluation, Environment
	IQ 1.5. Tell me about a time that you dreaded coming to work and accomplished much less work and projects than you should have.	Ability, Clarity, Help, Incentive, Evaluation, Environment
	IQ 1.8. If you could change one thing about your last job, what would it be?	Ability, Clarity, Help, Incentive, Evaluation, Validity, Environment
	IQ 2.2. How do you learn best? How does your supervisor support your need for professional development?	Ability, Help, Incentive, Evaluation
Follow-up	IQ 2.7. Has anything changed in your perspective about your professional life and work circumstances since last time we spoke?	Ability, Clarity, Help, Incentive, Evaluation, Environment

**Research Sub Question 1**

*How did a higher education organization shape IT professionals professional experience in a Midwest research university?*

Findings indicate that many organizational elements shape the experience of technology workers in higher education. The university culture/environment theme addressed the research question by questioning whether the employee has the support needed from the organization to be successful. The primary elements of the ACHIEVE model that answer this research question include clarity, environment, and validity, and, in this section, I will discuss those findings and the interplay with the leadership, environment, and the personal characteristics regarding these two variables.

**Clarity.** As found in the institution/culture/environment theme, organizations need to have a strong mission, vision, and strategic plan, and leaders of the organization need to ensure that staff have a clear understanding of their roles within that framework. Because technology staff are often self-managed and work on projects that could impact the direction of the institution, it is important that leadership provide clarity for staff and encourage staff to ask questions and receive feedback from supervisors. Understanding organizational and professional roles is important to technical staff because of the independent nature of their positions. This was also found in the leadership theme where participants described important leadership characteristic as having vision, strategy, and communication skills. Technical staff need to be able to clearly define success for their work for themselves because often the users do not provide feedback.

**Environment.** The environment of higher education is challenging for IT staff due to rules and regulations limiting employee performance – which was evident in the experiences of the participants. In this environment, IT staff have to change to fit the environment, which can be a factor in job satisfaction.

The higher education environment was found to be highly bureaucratic with the power levels being of a hierarchical structure (Byrd and Turner, 2000). There is a conflict in this structure because IT have the knowledge and expertise that give them power, which requires IT to function in a more horizontal structure (Glen, 2003). Byrd and Turner (2000) agree with Glen (2003) that for the expertise of technical staff to be considered at all levels of the organization, an organization may require a horizontal structure. The existing bureaucratic/hierarchical environment of higher education can be difficult for technical staff, especially when it comes to navigating through the convoluted processes required to accomplish tasks for the university, where titles rather than expertise carry more value and draw respect.

There were many references by the participants to the hierarchical environment of higher education and the large number of processes and steps that make their jobs harder. Organizations should ensure that processes and procedures are clearly defined. The environment that staff work in is important, and institutions should ensure that there are policies and procedures in place for purchasing equipment needed and for allowing flexibility in staff schedules. The culture needs to be one of autonomy and respect for expertise, which means accepting the opinions of staff and understanding that titles are not more important than that expertise.

In a centralized IT environment, services are placed in the core of the university, while in a decentralized environment, services are provided within departments. This is another factor of the environment that impacts staff work. Each staff member has differing opinions on which is better. Organizations need to understand that this concept does impact satisfaction with the environment and position. Some staff feel that there is a

better connection with users and business processes in a decentralized environment; however, there appears to be more connection with co-workers, more room for advancement, and cross training in the centralized environment.

**Validity:** Technical staff want to feel that everyone is treated equally and to have documentation of items such as promotion criteria available. It was seen in the university culture/environment theme that it is important that institutions have proper procedures in place for employee terminations, when needed. When budget cuts mandate that positions be eliminated, staff feel that the organization needs to be transparent with information so that staff are not fearful that they will lose their jobs.

## **Research Sub Question 2**

*How did the higher education leaders/supervisors (i.e. department heads, CIOs, etc.) shape that professional experience?*

This study has found that there are many leadership elements that shape the experience of working in technology in higher education. The leadership theme includes leader-follower process/relations, leader's acts, and leader's characteristics. Leaders need to ensure that technical staff have the resources and information needed to support the organization. The primary sections of the ACHIEVE model that answer this research question include help and evaluation and, in this section, I will discuss those findings and the interplay with the leadership, environment, and the personal characteristics regarding these two variables.

