The Influence of Learning Organization Maturity on Employee Engagement within Higher Education Information Technology Departments

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Dedication

This work is dedicated to my mother Jeanne Jones (1946 – 2012) who approached life with humility, compassion, and joy, her loving presence will forever be missed.

This work is also dedicated to my best friend and husband, Ramon Alvarez, who has always been there for me, believed in me, and supported me regardless of what crazy path I head down. I am yours forever and always.
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And, finally, my dear friend Dr. Kay Bachman for being a never ending source of inspiration, excitement and positive energy, who provided motivation, support, and a shoulder to cry on, there is no one I would rather have taken this amazing journey with.

It is truly a blessing to have a life filled with love and support from so many treasured family and friends.
Abstract

This research utilized a three part survey instrument consisting of the UTRECHT Work Engagement Scale, Garvin’s (2008) Learning Organization Survey, and the Barbuto and Scholl (1998) Motivation Source Inventory to measure learning organization maturity and employee engagement. Through this research, it was discovered that there is a statistically significant correlation between the medium-high and high levels of learning organization maturity and employee engagement as mediated by the motivation sources of intrinsic process, goal internalization, and internal self-concept. Using these theories, leaders can potentially support organizational success by creating an environment in which employees are more engaged. The discovery of this relationship between learning organization maturity and employee engagement as mediated by motivation source within higher ed information technology departments could establish a framework for recruitment and retention of employees who are contributing members of the team.

Keywords: Leadership, learning organization, information technology, employee engagement, motivation source, organizational learning
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CHAPTER ONE

INTRODUCTION AND RESEARCH DESIGN

_The organizations that will truly excel in the future will be the organizations that discover how to tap people’s commitment and capacity to learn at all levels of the organization._

– Peter Senge (1990a, 2006a)

Over the past decade, technology has significantly impacted higher education institutions (HEI) by rapidly transforming the education sector (Cronin & Horton, 2009; Gephardt & Fitzgerald, 2014). Increased competition for students, globalization of education, and technological advancements in teaching and learning have impacted institutions’ ability to respond to rapidly changing markets (Green, 2010; Guri-Rosenblit, 2001; Van Ginkel, 2003). As a result of these and other challenges, it is estimated that 300 to 1000 North American institutions are in financial crisis and may go bankrupt by the year 2020 if trends continue (Bogaty & Nelson, 2015; Selingo, 2013, 2016).

Information technology (IT) departments within HEI responsible for the technical infrastructure are uniquely positioned to observe and understand the institution as a whole and may be in a pivotal position to support the institutions during this challenging time (Garvin, 1993; Langer, 2011). However, HEIs require a dynamic IT department that can rapidly change, adapt, and transform itself to support this rapidly changing environment (Dill, 1999; Garvin, Edmondson, & Gino, 2008; Langer, 2011; Senge, 1990a). To support the organization in adapting and adopting new technologies, IT team members should be able to quickly evolve along with rapidly changing technical environments. Highly
engaged and motivated employees demonstrate characteristics of passion and exploration, which are conducive to adaptibility and flexibility in their work and are especially beneficial to organizations (Barbuto, 2006; Birdi, Patterson, & Wood, 2007; Calder & Staw, 1975; Flinn, 2010; Harter, Schmidt, & Hayes, 2002; Marsick & Watkins, 1996; Maslach & Leiter, 2008; Schwandt & Marquardt, 2000; Senge, 2004). One way that HEI IT departments and their leaders can address these challenges is to create an environment that nurtures employee engagement where motivated employees can thrive. Significant amounts of research exist in each of these areas: the learning organization, employee engagement and employee motivation. However, to date, research is limited in understanding if there is a correlation between them and even more specifically in IT departments in HEIs. Therefore, the purpose of this quantitative study is to determine if there is a relationship between learning organization maturity and employee engagement mediated by motivation sources within HEI IT departments.

**Learning Organization Environment**

Peter Senge (2006a) introduced the concept of the learning organization through organizational process improvements and systems thinking. Systems thinking provides a model to describe and visualize organizational complexity, exposing decision points at areas where intervention is possible (p. 12). Applying systems thinking to organizational structures and processes can provide a big picture view of an organization. Employees with an aptitude for systems thinking support the learning organization capacity to rapidly adapt and evolve (Blume, Duffy, & Franco, 2009; Senge, 2006b). Thus, organizational learning is heavily reliant on employment of talented, motivated, and engaged individuals (Barbuto, 2006; Calder & Staw, 1975; Davenport, 2005; Frick &
Drucker, 2011; Schein, 2010; Senge, 2006a; Wenger, 1998). The result of Senge’s research is the characterization of an organization that recruits employees who are skilled at creating, retaining and transferring knowledge, both at the individual and enterprise levels. “These people could help their firms cultivate tolerance, foster open discussion, and think holistically and systemically” (Garvin et al., 2008, p. 109). In many HEIs, information technology services are centralized and provide technological resources to the entire organization. Thus, employees responsible for information technology (IT) are uniquely positioned to view the entire organization holistically and are well situated to espouse the learning organization characteristics (Garvin, 1993; Langer, 2011). The work of IT leadership is to nurture the environment where motivated and engaged IT employees can thrive (Sadler, 2001; Schein, 2010; Senge, 2004, 2006a).

Senge (2006a) described the creation of the learning organization as “the leader’s new work” and that leaders roles are as “designers, teachers, and stewards” (p. 321). The leadership tenet of the designer involves creating an organizational strategy, policies and cultural systems, planning, and making those plans work (Sadler, 2001; Senge, 2006b). The tenet of the teacher is described as continually helping people see the ‘big picture’ (Sadler, 2001; Senge, 2006b). The steward leadership tenet involves understanding and commitment to the long-term survival of the organization and in evolving a mature learning organization. Thus, leaders act as guides for organizational evolution, “actively affecting all phases of the process, directly and indirectly” (Senge, 2006a; Stopford, 2001). Sadler (2001) added “learner” to the tenets “by leading and learning, individuals make possible the development of a genuine, shared understanding of current reality to provide the energy for change” (p. 424). Thus, the role of leadership is vital as a guide to
creating a “learningful” environment in which engaged and motivated employees may thrive.

The term “learningful” was first coined by Peter Senge (1990a) and is used to describe an organization that has an ability to “tap people’s commitment and capacity to learn at all levels in an organization” (p. 4). Since Senge, the definition of the “learning organization” and “organizational learning” has had many iterations over the years such that there is no consensus among researchers on a single definition (Garvin et al., 2008; Goh, Quon, & Cousins, 2007; Langer, 2011). However, the learningful organization can be described as an entity that is “mature” in the process of organizational learning (Langer, 2011; Marsick & Watkins, 1996; Senge, 1990a). Organizational learning is described as the process in which individuals learn, share knowledge, and transition knowledge into the organizational knowledge base (Levitt & March, 1988; Lipshitz, Popper, & Friedman, 2007; Örtenblad, 2002). At times, organizational learning and learning organization have been used interchangeably, causing confusion for readers. Therefore, it is important that the terms be defined for use in this research.

According to Langer (2011), the definition of a learning organization from a business strategy perspective is one “that enables, in an active sense, the learning of its members in such a way that it creates positive outcomes such as innovation, efficiency, improved alignment with the environment, and competitive advantage” (p. 75). Langer (2011) approached the theory from an information technology perspective that identifies technology as a “new paradigm of dynamic change,” which is driving business leaders to either embrace the organizational learning process or fail (p. 1). While Langer (2011) derived his research from the IT business perspective, the same holds true of academic
institutions. Because of many challenges facing these organizations, IT departments are in a position to model learningful behaviors and environments, thus providing foundational learning organization methodologies (Garvin, 1993; Langer, 2011; Senge, 2006a). This foundation building enables institutions to become more learningful as a whole (Argyris & Schön, 1978; Garvin, 1993; Langer, 2011; Senge, 2006a). Langer (2011) further described the employees of a mature learning organization as having a “talent for rapid access of relevant knowledge and can act as guide for colleagues to access the information they require when they require it” (p. 77). As such, IT employees contribute to the learningfulness of the organization.

Rapid access to current and relevant knowledge is an underlying necessity in the creation and maturation of the learning organization (Langer, 2011; Senge, 1999, 2006a). In this day of global information networks, paths to access information travels on technology and technical infrastructures (Garvin et al., 2008; Langer, 2011; Senge, 2006a). IT departments can be at technology frontiers and facilitate access to knowledge for the entire organization if the IT infrastructure is designed with people in mind rather than technology (Garvin, 1993; Langer, 2011). “Leadership in designing IT-based infrastructures starts with designing the composition of the team responsible for implementation” (Senge, 2006a). Developing learningful employees is one component of creating the learning organization environment (Garvin, 1993; Langer, 2011; Senge, 2004), and leadership can contribute to this by cultivating the environment in which learningful employees may thrive (Argyris, 1993; Argyris & Schön, 1978; Senge, 1990a). Argyris and others have shown that learningful employees demonstrate specific characteristics including: engagement, personal mastery, systems thinking, team learning,
and are motivated and engaged (Argyris, 1993; Davis & Daley, 2008; Pedler, Boydell, & Burgoyne, 1989; Schein, 2010; Senge, 2006a).

For this research, employee engagement is defined as a person’s willingness to invest oneself and expend one's discretionary effort to help the employer succeed (Erickson, 2005). Lloyd (2008) defined discretionary effort as “the voluntary effort employees spend that lies above the minimum level of effort required in order to keep the job and is directed toward organizational goals” (p. 22) and is the outcome of the process of personal mastery (Large, 1994, p. 27). “Creating involves bringing into being something that has not existed before,” and Senge (2006a) called this “personal mastery” (p. 7). Furthermore, Senge (2006a) described personal mastery as “the discipline of continually deepening our personal vision, of focusing our energies, of developing patience, and of seeing reality objectively” (p. 7). Large (1994) further noted:

If creating brings success on the personal level, then co-creating brings success on the organizational level. Motivation comes from the finished creation you are aiming to bring about, from the desire to realize your concrete dream. This process brings about not just normal effort, but extra “discretionary effort.”

(Large, 1994, p. 27)

Senge (2006a) defined systems thinking as “a body of knowledge and tools . . . to make the full patterns clearer and to help us see how to change them effectively” (p. 7). One related phenomenon to employee engagement is employee motivation, the inner force that drives individuals to accomplish personal and organizational goals which, in turn, contribute to team learning (Frick & Drucker, 2011; Leonard, Beauvais, & Scholl, 1999). Senge (2006a) described team learning as a discipline of dialogue, “allowing a group to
discover insights not attainable individually” (p. 10). Gaining insights into the relationship of the learning organization and employee motivation source is a core component of this research. Barbuto and Scholl (1998) established conceptual linkages to “traditional and contemporary taxonomies of motivation” (p. 1012), which resulted in work source motivation and will be discussed later in this chapter. For this study, it is theorized that motivation sources have a mediating effect on employee engagement within the learning organization. Employee engagement will be assessed in relationship to learning organization maturity levels and the motivational sources that increase these behaviors.

**Employee Engagement**

Kahn (1990) posited that employee engagement is an involvement of the self “physically, cognitively, and emotionally, in the roles they perform” (p. 692). Employees who are “presenting and absenting their selves during task performances” (p. 694) are actively engaged and actively disengaged, respectively (Kahn, 1990; Macey & Schneider, 2008; Shuck, Ghosh, Zigarmi, & Nimon, 2013). Additionally, the Gallup Q12® (2013) survey results indicated that actively engaged workers consistently bring discretionary effort to their roles as opposed to their non-engaged and actively disengaged counterparts (p. 23). Further, engaged employees demonstrate characteristics of enthusiasm and energy around the work that they accomplish (Birdi et al., 2007; Maslach & Leiter, 2008; Park, Song, Yoon, & Kim, 2014). When employees are engaged in their work they tend to put more effort into tasks than what is expected of them (Birdi et al., 2007; Park et al., 2014; Shuck et al., 2013). Highly engaged employees demonstrate a desire for continued
personal and organizational improvement, and thereby contribute to the success of the organization (Erickson, 2005; Macey & Schneider, 2008).

Engagement is about passion and commitment--the willingness to invest oneself and expend one's discretionary effort to help the employer succeed. For engaged employees, time passes quickly; they identify with the task at hand, resist distractions, spread their enthusiasm to others, and care deeply about the result. (Erickson, 2005, p. 14)

Engaged employees responsible for information technology are uniquely situated to contribute to the organization by providing the very infrastructure on which learning occurs, and knowledge is accessed and shared (Langer, 2011; Macey & Schneider, 2008; Senge, 2006a). Employees within IT departments ought to be adaptable, flexible and seek continuous improvement to facilitate emerging technologies, and therefore, be active pursuers of knowledge as well as retain knowledge at the organizational level (Garvin, 1993; Langer, 2011).