Similar to leadership in other fields, when asked to describe the best and worst leader characteristics, participants described leaders as needing to possess strong communication skills to be able to portray confidence and empathy. Leadership needs to

ensure that staff have the resources needed for training and professional development, and they need to advocate these resources to organization leaders. Leaders need to have clarity to make sure staff understand tasks, goals, objectives, priorities, and the leaders' visions for the department. Leaders need to ensure that staff are encouraged to ask questions and receive feedback from supervisors. Leaders should not be politically motivated for themselves but should use their strong communication skills and relationships to advocate for the team. The finding of this study that an environment of teamwork and support is needed for IT staff is similar to the literature review by Bryman (2007), who also found that communication, participation in decision making, credibility, positive atmosphere, being trustworthy, and having integrity were important leadership qualities.

**Help.** Leadership needs to provide resources that staff require for them to successfully support the organization. This includes budget for equipment, staffing, and support for navigating organization processes. Leaders need to know their staff's skills and abilities so that they can provide them with challenging projects and tasks. Leaders must rely on staff to do their job and understand what level of support is needed, while providing clear direction and paths to success, including promotion. Autonomy in their job is important to IT staff, and leaders need to be careful to only provide support that is needed while understanding that this need varies by individual. This is in agreement with Geary (2017), who found that leaders need to provide tools they need, facilitate creativity, delegate, offer feedback, support but don't micromanage, give credit where it is due, communicate by updating staff and listening, and deal with conflict head on.

IT especially has a high cost to the organization in regard to infrastructure, user support, training, and software licensing, and all of these costs need to be considered (Green & Gilbert, 1995). During times of budget cuts, organizations need to ensure that staff understand what the impact to equipment and staffing will be so that staff are not in fear of losing their jobs.

During budget cuts, organizations need to determine which technologies will be the most beneficial for the institution and thus continue to be utilized (Glen & D'Agostino, 2008). In determining which technologies to focus on, the expertise of the technical staff that will implement and support these technologies will ensure that faculty and staff have the tools needed to support student success (Aractingi et al., 2012; Alexander, Grajek, & Grama, 2017; Ahalt & Fecho, 2015). Administrative systems are also important because they are “responsible for managing institutional business processes and transactions;” these competing priorities between student needs, faculty needs, and staff needs complicate these decisions (Aractingi et al., 2012, p. 10).

Participants expressed in interviews that they want to feel that their basic needs are met, such as having a comfortable work environment, having the necessary equipment provided, and having adequate staffing. There is an insecurity in job longevity for technical staff because many have either lost a previous position due to layoffs or centralization, or they have worked with people who have lost a position for these reasons. Staff working in IT need to have the feeling of job security so that they know that they can take care of themselves and their families. Staff working with technology are most successful when they have some leadership skills, including

communication, confidence in their ability, delegation of tasks, serving as an informal leader, being a self-starter, and being self-managed.

**Evaluation.** Technical staff feel that addressing performance problems is an opportunity for professional growth. Leaders need to create an environment through policies, procedures, and performance management plans to ensure that employees are receiving ongoing feedback.

When ability is lacking in technical staff, leaders need to provide training, coaching, or reassigning of duties to help the staff member grow as a professional and strong member of the team. Leaders must be able to effectively use performance management plans to help staff grow professionally. Leaders need to address both positive and negative performance on an ongoing basis and treat everyone the same during this process. The importance of performance management plans is to help retain staff because the hardest positions to fill are the most highly technical and hiring and retaining key personnel is difficult (Pomerantz & Brooks, 2016; Barden et al, 2016).

It is important for leaders to address concerns privately with staff and to help staff make the appropriate corrections to behaviors and skills. Creating an environment where mistakes can be made with understanding and viewing mistakes as an opportunity for growth instead of a dragging weight is felt to be important in IT so that continued growth in skills and technology can continue.

### **Research Sub Question 3**

*How do personal and professional characteristics of IT professionals shape that experience?*

The who we are and what we need: tech staff characteristics theme addresses this research question by understanding the characteristics of technical staff that work in higher education. The primary sections of the ACHIEVE model that answer this research question include ability and incentive and, in this section, I will discuss those findings and the interplay with the leadership, environment, and the personal characteristics regarding these two variables.

Attributes of IT personnel is limited in research, and this study has found that technical staff portray confidence in their ability to solve problems and have the knowledge that enables them to provide appropriate solutions. The skills and knowledge needed to do the job vary by position and by task, and technical staff have many different ways of acquiring the skills needed, including learning by example, taking classes, attending conferences, formal training, and learning by doing. Staff working in technology fields tend to be self-taught, which is evident in the number of participants that do not have technical degrees.

**Ability.** Because skills and knowledge of technical skills need to be continually updated, organizations must ensure that technical staff have the resources to acquire the knowledge and skills needed to react to the changing environment of both higher education and IT. Access to training and skills development is required in many delivery modes, and staff need the skills to provide the technology needed (King & South, 2016). Institutions need to understand the impact of budget cuts on staff, both in consideration of pay and on the skills needed to do their jobs. This is consistent with the findings of Paré and Tremblay (2007), who found that organizations that value their staff's own professional development and training also increase their employees' longevity.



However, employees do still leave the organization, and other staff need to have the appropriate skills to fill in the gaps until these vacated positions can be filled or longer, if positions are not filled. Unfortunately, training and professional development are often negatively impacted by budget cuts at a time that staff need additional training to fill gaps.

Staff need to have strong communication skills to be able to be engaging with leaders, co-workers, and users to find the right solution; however, these findings of strong communication skills are not in agreement with Glen (2003), who found that “geeks” are introverted (p. 4). Technical staff need to have a strong work ethic and self-awareness of their abilities because of the amount of independent work required. These findings support some of the findings of Lounsbury, Moffitt, Gibson, Drost, and Stevens (2007), who found customer service orientation and work drive to be traits of technical staff.

**Incentive.** As mentioned by Glen (2003), technology staff are motivated by the challenge of the job, and organizations need to support technology staff to work on those challenges in an environment of autonomy. Participants expressed that problem-solving is the motivation for their jobs, and organizations might consider giving IT professionals more autonomy if they are looking to increase employee motivation.

The findings of this study agree with other studies such as Ivancevich, Duening, and Ivancevich (2001), who found that IT staff enjoy solving problems and want to feel that they are making a difference. Technical staff have a passion for their work and are motivated by the challenge of solving problems with their skills and knowledge. Providing solutions to users that will make their jobs easier or better in other ways is also a strong motivation. Retention of technical staff revolves around job security, feeling

appreciated, and feeling that their opinion is respected. Other incentives include job flexibility and pay equity.

### **Implications**

The purpose of this study was to investigate the essence of IT workers being supervised/led in a higher education setting as related to IT worker retention, professional development, and growth. This research was intended to provide recommendations to leaders and supervisors on how to assist IT workers in meeting the needs of an institution, to contribute to IT worker retention, and to support IT workers' professional development and growth within higher education. This dissertation had the aim of exploring the organizational elements, leadership elements, and individual qualities that shape the experience of IT workers in higher education. The implications will concentrate on the leadership, organizational, and individual characteristics that motivate technology staff in higher education.

### **Implications for Theory**

Chapter II explored the description of leadership by Vroom & Jago (2007) as well as the ACHIEVE model. This section will demonstrate how the results of this study connect to the theoretical and conceptual framework.

**Leadership in higher education organization.** IT leadership was explored, and it was assumed that the relationship between IT workers and their supervisors/leaders was built on outcome-driven and performance-based constructs, which drive organizational and individual achievements. The leadership definition used in this study was from Vroom & Jago (2007), who indicate that leadership is “a process of motivating people to work together collaboratively to accomplish great things” (p. 18).