Engagement is a psychological state and an observable behavior. Employees who are engaged “take initiative to improve their capacity in the workplace, including learning new skills, acquiring and sharing knowledge and approach their job with a positive attitude” (Shuck et al., 2013, p. 14). Thus, employees who are engaged make positive contributions to the organization. For example, a study conducted by Harter, Schmidt and Hayes (2002) tied successful business outcomes in the categories of customer satisfaction, customer loyalty, profit, productivity, and employee turnover directly to high levels of employee engagement (pp. 273-275). Engaged employees are more likely to contribute to the success of an organization than employees who are not engaged
“Organizations need proactive employees who can take initiative and collaborate seamlessly with their colleagues and own responsibility for their own development and deliver high-quality work” (Bhaskar & Mishra, 2014, p. 543).

The discipline of personal mastery, as described by Senge, can be directly linked to the Erickson (2005) testimony before Congress: “engagement . . . is about passion and commitment—the willingness to invest oneself and expend one's discretionary effort to help the employer succeed” (p. 14). Personal mastery is described as people who “are able to consistently realize the results that matter most deeply to them” Senge (1990b, p. 7). Additionally, Macey and Schneider (2008) described engagement as “involvement of the self . . . self-esteem, self-efficacy, and self-identity” (p. 12). Thus, engaged employees take personal satisfaction in their contributions to the success of the organization.

An employee’s commitment to the organization is often demonstrated by an alignment between personal and organizational values which manifests in a desire to continue working for the organization (Balay, 2012; Brockner, Tyler, & Cooper-Schneider, 1992). It is not enough for employees to merely be part of the organizational system; engaged employees in educational institutions “of which the primary function is to transform people, members must be willing to do more than the base definition of tasks” (Balay, 2012, p. 2476). Employees who are committed to an organization also contribute to the body of knowledge that is retained by the organization (Brockner et al., 1992; Jo & Joo, 2011; Joo, 2010). Modern organizations rely heavily on information technology for the storage, maintenance and rapid distribution and access of knowledge (Argyris & Schön, 1978; Garvin, 1993; Langer, 2011; Senge, 2006a).
Garvin (1993) and Langer (2011) posit that information technology is the foundation on which the modern organization is built and that IT employees are uniquely positioned to see the organization as a whole. It is tempting to attribute the benefits of technology to the technology itself; however, it is not enough to have a reliable IT infrastructure. A mature learningful organization relies on the employment of talented, engaged and motivated employees (Jo & Joo, 2011; Langer, 2011; Park et al., 2014; Senge, 1990a). The organization that succeeds is one that maintains a historical culture and mission that employees can embrace while rapidly assimilating new ideas that not only retain an institutional memory but also provide an environment where innovation is indoctrinated into the core culture (Conner & Clawson, 2004; DiBella & Nevis, 1998; Flinn, 2010). Engaged and motivated employees responsible for information technology may mature their departments as learning organizations and contribute to transformation with technological advancements (DiBella & Nevis, 1998; Langer, 2011).

Senge’s (2006a) Fifth Discipline, systems thinking, is the ability to view the complexity of an organization and “see interrelationships” and “processes of change” thereby creating awareness of the overarching business context (p. 12). Systems thinking is the discipline that “is the conceptual cornerstone that underlies all of the five learning disciplines” (p. 7) and enables an employee to view the entire organization as a whole rather than just the component or task they are responsible for (Senge, 2006a). Systems thinking is a holistic approach or view into the organization. The organization is reliant on information technology platforms and, as such IT professionals have a comprehensive view of the entire organizational system. Marv Adams, CIO of Ford Motor Company, posited, “Because we are involved with infrastructures that knit together the enterprise,
IT professionals have a powerful window onto how the organization succeeds or fails in operating holistically” (Senge, 2006a, p. 276). This holistic view into the organization allows IT employees to bypass organizational silos where departments are focused internally on their processes and functions.

Actively disengaged employees will focus attention and energy on the “job at hand and little energy on the “big picture” (Macey & Schneider, 2008; Maslach & Leiter, 2008; Shuck et al., 2013). If employees are actively disengaged, then success of the organization is stunted, employee entropy can increase, productivity can decrease, workers are less willing to give of themselves to the organization, and they are demotivated (Harter et al., 2002; Macey & Schneider, 2008; Maslach & Leiter, 2008). As such, when a team of employees is not engaged innovation and creativity can stagnate and energy drains (Kontoghiorghes, Awbrey, & Feurig, 2005; Macey & Schneider, 2008; Maslach & Leiter, 2008). To adequately understand if there is a connection between the environment (learning organization) and the behavior (employee engagement), it is also important to understand the relationship between employee motivation sources. Thus, motivational sources will be analyzed to complete the picture of employee engagement in relation to learning organization maturity (Barbuto, 2006; Calder & Staw, 1975; Leonard et al., 1999).

**Employee Motivation**

Research on employee motivation is extensive, and multiple theories have emerged. One of the most widely cited motivation theory is Maslow’s (1943, 1954) hierarchy of needs: physiological, safety, love, esteem, and self-actualization (p. 23). The two-factor motivation theory developed by Herzberg, Mausner, and Snyderman (1959)
suggests that certain motivator factors in the workplace cause job satisfaction, while a set of hygiene factors may not impact satisfaction, but their absence may cause dissatisfaction (pp. 143-146). Alderfer’s (1967) theory of motivation condenses Maslow’s hierarchy into three need categories: existence, relatedness, and growth (p. 509).

While Maslow’s theory of human motivation has been broadly applied to human needs in general (p. 372), a more contemporary model of workplace motivation will be utilized. Leonard, Beauvais and Scholl (1999) proposed five motivational sources which will be used for this study. Each of these work source motivations are derived from Maslow’s hierarchy of needs and influenced by previous thought leaders such as Alderfer (1967), Herzberg et al. (1959), and others (Barbuto, 2006; Barbuto, Fritz, & Marx, 2002; Leonard et al., 1999). While Maslow (1943) focused on human motivation, the evolution of motivation theory has expanded significantly in areas such as work source motivation (Alderfer, 1967; Bakker, Schaufeli, Leiter, & Taris, 2008; Barbuto, 2006; Barbuto & Scholl, 1998; Calder & Staw, 1975; Frick & Drucker, 2011; Herzberg et al., 1959; Leonard et al., 1999; Maslow, 1943; Maslow, Frager, Fadiman, McReynolds, & Cox, 1970; Schneider & Alderfer, 1973; White, 1959). For this study, work source motivation theory will be utilized for the purpose of mediating the relationship between employee engagement and learning organization maturity level. It is surmised that motivation source has a mediating effect on employee engagement by increasing or decreasing the levels of engagement within each level of organizational maturity. By using these three variables, this study will further insights into the impacts of learning organization
maturity on employee behavior and how work source motivation may influence this relationship.

Barbuto et al. (2008) defined work source motivations as:

- intrinsic process motivation, driven by fun and enjoyment of the task;
- instrumental motivation, driven by certain extrinsic tangible outcomes such as pay, promotions, and bonuses;
- self-concept external motivation, which is based on external personal social identity and affirmations of traits, competency and values;
- self-concept internal motivation, driven by internal perception where the individual sets the standard of traits, competencies, and values;
- goal internalization motivation, where the individual adopts attitudes and behaviors because they align with the individual’s personal value system.

(Barbuto et al., 2008)

It is important to understand motivation sources in relation to employee engagement if leadership is to encourage the sustained effort of employees.

Work motivation is a set of energetic forces that originate both within as well as beyond an individual’s being, to initiate work-related behavior and to determine its form, direction, intensity, and duration (Latham & Pinder, 2005; Pinder, 2008). Concerned leadership would be well served to develop an understanding of motivation sources and utilize the information to gain the most from their employees and related teams. A high-performance team in an HEI is invaluable to the organization as a catalyst for continual improvement, improved service, efficient access to relevant data, employee retention, and overall institutional wellness. Furthermore, an understanding of employee motivation is
imperative for leadership to retain valuable employees (Abbasi & Hollman, 2000; Dessler, 1999; Eisenberger & Fasolo, 1990). For example, research by Fitzenz (1997) concluded that the average company loses approximately $1 million with every 10 managerial and professional employees who leave the organization. When considering direct and indirect costs, the “total cost of an exempt employee turnover is a minimum of one year’s pay and benefits, or a maximum of two years pay and benefits” (Ramlall, 2004, pp. 52-53). “Excessive turnover often engenders far-reaching consequences and, at the extreme, may lead to jeopardy of the organization’s objectives” (Abbasi & Hollman, 2000, p. 333). With critical employee departures, there is a significant economic impact particularly when knowledge departs with the individual and is not retained at the organizational level (Bontis & Fitz-Enz, 2002; De Geus, 1988; Eisenberger & Fasolo, 1990; Mayo, 2001; Senge, 1990b, 2006a). Abbasi and Hollman (2000) referred to this as “brain drain” and posited that the loss of knowledge within the organization “negatively affects innovation and causes major delays in the delivery of services and the introduction of new programs” (Abbasi & Hollman, 2000, p. 333). Employee turnover in IT departments, particularly in HEIs, is cause for concern considering that many HEIs employ a highly-specialized technology workforce (Cyert & Mowery, 1987; Donnellan, 2006; Langer, 2011).

The three variables of learning organization maturity, employee engagement, and motivation source have not been studied together, the research into these variables has not gone far enough. The purpose of this study is to discern if there is a relationship between these variables that IT leaders in higher ed may gain some insight into the nature of the organization that they may create to bring out the best, most engaged workforce.
**Challenges facing colleges and universities.** As mentioned earlier, a number of challenges face higher education currently. Technology creates opportunities for institutions to deliver coursework to students anytime and anywhere. Technological advancements, combined with a declining student population, are creating an environment within higher education that is increasingly competitive. One challenge has been described as the “higher ed bubble” and suggests that institutions have overbuilt and overpriced the product of education (Cronin & Horton, 2009). According to data collected by the National Center for Education Statistics (2015), over 130 colleges and universities have closed as a result of financial distress in the decade preceding this study.

New and emerging technologies enable academic institutions to deliver coursework to all areas of the globe. As a result of this technological globalization, there are “increased possibilities for human interaction across borders” (Scheuerman, 2010, para 3). Virtually accessible coursework creates a challenge for traditional educational delivery models in brick and mortar institutions and where students can replace traditional models with an “on demand” model of educational delivery. According to Rosenberg (2004), “Classroom training is dead, learning through technology is faster, cheaper, and better. Forget the classroom – just plug in and learn, anytime and anywhere” (p. 186). One result of this is modern workforce transitioning to “knowledge work” and an “on demand” model not only for education but to become better at what they do (Chaudhary, Tripathi, & Singh, 2012; Frick & Drucker, 2011).

Due to these challenges, it is no longer sustainable to be an institution where the budget is primarily based on traditional student tuition (Cronin & Horton, 2009; Gephardt & Fitzgerald, 2014). Establishing new sources of revenue and efforts to increase
endowments are strategies for institutions of higher education to become more competitive in this rapidly changing environment. History demonstrates that the most successful organizations have the capacity to quickly adapt new strategic concepts and technologies (Kikoski & Kikoski, 2004; Langer, 2011; Morecroft & Sterman, 1994). Rapid change is a constant in high-performing organizations, and information technology is not only a driving force behind the need to change but is also foundational and strategic to this success (Gilley, 2001; Holbeche, 2005). Institutions of higher education that can capitalize not only on technology but also on human capital that implements, maintains, and utilizes technology to innovate demonstrate survival in contracting markets (DiBella & Nevis, 1998; Flinn, 2010; Garvin, 1993; Goh & Richards, 1997; Holbeche, 2005).

Just as markets over-built housing, mispriced mortgages and bid up prices beyond the real financial capacity of homebuyers, America's academic institutions have over-expanded and over-priced their product. We are getting an education bubble with dynamics similar to the late housing bubble. As more and more students find themselves with debts that exceed the salaries offered by the current job market, colleges have expanded beyond the capacity of their markets. Some kind of shakeout is coming. The question is: what kind? (Kuttner, 2014, para 1)

Kuttner’s assessment may be correct but remains to be proven. Tuitions, fees, room, and board costs at private academic institutions are now in the $50,000 range or greater per year (Cronin & Horton, 2009). “According to the National Center for Public Policy and Higher Education, over the past 25 years, average college tuition and fees have risen by 440 percent” (Cronin & Horton, 2009, p. 1). Additionally, Cronin and Horton (2009) and Van Der Werf and Sabatier (2009) agreed that the number of graduating high school
seniors is predicted to decline over the next 10 years by up to 20%, which will result in increasing competition for students among institutions. This contraction in available students will increase competition for enrollments, which equates to tuition dollars. In tuition-driven institutions, this can be gravely concerning, as a number of competitors will heavily recruit students. Schools with large endowment funds may have less to worry about, as the prestige of the degree will likely retain its perceived value. However, this increase in competition is a concern for many in higher education.