For IT staff, teamwork is important, and this study found that working together collaboratively means that the leader is there to support the workers and ensure that they have the resources needed to accomplish great things. The support of supervisors/leaders was a major finding of this research study, and that support includes funding/budget, resources, and teamwork. Another major finding is that IT workers interviewed in this study felt that respect for their expertise regarding technical decisions was critical to their success. This respect should include respect for the work that they perform and the recommendations that they make, but should also be carried through to decision making, such as on budget cuts, technology decisions, and staffing. This desire for respect in the higher education environment may be a competing notion of expertise with faculty who are seen as experts in technology theory.

**Incentive.** The motivation of staff is another important function of leadership in IT. Because the biggest motivation for technology staff is the challenge of the job, this too shows the importance of supporting the need for professional development and ongoing learning of these positions. Other factors that impacted motivation from leadership included feedback, recognition, and rewards, which supports the findings from Hersey, Blanchard & Johnson (2013) and Pathak (2010) that were discussed in Chapter II. This is also in agreement with Herzberg (1987), who found that “achievement, recognition, advancement, the work itself, personal growth and responsibility” were motivational factors (p. 9).

**Environmental fit.** Whether the organizational environment is designed to meet the professional needs of its employees is a rational perspective that typically informs all HR practices and processes of a given organization. This theory is also built on that

assumption, which then rationalizes an individual performance/achievement vis-à-vis their environmental elements. However, based on the findings of this study, this assumption can be problematized as there could be an interesting dynamic of an environmental fit where the employees constantly operate on the need to adapt to their environment and strive to make their expertise relevant and recognized. Competing notions of expertise (i.e. IT worker versus faculty) could also complicate the role of the environment in IT workers' professional experience in higher education. Thus, implications for theory may include a problematization of the role of an environment and a fit with it in the employee's achievement and satisfaction.

### **Implications for Practice**

**The ACHIEVE model.** The ACHIEVE Model used seven variables to identify performance problems and implement changes, which are: motivation/incentives, ability, understanding/clarity, organizational support/help, environmental fit, feedback/evaluation, and validity (Hersey & Goldsmith, 1980; Pathak, 2011; Hersey, Blanchard & Johnson, 2013). When comparing this study's results with the ACHIEVE model, it was found that the model could be applied for use with technology staff.

The results of this study confirm that the ACHIEVE model for technology staff would include all variables. Ability is important to ensure that supervisors/leaders support the need for continuing skills development for technical staff, despite tight budgets and competing priorities for time. Clarity is important because, while staff need autonomy from supervisors/leaders to do their job, they also need to understand the vision, priorities, tasks, and goals of the organization. Help is important to ensure that

technical staff have the budget, equipment, and staffing to allow them to meet the needs of the organization.

The findings for the conditions of an environment mainly revolved around the bureaucracy within higher education, which can be difficult and stressful for technical staff to maneuver. The rules and regulations that the state, the institution, and the leaders put in place require technical staff to try to learn these processes. Another environmental variable that is different in higher education is that IT staff support the entire university community, including staff, faculty, and students. This support extends to any device that the community brings and requires staff to continually learn new technologies and figure out how to incorporate them into the existing systems. This “bring your own device” culture does not allow technology staff to set standards for technology that would be useful for support, automation, and security.

Incentive is also a major factor for technical staff and the challenge of the task is the major source of motivation, so leaders/supervisors need to concentrate on items that demotivate staff – such as job security, respect for expertise, and pay.

**Technical staff characteristics.** Information concerning technical staff is limited, and this study adds to the information available. IT staff were found have good communication skills, display confidence in their abilities, to be able to work independently, have a strong work ethic, have effective collaboration and teamwork skills, and to have a desire to assist users and solve problems. Adapting to change is another important characteristic of technical staff working in higher education because of the fast rate that both fields change. This fast rate of change also requires staff to be willing and able to be continually learning, and it was found that hands-on learning was

the most prominent learning style. These staff prefer a hands-off manager who provides autonomy to do their jobs. Motivation and job satisfaction of technical staff comes from solving problems and providing systems for the users that make their jobs easier. Staff receive satisfaction through mentoring or supervising others. Demotivation by the lack of job security was also found to be characteristic of technical staff.

Other technical staff characteristics include leadership skills being needed to effectively do their jobs; these included strong communication skills, confidence in their ability, being able to delegate tasks, serve as an informal leader, being a self-starter, and being self-managed.

Higher education is working to increase enrollment and to increase student success, and as technology continues to grow, staff, students, and faculty expect that technology will also grow in higher education. Instructors are being challenged to reimagine courses through technology and to integrate technology into the classrooms. Examples provided in Chapter I include eTextbooks, simulation technology, game-based learning, flipped classrooms, active learning classrooms, BYOD, and learning management systems.

Budgets may be the greatest threat to technology and technology staff in higher education. Because technology changes at a fast rate and higher education must keep up with those changes, higher education and state leaders need to evaluate budget cuts in technology to determine the impact on the institution. Budget cuts not only reduce the amount of technology that can be purchased, they also reduce the number of technical staff for the institution. Technical staff create, maintain, and support technology, and they must remain current on their skills to be effective and to support the range and

complexities of the technology needed in higher education (Glen, 2003; Shih, Jiang, Klein & Wang, 2011; Byrd & Turner, 2000).

Job security due to budget cuts and reorganization is also impactful to staff, and leaders need to help staff understand these decisions. As staffing is cut, leaders need to understand that the expertise that was lost may or may not be able to be achieved by others on the team. Supporting staff with training and professional development can assist; however, this expertise is not always able to be replaced, and it may be difficult to recruit qualified replacements for many positions.

As institutions are having to do more with less staff and budget, it is important for technical staff to be motivated and for technology to make a positive impact on the institution. The results of this study suggest that technology supervisors/leaders can provide an environment to help technology staff be effective and motivated to meet the needs of the faculty, staff, and students. Technical staff in this study discussed the need for respect of their expertise, including support recommendations that they make in solving problems, selecting technology, or changes needed. Leaders can also show respect for expertise by supporting staff in training and budget and by giving technical staff the autonomy to do their jobs in the manner they desire, providing that they understand the need for the project or task.

**Leadership development.** Institutions should provide additional training for leadership, especially those that oversee technology departments or technology implementations. This training should focus on the issues described in this section as well as the understanding of technical staff traits and what they need. The EDUCAUSE Institute provides training to several groups including the new manager program, the

management program, and the leadership program (EDUCAUSE Institute, 2018). The new IT management program is for new managers or those aspiring to be managers and focuses on basic supervising skills, “interpersonal communication, prioritization, finance and budgeting, project management, managing up, and performance management” (EDUCAUSE Institute, 2018). The management program focuses on enhancing skills for IT managers with 3-5 years of experience “enhancing those skills contributing to the successful engagement and motivation of people, such as interpersonal communication, time management, negotiation, and performance management” (EDUCAUSE Institute, 2018). The leadership program is for CIO’s and those aspiring to be CIO’s with a goal to “develop an understanding of the style and context in which decisions are made, and enhance awareness of the need for strong communication, partnership building, and organizational skills” (EDUCAUSE Institute, 2018). These sessions are designed to assist in people who oversee technology, CIO’s, as well as those that lead change for the institutions. While these sessions aim at the overall leadership of technology and are typically broad in their curricular, it would be beneficial for leaders to have training specific to the professional needs of IT workers, as suggested by the findings of this study.

Possible topics for the curriculum of a leadership development program may draw from the tenets of the ACHIEVE model with a goal of connecting closely to the nuances of IT professional experiences and characteristics in higher education. This initiative needs support from every level of the organization and the lessons learned from this training must become part of the institutional culture in IT. Participation in such a



training should include leaders and aspiring leaders of technology departments and those who work with technology staff on a regular basis.