Higher education institutions IT departments. Due to the tenuous environment that HEIs are undergoing, those that can thrive in this highly competitive environment will be, in part, ones that maintain a historical culture and mission that employees can embrace while rapidly creating, retaining, and assimilating knowledge. These HEIs will need to provide a technological social environment where creativity is indoctrinated into the core culture (Conner & Clawson, 2004; DiBella & Nevis, 1998; Flinn, 2010). To accomplish this, HEI leaders may create the environment in which innovation is nurtured. Research has shown that Senge’s model of the learningful organization is one methodology that can lead to this effort being successful (Conner & Clawson, 2004; Senge, 2006a). In addition to a learningful environment, leaders must attract, motivate, and retain human capital that is engaged and will take personal ownership in the success of the organization. This transformation, coupled with a passion for the success of higher education within an increasingly competitive environment, are the primary reasons behind the need to further research IT departments within HEI.

Definition of Terms

The following terms will be used for the purposes of this study:
1. **Employee engagement**: A positive, fulfilling work-related state of mind that is characterized by vigor, dedication, and absorption (Schaufeli, Salanova, González-romá, & Bakker, 2002).

2. **Learning organization**: An organization skilled at creating, acquiring, and transferring knowledge, and at modifying its behavior to reflect new knowledge and insights (Garvin, 1993).

3. **Learning organization maturity level**: The combination of identified learning organization characteristics as defined by the Chinowsky et al. (2007) maturity model.

4. **IT departments**: The departments primarily responsible for supporting, designing, configuring and implementing technology.

5. **Employee motivation**: The inner force that drives individuals to accomplish personal and organizational goals (Barbuto et al., 2008; Frick & Drucker, 2011; Leonard et al., 1999).

6. **Intrinsic process motivation**: Employee work motivation which is driven by fun and enjoyment of the task (Barbuto et al., 2008; Frick & Drucker, 2011; Leonard et al., 1999).

7. **Instrumental motivation**: Employee work motivation that is driven by certain extrinsic tangible outcomes such as pay, promotions, and bonuses (Barbuto et al., 2008; Frick & Drucker, 2011; Leonard et al., 1999).

8. **Self-concept external motivation**: Employee work motivation which is externally based and driven by personal social identity and affirmations of
traits, competency, and values (Barbuto et al., 2008; Frick & Drucker, 2011; Leonard et al., 1999).

9. **Self-concept internal motivation:** Employee work motivation which is driven by internal perception where the individual sets the standard of traits, competencies and values (Barbuto et al., 2008; Frick & Drucker, 2011; Leonard et al., 1999).

10. **Goal internalization motivation:** Employee work motivation where the individual adopts attitudes and behaviors because they align with the individual’s personal value system (Barbuto et al., 2008; Frick & Drucker, 2011; Leonard et al., 1999).

11. **Personal mastery:** The discipline of continually deepening our personal vision, of focusing our energies, of developing patience, and of seeing reality objectively (Senge, 2006a, p. 5).

12. **Team learning:** A discipline of dialogue, “allowing the group to discover insights not attainable individually” (Senge, 2006a, p. 6).

13. **Systems thinking:** A “conceptual framework, a body of knowledge and tools that has been developed to make full organizational patterns clearer, and to help us see how to change them effectively” (Senge, 2006a, p. 7).

14. **Mental models:** Deeply ingrained assumptions, generalizations, or even pictures or images that influence how we understand the world and how we take action (Senge, 2006a, p. 8).
15. *Building shared vision:* Involves the skills of unearthing shared “pictures of the future” that foster genuine commitment and enrollment rather than compliance (Senge, 2006a, p. 9).

**Purpose**

Due to the challenges faced by HEIs, the purpose of this quantitative study is to determine if there is a relationship between learning organization maturity and employee engagement as mediated by employee motivation source within HEI IT departments. More specifically, this study assesses maturity levels of the learning organization environment within HEI IT departments and seek to establish a directional relationship between higher levels of learning organization maturity and higher levels of employee engagement. Additionally, work source motivation is assessed to determine if there is a mediating relationship to employee engagement and learning organization maturity.

**Conceptual Framework**

The discovery of a relationship between learning organization maturity and employee engagement as mediated by motivation source within HEI IT could establish a framework for recruitment and retention of employees who are contributing members of the team. Using these theories, leaders can potentially support organizational success by creating an environment in which employees are more engaged, and learning occurs. Understanding factors such as work source motivation and its influence on employee engagement may provide a framework that leaders may use to transition their organizations into higher levels of performance. Research has shown that the characteristics of a mature learning organization contribute to the success of the organization in that people are more motivated, engaged, and committed to the
organization (Dill, 1999; Frick & Drucker, 2011; Reinhardt, Schmidt, Sloep, & Drachsler, 2011).

**Research Question**

For the purposes of this study, the research question is: Within HEI IT departments, to what extent is there a directional relationship between learning organization maturity level and employee engagement, as mediated by work source motivation?

**Methodology**

This research question seeks to explain the interrelatedness of a set of variables. Kerlinger (1979) defined theory as “a set of interrelated constructs, definitions, and propositions that presents a systematic view of phenomena by specifying relations among variables, with the purpose of explaining natural phenomena” (p. 64). This study seeks to understand the relationship between three variables utilizing a set of three survey instruments. As such, empirical data is derived from the research process and grounded in a postpositivist worldview. The postpositivist worldview is comprised of determination, reductionism, empirical observation and measurement, and theory verification (Creswell, 2014, p. 6).

Postpositivists hold a deterministic philosophy, in which causes may determine or influence an outcome. “Thus, the problems studied by post-positivists reflect the need to identify and assess the causes that influence outcomes” (Creswell, 2014, p. 7). This study seeks to understand the relationship of mediating variables as they relate to the learning organization environment. Additionally, this study seeks to analyze and reduce the
variables of motivation and employee engagement to small, discrete sets to test the hypotheses (Creswell, 2014, p. 7).

The postpositivist assumptions are as follows: knowledge is conjectural – absolute truth can never be found; research is the process of making claims then refining or abandoning some of them for other claims more strongly warranted; data, evidence, and rational considerations shape knowledge; research seeks to develop relevant, true statements, ones that can serve to explain the situation of concern or that describe the causal relationship of interest; and being objective is an essential aspect of competent inquiry. (Phillips & Burbules, 2000, p. 8)

Furthermore, this research aligns with the postpositivist worldview. The postpositivist worldview assumes that all measurement is fallible and emphasizes the importance of multiple measures and observations. “Each of which may possess different types of error, and the need to use triangulation across these multiple errorful sources to try to get a better bead on what’s happening in reality” (Trochim, 2006, para 6). Postpositivism deals with three main questions relating to: (1) the quality of the (input) data; (2) the use of a more integrated approach; and (3) the context of the studied phenomenon (Trochim, 2006). This research attempts to quantify the research variables using a statistical method that analyzes three previously validated measures to understand the nature of the relationship between the three variables.

**Overview of Methods**

To collect data, this study uses an Internet-based survey questionnaire that is a cross-sectional survey of participating IT members within public and private academic institutions and provides a “point in time” benchmark. “A cross-sectional study involves
observations of a sample, or cross section, of a population or phenomenon that are made at one point in time” (Babbie, 2011, p. 110). Survey results provide an overview of IT department employee perceptions of learning organization maturity at the time of the study. The intent of the cross-sectional study is to observe and record information about participating academic institutions without manipulating the study environment (Creswell, 2014). This population was chosen intentionally to narrow the scope of research to a particular type of department within a larger organization to gain an understanding of employee engagement and motivation within the context of a technological environment. It is intended to review data from this small population within similarly positioned departments, thereby gaining an in-depth understanding of the specific sample. The focus of this research is specifically on employees within an information technology environment with information technology responsibilities. It is intended to review data from this population within similar departments at other HEIs, thereby gaining an in-depth understanding of learning organization maturity and the relationship between the specific population engagement and motivation sources.

Established survey instruments are utilized to conduct this research. The survey instrument includes three instruments: the Harvard Business Review Learning Organization Survey (LOS) by Garvin (2008) (Appendix A), the Motivation Sources Inventory (MSI) (Barbuto & Scholl, 1998) (Appendix B), and the Utrecht Work Engagement Scale (UWES) (Schaufeli & Bakker, 2003) (Appendix C). The LOS measures organizational maturity in three consecutive blocks that build on one another, “a supportive learning environment,” “concrete learning processes,” and “leadership that reinforces learning” (Garvin, 1993; Garvin et al., 2008). The UWES evaluates three
dimensions of work engagement, vigor, dedication, and absorption (Schaufeli & Bakker, 2003). Lastly, the MSI measures five sources of workplace motivation (Barbuto & Scholl, 1998).

The survey is administered via the Internet using SurveyMonkey® online survey vendor. An e-mail listing of information technology professionals in HEI, both private and public institutions from community colleges to graduate schools is utilized. This method of survey provides a rapid turnaround for data collection, and is more convenient for the targeted population (Babbie, 2011; Creswell, 2014). After collection, data from the survey is analyzed using descriptive and inferential statistics. Full-time IT employees currently employed by the HEI organization constitute the population for this research. This population was chosen intentionally to narrow the scope of research to a specific type of department within a larger organization to gain a deeper understanding of employee engagement and motivation within the context of a technological environment. It is intended to review data from this population within similarly positioned departments at other HEIs, thereby gaining an in-depth understanding of the specific population. Survey methodology could be more broadly applied to the organization in its entirety. However, the focus of this research is specifically directed towards employees within an information technology environment with information technology responsibilities. A single stage sampling of IT employees within HEIs is utilized for the purpose of this study. “The single-stage sampling procedure is one in which the researcher has access to names in the population and can sample the people (or other elements) directly” (Creswell, 2014, p. 158). The survey instrument is distributed to various e-mail distribution lists and as such, is non-random accessibility sampling.
Importance of the Study

This study contributes to research related to learning organizations, employee motivation, and engagement. To date, there has been little empirical research exploring a directional relationship between learning organization maturity, motivation source and employee engagement behavior. The establishment of this relationship furthers the ability of leadership to recruit, develop, and retain engaged employees by creating the environment in which these employees may thrive. Engaged employees demonstrate higher levels of productivity, lower employee turnover, and take a personal interest in the success of the organization (Erickson, 2005; Kahn, 1990). The retention of engaged employees is also valuable to organizations that thrive during challenging times (Frick & Drucker, 2011; Fulmer, 2000).

Organizations with employees who are engaged demonstrate a higher rate of customer satisfaction, increased productivity, less absenteeism, lower turnover, higher quality of work, and are resilient and agile (Erickson, 2005; Gallup, 2013; Harter et al., 2002; Kahn, 1990; Macey & Schneider, 2008; Maslach & Leiter, 2008; Schaufeli et al., 2002). Engagement refers to a persistent “affective-cognitive state that is not focused on any particular object, event, individual, or behavior” (Schaufeli, Bakker, & Salanova, 2006, p. 702). When employees are actively disengaged, they tend to withdraw and demonstrate behaviors that “promote a lack of connections, physical, cognitive, and emotional absence, and passive, incomplete role performances” (Kahn, 1990, p. 701). Additionally, employees demonstrate higher levels of burnout, which is described as extensive absenteeism, defensiveness, workplace injuries, turnover rates, and act as
custodians rather than innovators (Erickson, 2005; Kahn, 1990; Macey & Schneider, 2008; Maslach & Leiter, 2008).

To meet the challenges facing HEI, leaders within IT departments should strive to understand learning organization and the mechanism in which to achieve maturity. It is important to understand employee engagement and the employee motivation source to nurture the workforce that is in best position to support HEI during this time of transformation. Gaining an understanding of the relationship between the learning organization maturity level, employee engagement, and work source motivation should provide leaders with a roadmap to establish a highly-engaged work force that can assist in facilitating the success of the organization.

**Overview of the Study**

The following pages of this research project are structured in four additional chapters. In Chapter II, relevant literature, including empirical literature, are reviewed and discussed. Chapter III presents the methodology and methods of this research project, including a discussion of ethical consideration, bias, limitations, validity, and reliability of the study. Results and analysis of the survey instrument are presented in Chapter IV, followed by presentation and discussion of the results in Chapter V.
CHAPTER TWO

LITERATURE REVIEW

Learning Organization

The theory of organizational learning was first introduced in 1963 and defined as an “adaptive behavior of organizations over time” or organizational learning from experience (Cyert & March, 1963, p. 123). Cyert and March (1963) suggested that organizations grow and transform as a result of historical events, behaving as “an adaptively rational system rather than an omnisciently rational system” (p. 99). The theory remained somewhat dormant for over a decade until the 1970s when Argyris and Schön (1978) defined organizational learning as “introspection,” a form of double loop learning. This type of introspective learning “occurs when an error is detected and corrected in ways that involve the modification of an organization’s underlying norms, policies, and objectives” (p. 3). This kind of learning is contrasted with single loop learning as in a repeated attempt to resolve the same problem (Argyris, 1976).

Duncan and Weiss (1979) took a different approach with a theory of an organizational knowledge base: “organizational learning is defined here as the process within the organization by which knowledge about action-outcome relationships and the effect of the environment on these relationships is developed” (p. 84). This theory emphasizes that an organization learns from its collective individual members, and is predominantly a learning process that results in organizational actions which reflect the capacity of individuals within an organization to learn and adapt their behaviors (Argyris & Schön, 1978; Cyert & March, 1963; Duncan & Weiss, 1979).
The prior movement led to the late 1980s and early 1990s when the theory was defined as an organizational process that was rooted in individual understanding, interpretation, and sense-making of past events (Argyris, 1993; Fiol & Lyles, 1985; Garvin, 1993; Levitt & March, 1988). Fiol and Lyes (1985) defined learning as “the development of insights, knowledge, and associations between past actions, the effectiveness of those actions, and future actions” (p. 811). Levitt and March (1988) advocated, “organizations are seen as learning by encoding references from history into routines that guide behavior” (p. 319). Thus, these theories were predominantly process-focused.

Huber (1991) further expanded the definition of organizational learning as a process by describing the processing of information by actors or individuals within the organization. The process led to organizational change through learning: “an entity learns if, through its processing of information, the range of its potential behaviors is changed” (p. 89). The change in definition is a recognition of the role an individual plays in the theory of the learning organization and establishes that individuals are a component of the whole. DiBella and Nevis (1998) described three essential criteria for the processing and flow of information from individual actors to the organization:

First, new skills, attitudes, values, and behaviors are created or acquired over time. Second, what is learned becomes the property of some collective unit. Third, what is learned remains within the organization or group even if individuals leave. (DiBella & Nevis, 1998, p. 27)
This era of research is the turning point where the theory of the organizational learning process as a historical sense-making behavior turns toward the theory of a learning organization as an entity that turns its thoughts and vision toward future possibilities.

The theory of organizational learning was then defined as an organizational development process, and as the theory matured, researchers began to take into account each individual within the organization as an actor with a distinct role to play. It was not until 1990 that Senge (2006a) defined the organizational learning theory as “the Learning Organization.” The entity definition of a learning organization has five characteristics: systems thinking, personal mastery, mental models, shared vision, and team learning (pp. 5-12). Evolution of the learning organization theory can be directly contrasted with the Cyert and March’s (1963) definition of organizational learning as the past or historical process. A learning organization then is one “where people continually expand their capacity to create the results they truly desire, where new and expansive patterns of thinking are nurtured, where collective aspiration is set free, and where people are continually learning how to learn together” (Senge, 2006a, p. 3). As Senge suggested, a learning organization is open to future possibilities and not an exercise of meaning making from past experiences; rather, meaning making is an awareness of future possibilities. The role of the leader is to provide the vision for a shared future in which possibilities are realized. Garvin (1993) thus provided a new definition; “A learning organization is an organization skilled at creating, acquiring, and transferring knowledge, and at modifying its behavior to reflect new knowledge and insights” (p. 80). The definition of the learning organization evolved and two distinct paths emerged, organizational learning as process, and learning organization as entity.
In the era of the 1990s, the further exploration of what it means to be a learning organization entity took three distinct forms: (a) learning organization as an entity; (b) organizational learning as a process; and (c) a branch theory defined as a *community of practice*, which combines the process and entity theories. The divergent theories created some confusion for observers. The community of practice is thus characterized by: (a) community – learning as belonging; (b) identity – learning as becoming; (c) meaning – learning as experience; and (d) practice – learning as doing (Wenger, 1998, pp. 4-7). The description of learning as it relates to organizations described by Wenger’s (1998) definition is “that learning involves an interaction between experience and competence” to describe a core principal of a learning community or “community of practice” (p. 214). Wenger further described communities of practice in two contexts: giving newcomers access to competence and personal experience to establish a “privileged locus for the acquisition of knowledge” and ability to “explore new insights without becoming fools or stuck in some dead end” (pp. 214-215). The theory implies, by definition, a community or entity in which innovation and collaboration are nurtured, and social justice is the norm (pp. 8-10). Wenger (1998) combined the two learning theories into a single cohesive process/entity unit that encompasses both the noun and verb orientations of the theory. The combined theories resulted in the theory of community of practice. Langer (2011) described communities of practice as learning communities essential to the strategic goals of an organization “the enormity and complexity of technology requires a community focus[on] technologies as part of the organization’s normal activities” (p. 78).

A more contemporary definition from Langer (2011) refines the theory of a learning organization from a business strategy perspective “that enables, in an active
sense, the learning of its members in such a way that it creates positive outcomes such as innovation, efficiency, improved alignment with the environment, and competitive advantage” (p. 75). Langer (2011) approached the theory from an information technology perspective that identifies technology as a “new paradigm of dynamic change,” which is driving business leaders to either embrace the organizational learning process or fail (p. 1). The history of the original thoughts in learning organization theory and organizational learning theory provide a foundation for the reasons today’s IT organizations need to operate as an effective learning organization entity and practice efficient organizational learning processes.

Until recently, specificity in learning organization characteristics and maturity level descriptions were largely absent from literature. Chinowsky, Molenaar, and Realph (2007) appear to be the first researchers to define learning organization maturity levels. Chinowsky et al. (2007) developed a software tool, the Learning Organization Rapid Diagnostic (LEONARDO), to assess learning organization maturity level. While there is little research to determine the validity of the tool itself, the Chinowsky et al. (2007) five maturity levels are defined in Table 1.

Level 0

- The organization is just beginning the transformation to a learning organization concept.
- Considered the base layer where all organizations begin.
- Although some activity may be occurring in individual maturity cells, the transition to a level one organization is still occurring.

Level 1
• Focused on establishing the leadership required to move the organization toward a learning organization concept.

• The organization will begin addressing the processes and infrastructure that will be required to implement the knowledge sharing concept that is a key component of a learning organization.

Level 2

• The organization has completed the leadership transformation as well as the individual and community levels of process and infrastructure development.

• The organization is actively addressing the communication aspects of learning and the initial stages of education and culture change at the individual and community level.

• The organization is actively moving toward and supporting a new focus on knowledge sharing and open communication.

Level 3

• The organization is distinguished by its full implementation of organization-wide processes to support learning as well as a new focus on the learning culture at the individual and community levels.

• Learning is no longer viewed as a necessary human resources requirement, but is viewed as an integral part of an individual’s job and career.

Level 4

• The organization has almost achieved full learning organization maturity.
• Communication and sharing are now part of the corporate culture and standard operating procedures.

• Leadership is championing learning throughout the organization and at all levels. The culture now reflects the strong focus on learning at the community and individual levels.

• The organization is now focusing on propagating a culture of learning throughout the organization.

Level 5

• The organization has achieved maturity in the learning organization model.

• Each level has adopted the complete range of learning organization characteristics and the learning organization culture now characterizes the entire organization. (Chinowsky et al., 2007, p. 29)

The foundational principles of the Chinowsky et al. (2007) learning organization maturity model are based on Senge’s (1990a) theory of the learning organization and have five characteristics as described in Table 1 below.
Table 1: *Five Maturity Levels*

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Description</th>
<th>Attributes</th>
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<tbody>
<tr>
<td>Leadership</td>
<td>The ability to lead the organization toward implementation of a learning organization.</td>
<td>Championing the integration of new knowledge into the organization; Encouraging Experimentation; Taking proactive steps to achieve a shared vision.</td>
</tr>
<tr>
<td>Process and Infrastructure</td>
<td>The combination of the management processes and the technical infrastructure required to implement the learning organization vision within an organization.</td>
<td>Facilitating the exchange and management of knowledge; Institutionalizing new knowledge through new processes; Transferring a resource commitment from executive management to implementation plans and proper organization design.</td>
</tr>
<tr>
<td>Communication</td>
<td>The interaction between both communities of practice and individuals within the organization that facilitates the free sharing of knowledge at all times and at all levels.</td>
<td>The sharing of knowledge in pursuit of organization improvement; Supporting the establishment and continuation of communities of practice; Eliminating of barriers to communication.</td>
</tr>
<tr>
<td>Education</td>
<td>A commitment by both management and employees to continuous education opportunities is a foundation of the learning organization concept and the key to bringing new knowledge into the organization.</td>
<td>Seeing education as a value to both the individual and the organization; Developing a systematic approach to obtaining education and disseminating knowledge; Developing a structured approach to promoting education.</td>
</tr>
<tr>
<td>Culture</td>
<td>The development of a culture that supports, promotes, and rewards learning as a vital part of organization enhancement.</td>
<td>A receptiveness to new ideas and cultural integration with a culture that is open to change; A desire to seek, initiate, improve, and generate new ideas and concepts; A belief that the individual is part of something larger and is pursuing goals that are greater than the individual.</td>
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</table>

The characteristics and attributes of the learning organization, as described by Chinowsky et al. (2007), align with the Garvin, Edmondson, and Gino (2008) Learning Organization Survey (Table 2). Garvin et al., (2008), which will be utilized in this research, described three building blocks, each interrelated: (a) a supportive learning
environment; (b) concrete learning processes; and (c) leadership that reinforces learning (pp. 3-4). Building block one, a supportive learning environment, is described as having four basic characteristics: psychological safety, appreciation of differences, openness to new ideas, and time for reflection (2008, pp. 3-5). Leaders have established the environment for psychological safety when employees are free from “fear of being belittled or marginalized when they disagree with peers or authority figures, ask naïve questions, own up to mistakes, or present a minority viewpoint” (p. 3). Employees demonstrate an appreciation of differences and learning occurs when people become aware of opposing ideas (p. 3). Furthermore, “recognizing the value of competing functional outlooks and alternative worldviews increases energy and motivation, sparks fresh thinking, and prevents lethargy and drift” (p. 3).

Openness to new ideas is described as learning is not simply about correcting mistakes and solving problems. It is also about crafting novel approaches.

Employees should be encouraged to take risks and explore the untested and unknown. (Garvin et al., 2008, p. 3)

The concept of time for reflection is all too familiar to many HEI IT employees when institutions have severely under-resourced the IT department. This creates an environment of high stress and employees may feel overwhelmed with day to day tasks. “When people are too busy or overstressed by deadlines and scheduling pressures their ability to think analytically and creatively is compromised” (p. 3). Senge’s (1990a) discipline of mental models starts with “turning the mirror inward” and to become learningful, employees must have an appropriate amount of time for reflection (p. 8). Stressed employees “become less able to diagnose problems and learn from their
experiences,” and “Supportive learning environments allow time for a pause in the action and encourage thoughtful review of the organization’s processes” (p. 3).

The second building block, concrete learning processes, describes the learning process as one which involves the “generation, collection, interpretation, and dissemination of information” (p. 4). This includes:

- Experimentation to develop and test new products and services;
- Intelligence gathering to keep track of competitive, customer, and technological trends;
- Discipline analysis and interpretation to identify and solve problems;
- Education and training to develop both new and established employees. (Garvin et al., 2008, p. 4)

Knowledge sharing as a process has greatest results when it is shared in systematic and clearly defined ways among individuals, groups, or organizations and can efficiently move laterally or vertically within the organization (Chaudhary et al., 2012; Chawla & Joshi, 2011; Chinowsky et al., 2007; Garvin, 1993; Garvin et al., 2008; Marsick & Watkins, 1994; Senge, 1999). Garvin (2008) posited that the knowledge-sharing process can be “internally focused, with an eye toward taking corrective action” or “externally oriented with regularly scheduled forums with customers or subject-matter experts” (p. 4). Concrete learning processes also align with Senge’s (1990a) system thinking discipline, which “examines the linkages and interactions between components that comprise a system” in an effort to understand organizational patterns to “help us see how to change them effectively” (p. 7).

Garvin et al. (2008) described building block three, leadership that reinforces learning, as most effective when “leaders actively question, and listen to employees-and
thereby prompt dialogue and debate,” as this generates dialogue and encourages employee to learn (p. 4). “Just as leadership behaviors help create and sustain supportive learning environments, such environments make it easier for managers and employees to execute concrete learning processes and practices smoothly and efficiently” (p. 4). Furthermore, Goh (1998) posited, “in a highly competitive environment, employees are encouraged to take calculated risks, to deal with uncertainty, and to innovate” (p. 18). Thus, leaders include employees in decision-making, are willing to accept criticism, accept alternative viewpoints, encourage employees to identify problems and opportunities, and understand the importance of time investments in problem identification, knowledge transfer and reflection (Garvin et al., 2008; Goh, 1998).