Table 13. Leadership training

ACHIEVE Model	Goals	Learning Outcomes
Ability	Support technical staff in their need for continual skills development to support the changing technology and high education environment	Understanding the need for continual learning of technology staff to ensure that they have the knowledge and skills to support the institution.
Clarity	Provide clarity of the institution needs so that technical staff can have autonomy in their work and tie projects to the institutional priorities	Develop strategies to ensure that technology staff understand the mission, strategic plan, and the leaders' vision for the department
Help	Ensure that staff have the resources needed to be successful	Become an effective advocate for technology staff to help ensure that they have the budget, equipment, staff needed to support the institution
Incentive	Have productive and motivated staff to ensure projects and tasks are complete and for employee retention	Increase awareness of what motivates technology staff to do their jobs and understand the demotivating factors that have a negative impact on performance
Evaluation Validity	Allow staff to continually improve and grow professionally by providing feedback and encouragement.	Develop a strategy for continual performance feedback, promotion criteria, and fair treatment of staff
Environment	Assist technical staff to navigate higher education.	Understand the impact of the bureaucracy and hierarchical environment of higher education on technology staff and develop strategies to assist staff
	Technical staff are different than other staff and by assisting leaders to understand those traits will assist with retention and productivity	Understanding technical characteristics of IT staff and how those characteristics impact the organization

Outcomes of this training correlate to the ACHIEVE model to ensure that leaders have a tool to assist them now and in the future. Sample goals and learning outcomes for the leadership training are provided in table 13. Through this training, leaders will have the tools needed to provide the support and the culture to ensure that technology staff can provide the best support to the institution.

### **Implications for Research**

Several possible areas for further research include an impact of the higher education bureaucracy on technology staff, an impact of emotional attachment to the organization on retention, and impact of gender on self-worth and respect for expertise.

Bureaucracy was not the focus of this study, but it was discussed by multiple participants with regards to policies, procedures and practices in higher education. Another factor was how faculty and staff are treated differently, and the impact of faculty tenure on technology support. Job security could be studied at many angles from the findings of this study. Participants voiced that job security was an issue due to budget cuts, voluntary separation of staff, and centralization or decentralization of technology departments. These changes are often done to save money; however, further study on the actual cost to the institution may be helpful.

Gender was not the focus of this study nor were there questions on gender included in this study; however, the impact of gender on self-worth and respect for expertise would be a topic worth further investigation. The reality of the IT professional world is that it is a male-dominated profession (Pomerantz & Brooks, 2016). Whether and to what degree a male-dominated environment may play a unique role in female IT professionals' experiences in higher education is an important question for follow-up

research. Additional studies with a more diverse population would add breadth to this line of research. Using participants from multiple institutions and/or multiple sizes and types of institutions would allow a comparison of perspectives between technology staff, organizational environments, and leaders.

### **Conclusions**

This research studied the essence of the experiences of IT workers being supervised/led in a higher education setting to draw implications for theory, research, and administrative practice regarding IT worker retention and professional development and growth in higher education. Major findings included the support of supervisors/leader is needed, including funding/budget, resources, and teamwork. Another major finding is that IT workers interviewed in this study felt that respect for their expertise regarding technical decisions was critical to their success.

These recommendations for higher education leaders will assist IT workers in meeting the needs of an institution, to contribute to IT worker retention, and to support IT worker professional development and growth within higher education. The ACHIEVE model was found to be applicable to higher education leaders in regard to technology staff. These include providing support for:

- knowledge and skills (ability) through resources and training
- ensuring the technology staff have understand their role in the organization (clarity) by sharing the mission, strategic plan, and the leader's visions for the department

- organizational support (help) in the form of budget, equipment, staffing to ensure that technical staff can meet the needs of the organization and by helping technology staff navigate the organization
- motivation (incentive) for technology staff is primarily the challenge of the task but these staff may be demotivated if there is not job security, autonomy in doing the job, or lack of respect for their expertise
- performance feedback (evaluation) from leaders is important especially because users often do not provide positive or negative feedback but leaders also need to encourage staff to ask questions
- validity is addressed by leaders by ensuring everyone is treated equally and by providing clear promotion criteria
- environmental factors include addressing the bureaucracy and hierarchical issues for staff and by leaders advocating for the team and individual staff

Through the findings of this study, leaders will have information and the ACHIEVE model to aid them in creating a motivated team to assist the organization in meeting goals, budgets, and timelines.