If leaders signal the importance of spending time on problem identification, knowledge transfer, and reflective post-audits, these activities are likely to flourish. When people in power demonstrate through their own behavior willingness to entertain alternative points of view, employees feel emboldened to offer new ideas and options. (Garvin et al., 2008, p. 4).

The Garvin et al., (2008) Learning Organization Survey and Chinowsky et al. (2007) described learning organization maturity and provided tools to measure the levels to which an organization is more or less learningful. The Garvin et al. (2008) instrument provides insights into the level in which a learning organization is learningful and describes the role of leadership in the creation and facilitation of the learning organization. Thus, the leader’s role in nurturing the learning organization is vital to successfully raising the maturity level (Frick & Drucker, 2011; Garvin, 1993; Senge, 1990b).
Leadership Role in Learning Organization Maturity

Organizational transformation may be conducted through a single facet of culture change or via a structural approach, each with a varying degree of effectiveness (Argyris & Schön, 1978; Fiol & Lyles, 1985; Garvin et al., 2008; Langer, 2011; Schein, 2010). The various definitions of the organizational learning process and learning organization entity all have similar characteristics. Each describe a need for knowledge to be easily transferred from one individual to another, as well as contributing to the organizational body of knowledge. The best practices described by Argyris (1993/1999) as the learning organization enablers are: (a) flat, decentralized organizational structures; (b) information systems that provide fast, public feedback on the performance of the organization as a whole and of its various components; (c) mechanisms for surfaced and criticizing implicit organization theories of action, cultivating systematic programs of experimental inquiry; (d) measures of organizational performance; (e) systems of incentives aimed at promoting organizational learning; and (f) ideologies associated with such measures, such as total quality, continuous learning, excellence, openness, and boundary-crossing (p. 6). Dessler (1999) posited:

Today’s focus on teamwork, empowerment, and flatter organizations puts a premium of self-control organizational citizenship behavior, discretionary contributions that are organizationally related, that are neither explicitly required nor contractually rewarded by the organization, yet nevertheless contribute to its effective functioning and studies show commitment can encourage just such behavior. (Dessler, 1999, p. 62)
## Table 2: Building Blocks of a Learning Organization

<table>
<thead>
<tr>
<th>Building Block</th>
<th>Distinguishing Characteristics</th>
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<tbody>
<tr>
<td>A supportive learning environment</td>
<td>Employees:</td>
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<tr>
<td></td>
<td>• feel safe disagreeing with others, asking naïve questions, owning up to mistakes, and presenting minority viewpoints</td>
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<td></td>
<td>• recognize the value of opposing ideas</td>
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<td></td>
<td>• take risks and explore the unknown</td>
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<td></td>
<td>• time to review organizational processes</td>
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<td>Concrete learning processes</td>
<td>A team or company has formal processes for:</td>
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<tr>
<td></td>
<td>• generating, collecting, interpreting, and disseminating information</td>
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<td></td>
<td>• experimenting with new offerings</td>
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<td></td>
<td>• gathering intelligence on competitors, customers, and technological trends</td>
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<td></td>
<td>• identifying and solving problems</td>
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<td></td>
<td>• developing employee skills</td>
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<td>Leadership that reinforces learning</td>
<td>The organization’s leaders:</td>
</tr>
<tr>
<td></td>
<td>• demonstrate willingness to entertain alternative viewpoints</td>
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<tr>
<td></td>
<td>• signaled the importance of spending time on problem identification, knowledge transfer, and reflection</td>
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<tr>
<td></td>
<td>• engage in active questioning and listening</td>
</tr>
</tbody>
</table>

(Adapted from Garvin, Edmondson, and Gino, 2008)

Employees who share in the organization’s goals and values can promote employee engagement for the benefit of the organization (Dessler, 1999; Kahn, 1990; Macey & Schneider, 2008; Shuck et al., 2013). “Commitment—both to the organization, and to
one’s team, is positively related to willingness to help” and “organizational commitment is associated with the employees and organizations ability to adapt to unforeseeable occurrences” (Dessler, 1999, p. 65).

**Problems assessing progress.** The popularity of learning organization theory gained momentum after the publication of Senge’s (2006a) theory of the learning organization, presenting the question of how an organization becomes, as Senge described, learningful (p. 4). The issues with the available research from the 1960s to the mid-1990s attempting to answer this question included the lack of a standard widely accepted definition of a learning organization. Debate well into the new millennium questions how best to define a learning organization, organizational learning, and establish a maturity model of these constructs.

Despite widespread interest in the topic, organizational learning remains elusive from a conceptual and practical standpoint. Commonly cited reasons of this challenge include lack of clear consensual definitions, theoretical and paradigmatic diversity, an absence of cumulative and integrative research, a paucity of empirical studies, and an inability to translate the concept into a measurable construct (Goh et al., 2007, p. 707). Prange (1999) identified three common criticisms of the research related to organizational learning:

1. Organizational learning lacks theoretical integration and research is being done in a non-cumulative way.
2. Organizational learning does not provide ‘useful’ knowledge for practitioners.
3. Organization learning is mostly used in a metaphorical and analogous sense (p. 39).
During this period, researchers disagreed on the definition of the organizational learning process. Further disagreement occurred when attempting to define the characteristics which indicate that an organization is, in fact, a learning organization entity.

Garvin, Edmondson, and Gino (2008) provided three factors to explain the problem:

- First, any of the early discussions about learning organizations were paean to a better world rather than concrete prescriptions. . .
- Second, the concept was aimed at CEOs and senior executives rather than at managers of smaller departments and units where critical organizational work is done. . .
- Third, standards and tools for assessment were lacking. (Garvin et al., 2008, p. 110)

With the massive amount of research and ambiguous definition, it is difficult for leaders to understand or clearly identify how mature their learning organization is and whether they have created the environment for the organizational learning process to occur.

In an effort to measure a learning organization, several survey tools were developed in the 1990s and 2000s. However, no consensual definition was reached. The Pace, Regan, Miller and Dunn (1998) survey utilized the definition of organizational learning as defined by Levitt and March (1988), which was “organizations are seen as learning by encoding references from history into routines that guide behavior” (p. 319).

In a later assessment, Pace (2002) more clearly placed his stamp on the definition and defined organizational learning as:

- The acquisition, retention, and distribution of information quickly and efficiently through an institution’s social and technical networks to systematically solve problems and to experiment with new approaches to working and managing to avoid problems in the future. (Pace, 2002, p. 109)
In their survey tool, Marsick and Watkins (1996) defined the learning organization as “one that learns continuously and transforms itself” (p. 4). Goh and Richards (1997) developed their version of an organizational learning survey tool and defined the learning organization as having clarity of purpose, leadership that empowers employee learning, experimentation and rewards, and the adaptable methods of transferring knowledge and group problem solving (pp. 577-578). The Learning Practice Inventory tool developed by Kelly, Lough, Rushmer, Wilkinson, Greig, and Davies (2007) defined learning as a “quality improvement process” (p. 734). Another tool, the Organizational Learning Profile developed by Pace, Regan, Miller and Dunn (1998) was directed toward the organizational learning process (p. 129). Marsick and Watkins’ (1996) questionnaire focused on the learning organization entity rather than an organizational learning process. Goh and Richards’ (1997) survey tool also focused on the learning organization entity and not the organizational learning process. Garvin, Edmondson, and Gino (2008) utilized a three-dimensional tool that they referred to as building blocks (see Table 2). The Garvin tool is unique in that it addresses both process and organizational structure, so both the learning organization entity and organizational learning process definitions were identified and available for analysis.

The first tool, which established a learning organization entity maturity level, arose from Chinowsky, Molenaar, and Realph (2007) as a result of a series of case studies in the engineer-procure-construct industry. These authors developed a series of criteria were developed that defined learning organization entities’ maturity levels. “The results of the case study effort led directly to the development of a learning organization maturity model” (p. 29). The research team developed an automated assessment tool to
aid in evaluation and implementation of a maturity path for the learning organization (p. 29). This instrument established five levels of learning organization entity maturity from zero—beginning the learning process—to five—fully mature as a learning organization (p. 31). This maturity model appears to be the first attempt at defining organizational learning maturity levels. The tool identified organizational learning process maturity as a benchmark for organizational maturity.

Assessing an organization's maturity is challenging because of the inconsistent approach in defining a learning organization and a lack of clear understanding how to measure the organizational learning process. The available instruments to assess maturity lack consistency in identifying outcomes because of the absence of a precise and widely accepted criteria. To measure learning organization maturity requires a clear understanding and definition of the learning organization and organizational learning. With identified, defined, and widely accepted terminology, an organizational development path with established levels can be benchmarked. Thus, assessing the individual variables utilizing three survey instruments is proposed for this study.

**Employee Engagement**

Kahn (1990) first introduced employee engagement, a potential outcome of a learning organization, and described it as simultaneous employment and expression of a person’s “preferred self” in task behavior that promotes connections to work and others, personal presence (physical, cognitive, and emotional), and active, full role performances (p. 700). While Kahn introduced the concept in 1990, the interest in employee engagement did not enter human resources literature as a management tool until the early
2000s. The bulk of research related to employee engagement appeared in 2002 and expanded over the following decade.

Kahn’s (1990) original definition was further refined over the subsequent decades to hone in on the concept of employee engagement as it is known today. Employees who are engaged at work approach their tasks with enthusiasm and energy, the connection between the organization, and the personal values of the employee lead the employee to be a higher performer than a disengaged employee (Bakker et al., 2008; Schaufeli et al., 2002; Schaufeli & Bakker, 2003). Engaged employees take personal pride in their role within the organization and receive personal satisfaction from the connection of their duties to the success of the mission of the organization (Bakker et al., 2008; Wellins & Concelman, 2007; Wenger, 1998). This behavior enables a personal embeddedment of the successful performance of job responsibilities with personal satisfaction in the job (Erickson, 2005; Harter et al., 2002; Macey & Schneider, 2008). Engaged employees experience a desire to learn and grow within their job roles to gain knowledge that enables them to perform their job duties better, and by doing so, engaged employees not only further contribute to the success of the organization but may also achieve a level of personal satisfaction (Erickson, 2005; Fletcher & Robinson, 2013; Gallup, 2013; Schaufeli & Bakker, 2003).

A number of researchers applied Kahn’s (1990) grounded theory of employee engagement and refined the definition as a “positive, fulfilling, work state of mind that is characterized by vigor, dedication and absorption” (Schaufeli et al., 2002, p. 73) and an “individual’s involvement and satisfaction with, as well as enthusiasm for work” (Harter et al., 2002, p. 269). Further expansion on the emotional connection between engaged
employees and work employees, “passion for work” (Truss, Shantz, Soane, Alfes, & Delbridge, 2013, p. 2669) has been found to lead to an “elusive force that motivates employees to higher levels of performance” (Wellins & Concelman, 2007, p. 19). Fletcher and Robinson (2013) found “a positive attitude held by the employee towards the organization and its values” (p. 273) and “the degree to which employees are satisfied with their jobs, feel valued, and experience collaboration and trust” (Markos & Sridevi, 2010, pp. 91-92). Blessing and White (2006) connected the engaged employee to organizational outcomes, showing high job satisfaction and maximum contribution (p. 9) resulting in an employee’s desire to contribute to the organizational success and their willingness to “apply discretionary effort to accomplishing tasks important to the achievement of organizational goals” (Kenexa, 2012, p. 87).

The frequently cited work of Macey and Schneider (2008) expands the definition to one of “organizational citizenship behavior” or “role expansion, proactive behavior, and demonstrating personal initiative, all strategically focused in service of organizational objectives” (p. 19). Typical definitions describe the emotional and personal connection between employees and the work tasks they complete. In light of this, some key phrases heard when employees are engaged include: “above and beyond the call,” “consistently exceeds expectations,” etc. (p. 21).

In later articles, Kahn (2010) expanded the concept and described engagement as the employee choice to “make a difference, change minds, and directions, add value or join with something larger than themselves” (p. 198). Engaged employees have “a sense of belonging and identification that connects them to their work on a personal level” (Rhoades, Eisenberger, & Armeli, 2001, p. 825).
**Why engaged employees matter.** Engaged employees tend to use less sick leave, are more productive, willing to collaborate, share knowledge and contribute to the organization beyond the scope of their job duties (Bakker et al., 2008; Kahn, 1990; Macey & Schneider, 2008; Maslach & Leiter, 2008). Such employees bring value to the organization and in return, receive personal satisfaction from the success of the organization (Bakker et al., 2008; Gallup, 2013). Kahn (1990) further stated, “People can use varying degrees of their selves, physically, cognitively, and emotionally, in the roles they perform, even as they maintain the integrity of the boundaries between who they are and the roles they occupy” (Kahn, 1990, p. 592).

When the boundaries between the self and roles that employees occupy are blurred, they may be deemed “workaholics” (Schaufeli et al., 2002; Shimazu, Schaufeli, Kamiyama, & Kawakami, 2015). Two types of employee work investment have been identified—workaholism and work engagement—and are characterized by large investments of time and effort. While employee engagement leads to feelings of satisfaction, workaholism may lead to employee burnout (Bakker et al., 2008; Maslach & Leiter, 2008; Schaufeli et al., 2002; Van den Broeck, Vansteenkiste, De Witte, & Lens, 2008). Employee burnout is described as an erosion of engagement with the job (Maslach & Leiter, 2008; Van den Broeck et al., 2008). Employees experiencing burnout demonstrate signs of exhaustion, cynicism, and may lose professional efficacy (Maslach & Leiter, 2008; Schaufeli et al., 2002; Van den Broeck et al., 2008). Burnout is a consequence when an employee is unable to maintain healthy boundaries between work and personal life (Gallup, 2013; Maslach & Leiter, 2008; Schaufeli et al., 2002; Van den Broeck et al., 2008). Gallup (2013) described a difference between employees who are
disengaged, who demonstrate general apathy and cynicism, and employees who are actively disengaged, as employees who work to undermine or sabotage the organization (pp. 12-13). Gallup’s (2013) research indicates that employees who are disengaged or actively disengaged cost U.S. companies between $450 and $550 billion per year (p. 12).

Engaged employees take personal satisfaction from improving their ability to contribute to the organization (Erickson, 2005; Fletcher & Robinson, 2013; Park et al., 2014). This personal satisfaction in the workplace manifests itself in an increase in productivity (Gallup, 2013; Harter et al., 2002). IT employees, in particular, have a desire to innovate by creating and implementing automation and technological advancements that contribute to the efficiency of the organization (Gallup, 2013; Garvin, 1993; Harter et al., 2002; Langer, 2011). IT employees who are engaged will seek to improve the ability of the consumers of technology within the organization to complete their job duties more efficiently and accurately (Garvin, 1993; Harter et al., 2002; Langer, 2011). The value of the contribution to the organization is measurable in the output or increase in productivity as a result of the efforts of the employee (Harter et al., 2002; Holbeche, 2005; Langer, 2011).

Engaged workers stand apart from their not engaged and actively disengaged counterparts because of the discretionary effort they consistently bring to their roles day after day. These employees willingly go the extra mile because of their strong emotional connection to their organization. Reaching this unique state goes beyond having a merely satisfactory experience at work to one of 100% psychological commitment. Any employee can achieve this state in an engaging workplace, but leaders can only be sure they are creating and maintaining this
type of environment if they actively measure and manage the true drivers of engagement. (Gallup, 2013, p. 23)

If IT employees are engaged, then the increased personal contribution to the success of the organization results in higher levels of productivity from consumers of technology (Holbeche, 2005; Langer, 2011).

This study seeks to understand if there is a meaningful correlation between the learning organization maturity level employee engagement as mediated by employee motivation. Thus, measuring employee engagement utilizing a proven tool is essential to the success of this effort. Bakker and Schaufeli (2008) posited that more attention is paid to positive psychology or the scientific study of human strength and optimal functioning (2008, p. 7). This trend also contributes to theories in organizational psychology, as is demonstrated by an increase in discussion and research related to positive organizational behavior: “that is the study of positively oriented human resource strengths and psychological capacities that can be measured developed and effectively managed for performance improvement in today’s workplace” (Schaufeli & Bakker, 2003, p. 192).

Schaufeli and Bakker (2003) created the UTRECHT Work Engagement Scale (UWES) for the purposes of measuring employee work engagement. With the increased interest in employee engagement, there is value in the ability of leadership to discern the working environment of the learningful organization and its relationship with employee engagement and employee motivation sources.

**Employee Motivation**

Motivation theory has been exhaustively researched from many perspectives. For the purposes of this study, the review of literature focuses on established work motivation
theories. The first major modern theory, Maslow’s (1943) hierarchy of needs, is widely cited as the origin of modern motivation theory. Maslow theorized that individuals rarely achieve a state of complete satisfaction because as one need gets satisfied, a new need emerges (p. 372). Maslow posited that all human beings have the same goals hierarchy; however, each individual may be at a different level within the hierarchy (pp. 372-376). Maslow categorized the hierarchy of needs into five groups: (a) physiological, (b) safety, (c) belongingness, (d) esteem, and (e) self-actualization (Figure 1). Physiological needs are the most basic and lowest level of the hierarchy. Such needs are related to survival and proper functioning of the human body, falling under the first level of the hierarchy, including needs for: food, water, air, sex, shelter, warmth, sleep, etc. (p. 380). The absence of some of these needs may lead to death. Physiological needs are the foundation of the hierarchy and essential to be met before upper level needs can be met. Safety, the second level of the hierarchy, includes needs related to protection against danger, the need for shelter, job security, health, and general well-being (p. 380). Safety needs are central to feelings of security and important for survival. A person will seek to meet safety needs before attempts are made to meet higher level needs. Safety needs are important for survival but less important than the lower level physiological needs (p. 380). Belonging, the third level of the hierarchy according to Maslow, refers to the need for social interaction: love, relationships with family and friends, companionship, and affection, and these needs are fulfilled through meaningful relationships with others. Having satisfied physiological and security needs, people can seek relationships from which their need for love and belonging can be met (pp. 380-381). Esteem needs are related to the need of a person to develop self-respect, and establish a stable and high
evaluation of himself (pp. 381-382). Once base physiological and safety needs have been fulfilled, and a person has a sense of belonging, then esteem needs become important. Having achieved the satisfaction of love and relationship needs, according to Maslow (1943), a person can begin to develop feelings of self-worth and esteem (p. 381). Esteem needs are elevated in position within group dynamics and enable people to take pride in their work and themselves as individuals (pp. 382-383). Finally, self-actualization, the highest level of Maslow’s hierarchy, is the need to achieve one’s potential “to become everything that one is capable of becoming” (pp. 382-383). It is generally asserted that the highest level of self-actualization cannot occur without the lower four levels being realized. It is important to understand that Maslow’s (1943) human needs hierarchy described human psyche and was not originally designed as work motivation theory. Later, Maslow (1970) applied his theory to motivation in the workplace; however, many researchers capitalized on this understanding of needs to describe workplace motivation (Maslow et al., 1970).

Subsequent motivation theory from Herzberg, Mausner, and Snyderman (1959), their motivation-hygiene theory, was influenced by Maslow’s hierarchy of needs and focused attention on motivation in the workplace. Herzberg et al. (1959) established the Dual Factor Theory and the Motivation-Hygiene theory. Herzberg et al. (1959) posited that motivation is two-factor, and all human needs can be categorized into two sets: pain avoidance and growth (Herzberg, Mathapo, Wiener, & Wiesen, 1974; Herzberg et al., 1959). In this research, Herzberg et al. (1959) concluded that individuals can reduce or increase the quality or quantity of the effort they put in to alter outcomes based on the two categories (Herzberg et al., 1959). Alderfer (1969) expanded on the Herzberg (1959)
model by “calling out the belongingness” (p. 512) as a specific category and established the Existence – Relatedness – Growth (ERG) theory, which condensed Maslow’s (1943) five categories into three: existence, relatedness, and growth.

Porter and Lawler (1968) put forth a theory of employee motivation as a result of how the organization provides rewards, recognition, and incentives. Through this model, employee motivation is driven by the set of rewards provided by the organization; some rewards are intrinsic, “such as when we feel a sense of accomplishment at having carried through a difficult task successfully” or extrinsic, “such as when the organization awards us a year-end bonus” (p. 120). Further, Porter and Lawler (1968) stated that the employee will put in a level of work effort based on the probability of receiving rewards that are relevant to them (p. 123). The Porter and Lawler model was a combination of various aspects of Maslow’s hierarchy, and subsequent research and was later refined into two distinct models: intrinsic process motivation, or the conducting of a task for the enjoyment of it (Kohlberg & Lickona, 1976; Loevinger, 1966) and instrumental motivation, or conducting of a task for tangible rewards (Kohlberg & Lickona, 1976; McClelland, 1987). The emergence of intrinsic and instrumental motivation is a significant concept in motivation theory and, later, was expanded and refined into the
Barbuto and Scholl (2008) five motivation sources used in this research.

Maslow’s (1943) belongingness tier of the hierarchy was the foundation for subsequent social affirmation theories where motivation and sense of self is tied to effort that satisfy the group (Kohlberg & Lickona, 1976; McClelland, 1987; Stogdill, 1959). Stogdill (1959) posited that individual behavior depends upon group interactions, performance, and expectations, while Kohlberg (1976), Kegan (1982), and Loevinger (1976) described individual motivation as a need for affiliation and conformation with the group. These researchers described external self-concept based motivation source as a tendency for motivation to be externally based “when the individual is primarily other-directed, seeking affirmation of traits, competencies, and values” (Barbuto & Scholl, 1998, p. 1012). Thus, the motivation concepts of goal setting and motivation to succeed are centered on a social sense of group belongingness.

Further expanding on the body of research, Latham and Locke (1979) described goal setting as a motivational technique. Goals can be defined as something a person intends to accomplish and complete in the near future (p. 73). Goal setting works as a
motivational source because it creates a discrepancy between current and expected performance, which results in a feeling of tension that will diminish through goal attainment (Latham & Locke, 1979, p. 79). The feeling of tension in goal achievement was also described by (Kelman, 1958) as indicative of attitude change within an individual’s value system. This contributes to the concept of goal internalization motivation, described by Barbuto and Scholl (1998), as a behavior “when individuals adopt attitudes and behaviors because the content is congruent with their personal values systems” (p. 1013).

Additional research bridges Maslow’s esteem and self-actualization levels of hierarchy. An examination of the contemporary internal self-concept-based motivation originated from White’s (1959) research on the concept of competence, a motivation source that brings satisfaction and enjoyment from an internal sense of accomplishment (White, 1959, pp. 319-321). Internal self-concept motivation is described as an “internal standards of traits, competencies, and values that become the basis for the ideal self” (Barbuto & Scholl, 1998, p. 1013) and predicated on White’s (1959) work in defining pleasure arising out of internalized competencies (White, 1959, pp. 309-311). Internal intrinsic motivation was further described by Ryan and Deci (2000) as “spontaneous behaviors, although clearly bestowing adaptive benefits on the organism, appear not to be done for any instrumental reason, but rather for the positive experiences associated with exercising and extending ones capacities” (Ryan & Deci, 2000, p. 56). Internal self-concept motivation is broadly described as internally-based and esteem-driven (Barbuto & Scholl, 1998; Ryan & Deci, 2000; Schneider & Alderfer, 1973).
Pinder (2008) provided a more contemporary definition of work motivation as “a set of energetic forces that originate both within as well as beyond an individual’s being, to initiate work-related behavior and to determine its form, direction, intensity, and duration” (p. 11). Regardless of whether the motivation source is intrinsic or extrinsic, researchers broadly agree that multiple motivation sources influence behavior in the workplace and productivity outcomes. Barbuto and Scholl (1998) consolidated the various theories related to work source motivation, which resulted in the five motivation sources used in this research: (a) intrinsic process motivation; (b) instrumental motivation; (c) external self-concept motivation; (d) internal self-concept motivation; and (e) goal internalization motivation (Barbuto & Scholl, 1998, pp. 1012-1014) (Table 3). Barbuto and Scholl (1998) developed the Motivation Source Inventory (MSI) instrument that is utilized in this research. The MSI instrument has been used by many researchers and has proven validity and reliability, which is discussed in Chapter III.