## **APPENDICES**

## **Appendix A**

### **Introduction to Study**

My name is Michelle Rakoczy and I am a doctoral student in the Higher Education program at the University of North Dakota conducting research on IT workers experience of being led/supervised. I am looking for volunteers to participate in a study for my research study.

Please consider participating in my study, I will do my best to minimize the time it will require of you by conducting the 45-minute interviews with a second follow-up interview taking approximately 30 minutes, each interview will be scheduled at your convenience. Your name and other personal information will not be associated with the study and you may withdraw at any time. Providing anonymity to the study allows participants to share as much information as you would like.

Participants will be entered into a random drawing for a gift card for each round of interviews they complete. In addition to the chance to win a gift card, you will be providing information that could change the way that leaders work with Information Technology professionals.

I look forward to working with you to gain valuable insight to the role of leadership in higher education technology departments. The information that you provide will give leaders insight on the experience of IT workers being led/supervised. Attached is a consent form to participate in the study if you choose to do so.

If you have any questions, please feel free to contact me at michelle.rakoczy@und.edu or by cell phone at 701-739-7380. My advisor, Dr. Zarrina Azizova is also available by email at zarrina.azizova@und.edu or through her office phone at 701-777-2394.

## **Appendix B**

### **Instrument 1st Interview**

The interview questions utilized in this research study were created by the researcher and are as follows:

1. Can you tell me about your professional background?
  - Education
  - Work history
2. Describe your role in the department, including those that are in your position description and those that are not.
3. How do you define success in terms of your work? Describe as best you can anything that has helped you become successful, by your own definition.
  - Environment
  - Supervisor
  - Peers
4. Tell me about a time that you were able to do your best work and you accomplished a lot of work on operational work and projects?
  - What made this your best work
  - Why were you able to do your best work
  - Reward System
  - Supervisor
  - Environmental factors
  - Peer group
  - Work itself
5. Tell me about a time that you dreaded coming to work and accomplished much less work and projects than you should have.
  - What caused this
  - Why were you not able to do your best work
  - Reward System
  - Supervisor
  - Environmental factors
  - Peer group
  - Work itself
6. Describe the qualities of a person you would nominate for the best leader award?
  - What was your connection to them
  - What makes this leader special
  - What was their super power

- Behavior/attitudes
  - Teamwork
  - How did they treat the worst performing member of the team
  - How did they treat the best performing member of the team
7. Describe the qualities of a person you would nominate for the worst leader award?
- What was your connection to them
  - What makes this leader special
  - What was their super power
  - Behavior/attitudes
  - Teamwork
  - How did they treat the worst performing member of the team
  - How did they treat the best performing member of the team
8. If you could change one thing about your last job, what would it be?
- Environment
  - Supervisor
  - Peers



## **Appendix C**

### **Instrument 2nd Interview**

Do you have anything to add to the transcript of 1st interview

1. How do you learn best? How does your supervisor support your need for professional development?
  - Doing - Hands on
  - Online learning
  - Reading and research
  - Conferences
  - Professional training
  - Mentors
  
2. How do you prefer that your work/project are presented to you by your supervisor or users?
  - Raw needs
  - Supervisor/user completes needs assessment
  - Prior to bring to you
  - With you
  - Recommendations on how to complete by supervisor
  - Solutions provided by user or supervisor
  
3. Describe the characteristics of best performing team member
  - Technical skills
  - Leadership
  - Motivation
  - Learning style
  - Supervision needs
  
4. Describe the characteristics of worst performing team member
  - Technical skills
  - Leadership
  - Motivation
  - Learning style
  - Supervision needs
  
5. How does your supervisor handle situations where you have made a technical or customer service mistake.
  - Punishment
  - Understanding

- Resolving problem
  - Communication
  - Team members
  - Users
6. Has anything changed in your perspective about your professional life and work circumstances since last time we spoke?
- If yes, how would you describe this change?

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