**Intrinsic process motivation.** “If a person is motivated to perform certain kinds of work or to engage in certain types of behavior for the sheer fun of it, then intrinsic process motivation is taking place” (Barbuto & Scholl, 1998, p. 1013). This motivation source originates from within the individual and engages them in the work tasks for the challenge of the work itself (Barbuto, 2006; Calder & Staw, 1975; Ryan & Deci, 2000). The rewards for intrinsic process motivation are, therefore, internal, and personal satisfaction is “derived from achievement of goals or tasks” (Barbuto et al., 2008; Barbuto & Scholl, 1998). “The emphasis is on immediate enjoyment or pleasure during activity, rather than on the satisfaction that results from its achievement” (Barbuto & Scholl, 1998).
Table 3: Integrative Typology of Motivation Sources

<table>
<thead>
<tr>
<th>Theorist</th>
<th>Intrinsic Process</th>
<th>Instrumental</th>
<th>External Self-Concept</th>
<th>Internal Self-Concept</th>
<th>Goal Internalization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alderfer (1969)</td>
<td>Existence</td>
<td>N/A</td>
<td>Relatedness</td>
<td>Growth</td>
<td>N/A</td>
</tr>
<tr>
<td>Ashforth and Mael (1989)</td>
<td>N/A</td>
<td>N/A</td>
<td>Social Identity</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Bandura (1986)</td>
<td>Sensory Internal</td>
<td>Extrinsic</td>
<td>N/A</td>
<td>Personal Standards</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td>Physiological</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Barnard (1983)</td>
<td>N/A</td>
<td>Material Inducements</td>
<td>Social Inducements</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Bellah et al. (1985)</td>
<td>N/A</td>
<td></td>
<td>N/A</td>
<td>Individualism</td>
<td>Habits of the Heart</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Outcome Valence</td>
</tr>
<tr>
<td>Deci (1975)</td>
<td>Task Pleasure</td>
<td>Extrinsic</td>
<td>Interpersonal Challenges</td>
<td>Overcoming</td>
<td>Outcome Valence</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Pure Moral</td>
</tr>
<tr>
<td>Deco (1975)</td>
<td>Task Pleasure</td>
<td>Extrinsic</td>
<td>Interpersonal</td>
<td>Overcoming Challenges</td>
<td></td>
</tr>
<tr>
<td>Etzioni (1975)</td>
<td>N/A</td>
<td>Calculative / Alternative Satisfiers</td>
<td>Social Moral</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Herzberg (1968)</td>
<td>N/A</td>
<td></td>
<td>Satisfiers</td>
<td>Motivators</td>
<td>N/A</td>
</tr>
<tr>
<td>Katz &amp; Kahn (1978)</td>
<td>N/A</td>
<td>Legal Compliance</td>
<td>Membership Approval</td>
<td>Role Performance</td>
<td>Internalized Values</td>
</tr>
<tr>
<td>Kegan (1982)</td>
<td>Impulsive</td>
<td>Imperial</td>
<td>Interpersonal</td>
<td>Social System</td>
<td>Inter-Individual Principled</td>
</tr>
<tr>
<td>Kohlberg (1976)</td>
<td>Heteronomious</td>
<td>Instrumental</td>
<td>Interpersonal</td>
<td>Social System</td>
<td></td>
</tr>
<tr>
<td>Loevinger (1976)</td>
<td>Impulsive</td>
<td>Opportunistic</td>
<td>Conformist</td>
<td>Conscientious</td>
<td>Autonomous</td>
</tr>
<tr>
<td>Maslow (1954)</td>
<td>Physiological</td>
<td>Safety</td>
<td>Love</td>
<td>Esteem</td>
<td>Self-Actualization</td>
</tr>
<tr>
<td>McClelland (1961)</td>
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<td>Power</td>
<td>Affiliation</td>
<td>Achievement</td>
<td>N/A</td>
</tr>
<tr>
<td>Murray (1964)</td>
<td>Intrinsic Pleasure</td>
<td>Power</td>
<td>Affiliation</td>
<td>Achievement</td>
<td>N/A</td>
</tr>
<tr>
<td>Piaget (1972)</td>
<td>Preoperationa l</td>
<td>Concrete</td>
<td>Formal</td>
<td>Full-Formal</td>
<td>Post-Formal</td>
</tr>
</tbody>
</table>

Source: Adapted from Barbuto and Scholl (Barbuto et al., 2008).

**Instrumental motivation.** “Instrumental rewards motivate individuals when they perceive their behavior will lead to certain extrinsic tangible outcomes such as pay, promotions, bonuses, etc.” (Barbuto & Scholl, 1998, pp. 1012-1014). This motivation source integrates several of the motivation typologies as described in Table 1. Other researchers described this motivation source as “personal benefit” (Leonard et al., 1999), “recognition rewards” (Wiener, 1982), and material inducements (Barnard, 1938). The perception of this reward is external in nature and satisfaction may not originate from...
work task; rather, satisfaction originates from the rewards or recognition received from a job well done (Barbuto & Story, 2011; Mottaz, 1985; Ryan, 2011).

**External self-concept motivation.** “In this source, motivation tends to be externally based when the individual is primarily other-directed, seeking affirmation of traits, competencies, and values” (Barbuto & Scholl, 1998, p. 1012). This motivation source is social in nature; the individual receives satisfaction on the interpersonal level by way of integration with group norms, conformity to group attitudes, and interpersonal interactions (Barbuto & Scholl, 1998; Egan, Yang, & Barlett, 2004; Herzberg et al., 1959). “Employees seeking membership and seniority in organizations, approval from leaders, and approval from groups in similar terms to the external self-concept motivation” (Barbuto & Scholl, 1998, p. 1013).

**Internal self-concept motivation.** “In this source, motivation is internally based when the individual is inner-directed, and sets internal standards of traits, competencies, and values that become the basis for the ideal self” (Barbuto & Scholl, 1998, p. 1013). Self-direction, autonomy, experimentation, and the capacity to fail and learn from mistakes are foundational for this motivation source (Latham & Pinder, 2005; Ryan, 2011; Ryan & Deci, 2000). “The person is then motivated to engage in behaviors that reinforce the standards and later achieve higher levels of competency” (Barbuto & Scholl, 1998, p. 1013).

**Goal internalization motivation.** This motivation source is “motivated by goal internalization when individuals adopt attitudes and behaviors because the content is congruent with their personal value systems” (Barbuto & Scholl, 1998, p. 1013). Employees are engaged and motivated by the values, mission, and vision of the
organization or “the cause and as such, is motivated to work towards the goal of the collective” (Barbuto & Scholl, 1998, p. 1014). Values-driven motivation is internal in nature and may be influenced by a sense of loyalty and dedication to the traditions of the organization (Chadwick & Raver, 2015; Frick & Drucker, 2011; Rokeach, 1973).

**Why motivation matters.** It is important to understand motivation sources in relation to employee engagement if leadership is to encourage sustained effort of employees. Within IT departments, it is essential for high performance individuals to explore the boundaries of their duties in an effort to support the success of the institution (Argyris, 1990; 2015; Langer, 2011).

This research sets out to discover a relationship between the learning organization environment, employee engagement, and if motivation is a mediating factor within levels of organizational maturity. Work motivation is a set of energetic forces that originate both within as well as beyond an individual’s being, to initiate work-related behavior and to determine its form, direction, intensity, and duration (Latham & Pinder, 2005; Pinder, 2008). Leadership should gain an understanding of motivation source and utilize the information to gain the most from their employees and related teams. A high-performance team in Higher Education Institutions (HEIs) is invaluable to the organization as a catalyst for continual improvement, improved service, access to data, employee retention, and overall institutional wellness. Furthermore, an understanding of employee motivation is imperative for leadership to retain valuable employees (Abbasi & Hollman, 2000; Dessler, 1999; Eisenberger & Fasolo, 1990). Research by Fitzenz (1997) concluded that the average company loses approximately $1 million with every 10 managerial and professional employees who leave the organization (Fitzenz, 1997, p. 51).
When considering direct and indirect costs, the “total cost of an exempt employee turnover is a minimum of one year’s pay and benefits, or a maximum of two years pay and benefits” (Ramlall, 2004, pp. 52-53). Employee turnover often has negative and unknown consequences such that, “excessive turnover often engenders far-reaching consequences and, at the extreme, may lead to jeopardy of the organization’s objectives” (Abbasi & Hollman, 2000, p. 333).

With critical employee departures, there is a significant economic impact, particularly when knowledge departs with the individual and is not retained at the organizational level (Bontis & Fitz-Enz, 2002; De Geus, 1988; Eisenberger & Fasolo, 1990; Mayo, 2001; Senge, 1990b, 2006a). Abbasi and Hollman (2000) referred to this as “brain drain” and posited the loss of knowledge within the organization “negatively affects innovation and causes major delays in the delivery of services and the introduction of new programs” (Abbasi & Hollman, 2000, p. 333). Several researchers have stated that knowledge is now being recognized as one of an organization’s most valuable assets, and most organizations lack the systems required to retain and motivate the knowledge worker (Chaudhary et al., 2012; Davenport, 2005; Frick & Drucker, 2011; Mládková, 2011). “Organizations cannot afford to take passive stance toward knowledge management in the hopes that people are acquiring and using knowledge, and that sources of knowledge are known and accessed throughout the organization” (Ramlall, 2004, p. 53). It is easy to understand the economic impacts of the departure of employees who have valuable knowledge. Therefore, leaders within organizations should understand the motivation factors that keep employees engaged.
Employee turnover in IT departments, particularly in HEIs, is cause for concern considering that many HEI employ a highly-specialized technology workforce (Cyert & Mowery, 1987; Donnellan, 2006; Langer, 2011). Abbasi and Hollman (2000) suggested there are five causes of employee turnover that include: (a) hiring practices; (b) managerial style; (c) lack of personal and team recognition; (d) lack of competitive compensation system; and (e) toxic workplace environment (pp. 333-339). The learning organization environment in its highest level of maturity as described by Chinowsky et al. (2007) and maturity in the Building Blocks of the Learning Organization as outlined by Garvin et al. (2008) create the environment that circumvents a toxic work environment, thereby leading to increased employee engagement. Abbasi and Hollman (2000) described a toxic environment as: (a) an organization that requires people to choose between having a life and having a career; (b) an organization that treats people as if they are a factor of production; and (c) an organization looks at its people and sees them as costs, salaries, benefits, and overhead (pp. 338-339). That is, some organizations do not see their employees as assets (Abbasi & Hollman, 2000, pp. 333-339).

Organizations in which there are well-considered rewards, training and development opportunities, consideration for person-organization fit in hiring practices, and leaders who nurture engagement result in higher retention rates have a positive work environment (Abbasi & Hollman, 2000; Cyert & Mowery, 1987; Duncan & Weiss, 1979; Egan et al., 2004; Ellinger, Ellinger, Yang, & Howton, 2002; McCulloch & Turban, 2007). Reducing turnover in skilled labor in HEI IT departments preserves knowledge at the individual level. To reduce risk, leaders should nurture the learning organization environment and process, in which knowledge may be retained at the organizational level.
(Frick & Drucker, 2011; Garvin, 1993; Senge, 1990b). Furthermore, Vanthournout, Noyens, Gijbels, and Van den Bossche (2014) described a connection between workplace climate, motivation, and learning that “the working environment plays an important role in the learning processes of employees given that day-to-day work continues many potential learning processes” (Vanthournout et al., 2014, p. 197). The perception employees have of their work environment and the ability to retain knowledge is a direct impact on motivation. “How employees perceive their working environment therefore seems of great importance as it may impact their motivation to learn this environment and/or the quality of their learning processes” (Kirby, Knapper, Evans, Carty, & Gadula, 2003, p. 25). Kirby et al. (2003) described an assessment of three types of workplace climate: good leadership, choice independence, and workload (2003, pp. 32-33). Choice independence assesses employees’ perception of self-direction and independence in conducting their daily work tasks. Research shows that employee perceptions of the workplace directly relate to the quality, complexity, and capacity of learning within the organization.

Several studies connect motivation to the organizational environment (Kirby et al., 2003; Schein, 2010; Senge, 2006a; Senge, 1991; Van den Broeck et al., 2008). Motivation sources can be triggered by the environment or by the employees (Garvin, 1993; Garvin et al., 2008; Kirby et al., 2003; Van den Broeck et al., 2008; Vanthournout et al., 2014). In the learningful organization, job design and leadership nurtures autonomous motivation (Kirby et al., 2003; Van den Broeck et al., 2008; Vanthournout et al., 2014). Indeed, job autonomy can facilitate the time necessary for learning and development, which, in turn, improves job performance (Latham & Pinder, 2005; Ryan &
Deci, 2000). Furthermore, “employees are both motivated and able to learn if they receive sufficient opportunities to experiment with new ways of performing their tasks” (Ryan, 2011, p. 748). This concept aligns well with Senge’s discipline of personal mastery, which involves an individual’s ability, capacity, and freedom to experiment, make mistakes, and engage in the learning process to gain and retain individual, team, and organizational knowledge (Frick & Drucker, 2011; Senge, 1990b, 2006a).

The motivation source of employees is a contributing factor to employee retention; counter to a motivated employee, an unmotivated employee is characterized as one “who feels no impetus or inspiration to act . . . whereas someone who is energized or activated toward an end is considered motivated” (Ryan & Deci, 2000, p. 56).

Most everyone who works or plays with others is, accordingly, concerned with motivation, facing the question of how much motivation those others, or oneself, has for a task, and practitioners of all types face the perennial task of fostering more versus less motivation in those around them. (Ryan & Deci, 2000, p. 54)

The unmotivated employee impacts their colleagues in various ways that can include things like: low morale, lower productivity, increased toxicity in the work place, poor job performance, negative impact on colleagues, customers, and clients, and conflicts (Herzberg et al., 1959; Oye, Salleh, & Noorminshah, 2011; Petronio & Colacino, 2008; Ryan & Deci, 2000; Vanthournout et al., 2014). Thus, motivated employees are in the best interests of the organization as they contribute, remain engaged, and support the growth and prosperity of the organization.
Challenges Facing HEI

One such institution, higher education, is facing a number of challenges including: financial, technological, human resources, and a changing student population. As the economy recovers from the financial recession of 2008, and employment is once again rising, it calls into question the return on investment of a college education (Ebersole, 2014; Rawls, 2014; Selingo, 2016). Tuition, fees, and room and board at many universities have increased 440% over the last nine years and is now $50,000 per year on average. Higher education is quickly becoming a reality only for the wealthiest (Rawls, 2014; Selingo, 2016; Van Der Werf & Sabatier, 2009).

Those rising tuition prices during the past 15 years coincided with falling incomes of American families. The percentage of households making more than $100,000 has been shrinking, while the proportion earning less than $35,000 has grown. As a result, the average sticker price of college now eats up more than 40 percent of a family’s paycheck. In 2001, it accounted for less than 25 percent. (Selingo, 2016, para. 6)

Student population and demographics are changing in as much as graduating high school seniors are financially less well-off than previous generations (Selingo, 2016; Strikwerda, 2015; Van Der Werf & Sabatier, 2009). Rosenstone (2004) stated that an analysis of Census data concludes that, “of the 450 counties in the U.S. with significantly more younger than older children, all but 100 of them have median incomes below the national average” (p. 7). The fastest growing population are people over the age of 65 and, of those who are likely to have children going to college, family incomes are shrinking (2015; Selingo, 2016; Van Der Werf & Sabatier, 2009). Ebersol (2014) posited that there
is a shift in student demographics “neither the media nor the policy community appear to fully recognize that today’s typical student is no longer an 18 to 24 year old studying full-time on a campus” (para 3).

In fact, there is data which shows that fewer than 20% of the roughly 20 million now enrolled fit this traditional description. The rest are “post-traditional” students who are older, working part-time, and often commuting, either by car or, increasingly, the Internet. Yet, policies and programs still make assumptions based on the needs of a shrinking minority. (Ebersole, 2014, para 6)

Research conducted by Rosenstone (2004) concluded that, for “students from low-income families, the total charges for attending a four-year public institution accounted for about 60% of family income in 1999 through 2000, compared to just 5% of the family income for students from the wealthiest families” (p. 7). This disparity has caused a dramatic decline in college participation rates for low income students in the last decade (2015; Rosenstone, 2004; Selingo, 2016; Van Der Werf & Sabatier, 2009).

As a result of the 2008 economic downturn, state and federal funding in higher education has dramatically decreased (2015; Cronin & Horton, 2009; Selingo, 2013, 2016). “Nationwide, appropriations to higher education fell (in nominal dollars) a whopping $9.2 billion (13%) over the past three years” (Rosenstone, 2004, p. 3). The impact of the economic downturn and stagnating wages has impacted the middle class, which has traditionally paid tuition by taking out loans and may not be able to do so due to the private student-loan market diminishment (Cronin & Horton, 2009; Gephardt & Fitzgerald, 2014; Kuttner, 2014). Cronin and Horton (2009) posited endowment cushions that allowed colleges to engage in steep tuition discounting are gone and the decline of
the housing market and valuations are making it increasingly difficult for families to utilize instruments such as home-equity loans for college financing (p. 3).

It is no longer sustainable for institutions to rely heavily on student tuition to meet fiscal needs (Cronin & Horton, 2009; Gephardt & Fitzgerald, 2014). The number of college age students is also on the decline as the “baby-boom echo” has peaked, resulting in a need for HEI to establish new sources of revenue (Cronin & Horton, 2009; Kikoski & Kikoski, 2004; Langer, 2011; Morecroft & Sterman, 1994). Efforts to increase endowments are strategies for institutions of higher education to become more competitive in this rapidly changing environment (Kikoski & Kikoski, 2004; Morecroft & Sterman, 1994). Due to the 2008 economic decline, institutional endowments have declined as well and, in many cases, are only beginning to fully recover. The ability of colleges to rely on endowment cushions to support steep tuition discounting is largely diminished (Cronin & Horton, 2009; Rawls, 2014). Additionally, institutions have made significant investment in new buildings in an effort to modernize facilities and attract new students (2015; Kuttner, 2014; Selingo, 2013). As Kuttner (2014) posited that academic institutions have “over-e over-expanded and over-priced their product” and anticipates an education bubble similar to that of the housing bubble burst in 2003-04 (para 1). Cronin and Horton (2009) and Van Der Werf and Sabatier (2009) agreed that the number of graduating high school seniors is predicted to decline over the next 10 years by up to 20%, which will result in increasing competition for students among institutions. This contraction in available students will increase competition for enrollments that equates to tuition dollars. In tuition-driven institutions, this can be
gravely concerning, as a number of competing institutions will heavily recruit students (Bogaty & Nelson, 2015; Cronin & Horton, 2009; Ebersole, 2014).

Another challenge for HEI, rapid change, is a constant in high performing organizations. Information technology is not only a driving force behind the need to change but is also foundational and strategic to organizational success (Gilley, 2001; Holbeche, 2005). Institutions that can capitalize not only on technology but also on human capital that implements, maintains, and utilizes technology to innovate are demonstrated survivors in contracting markets (DiBella & Nevis, 1998; Flinn, 2010; Garvin, 1993; Goh & Richards, 1997; Holbeche, 2005). Cronin and Horton (2009) posited that the solution to keep the “bubble from bursting” is for universities to look for more efficiency and sources of revenue other than tuition (p. 3).

Technology creates challenges for institutions to remain innovative as corporations increasingly outpace what was traditionally considered a function of higher education (Rawls, 2014; Rosenberg, 2004; Selingo, 2016). Technological advancements, combined with a declining student population, are creating an environment within higher education that is increasingly competitive (2015; Cronin & Horton, 2009; Rawls, 2014; Rosenberg, 2004; Selingo, 2016). Thus, it is recommended that HEIs explore technology as a way to increase efficiency, innovate the classroom and institution, and improve speed to access knowledge to make effective data-driven decisions (Rosenberg, 2004; Strikwerda, 2015; Van Der Werf & Sabatier, 2009).

Even as technology permeates everything we do, the real challenge for higher ed is not just to keep up with these changes and continue our tradition as innovators,
but more importantly to do these while attending to the interpersonal development of our students. (Rawls, 2014, para 10)

Evans and Wurster (2000) posited that, over the next decade, the “new economics of information will precipitate changes in the structure of entire industries and in the way companies compete” (p. 71). Innovations in technology have rapidly transformed entire industries and HEIs are not excluded from its impact. “The dramatic decline in the costs of information processing and communications has resulted in the restructuring of business organizations, the nature of interactions among them, their boundaries-and the industries they operate in” (Evans & Wurster, 2000, p. 6).

IT can reduce costs to an organization by automation and more rapid access to data for decision making (2015; DiBella & Nevis, 1998; Van Der Werf & Sabatier, 2009). The effective use of technology can give institutions a competitive edge when it comes to recruitment and retention of students (2015; DiBella & Nevis, 1998; Ebersole, 2014). Additionally, IT can reduce transaction costs and may have some impact on the boundaries of the organization (Ebersole, 2014; Van Der Werf & Sabatier, 2009). IT is in the unique position to dramatically change the nature of the institution itself by reducing costs via automation and delivering “on demand” course content in an “any-time, any-place” method (Ebersole, 2014; Garvin, 1993; Holbeche, 2005; Van Der Werf & Sabatier, 2009). “Colleges can also make productivity gains by using technology and reengineered courses” (Cronin & Horton, 2009, p. 3).

HEIs are presented with an impending crisis of “brain drain” resulting from the retirement of the baby boom generation (Cronin & Horton, 2009; Rawls, 2014; Rosenstone, 2004). The baby boom generation is in the process of retiring, and as this
happens, they are leaving “gaps at every level of our institutions” (Rawls, 2014, para 3). With the retirement of the baby boomers, a certain amount of institutional knowledge, experience, and expertise departs with them unless this knowledge can be retained through the process of organizational learning (2015; Chaudhary et al., 2012; DiBella & Nevis, 1998; Ebersole, 2014; Garvin, 1993; Rawls, 2014; Rosenstone, 2004). Indeed, many industries face similar challenges as boomers begin retiring (DiBella & Nevis, 1998; Flinn, 2010; Frick & Drucker, 2011; Garvin, 1993). An interesting aspect of the changing dynamic with new employees within HEI, as Rawls (2014) posited, is “the number of non-academic leaders finding their way into leadership roles” within higher education. Rawls (2014) stated, “in the past, our leaders came up through the ranks, and opportunities still exist to do just that, but the days of every leadership position being filled by a former academic are over” (para 4). Rawls (2014) and others suggested that this transition from the promotion of the rank and file of the academy into a new type of leadership will bring a change for the better in leadership creativity and innovation (Chaudhary et al., 2012; Flinn, 2010; Frick & Drucker, 2011; Garvin, 1993; Rawls, 2014; Rosenstone, 2004).

The crisis in HEI leadership is looming, according to Rawls (2014): “It is debatable whether the need to prepare new leaders in higher education is coming or has already arrived” (para 12). The demographics of leadership in HEI indicate an aging in university presidents, according to the American Council on Education report: “Two decades ago, the average age of college and university presidents was 52. Today, it is 61.” (Ebersole, 2014, para 10). Ebersole (2014) wrote:
Only the community college sector seems to recognize this as a problem and it is taking action. Community college leadership programs are springing up in schools of education across the country. And while some may question whether these are the right places to be training future leaders in areas such as the use of technology, innovation, advocacy and entrepreneurial thinking, there is little else filling the void. (para 9)

Filling the void in presidential leadership and knowledge as well as the overall aging leadership paradigm is creating a potential risk to HEI (2015; Cronin & Horton, 2009; Rawls, 2014). Thus, effective workforce development is imperative, as HEIs are having difficulty filling positions with applicants who have the needed skillset and knowledge (Ebersole, 2014; Garvin, 1993; Gephardt & Fitzgerald, 2014).

If HEIs are going to thrive, in spite of the challenges facing the academy, there will be a need to improve the institutional ability to retain and access knowledge (Bennet, 2006; Chaudhary et al., 2012; Denning, 2005; Reinhardt et al., 2011; Weldy & Gillis, 2010). Indeed, knowledge management becomes increasingly important as the baby boomers retire, and a new workforce is absorbed into the institution (Chaudhary et al., 2012; Frick & Drucker, 2011; Joo, 2010; Mládková, 2011). A robust technological infrastructure is critical to supporting the transition and transformation of knowledge from the individual level to the organizational level in a consumable format (Abdimomunova & Valerdi, 2010; Bhaskar & Mishra, 2014; Donnellan, 2006; Langer, 2011). Thus, Langer (2011) posited, IT employees become foundational components of any institutions ability to survive and thrive by retaining knowledge. The technical infrastructure supported and maintained by IT employees is critical to the flow of
information both vertically and laterally through the organization (Chaudhary et al., 2012; Langer, 2011). Leadership’s ability to build and sustain a learningful organization is a skill that should be built nurtured and sustained (Balay, 2012; Chawla & Renesch, 1995; Jo & Joo, 2011; Langer, 2011). Additionally, the organizational learning environment itself is one that can contribute to an institution’s ability to mitigate the risks that results from the institutional loss of knowledge (Skuncikiene, Balvociute, & Balciunas, 2009; Thomsen & Hoest, 2001). Thus, it is important for leadership to understand the relationship between the learning organization it’s maturity, employee engagement, and employee motivation sources.

**Technology as Learningful**

The rapid transformation of the world due to advancements in technology and information processing are consistently described as a driving force for leaders to need their organizations to be learningful (Juceviciene, 2009; Langer, 2011). In today’s world, technology is ubiquitous, and the nature of technology allows information to flow at the speed of thought (Chaudhary et al., 2012; Langer, 2011; Rosenberg, 2004; Senge, 2004; Van Ginkel, 2003). New and changing technologies have a significant impact on market trends at a global level (Goldsmith, Morgan, & Ogg, 2004; Guri-Rosenblit, 2001; Hult, Nichols, Giunipero, & Hurley, 2000). Rapid technological advances require organizations to be highly adaptable and flexible to stay competitive. As Schein (2010) wrote, “we have to acknowledge that the broader IT revolution is at least as powerful as the introduction of the automobile in creating sweeping world-wide changes” (p. 286).

Knowledge work is the work of the new millennium and an increasing sector of the workforce (Frick & Drucker, 2011; Haag, Cummings, & Dawkins, 1998). Knowledge
workers are the individuals, generally in an information technology role, who are valued for their ability to gather, analyze, interpret, and synthesize information within specific subject areas to advance the overall understanding of those areas and allow organizations to make better decisions (Chaudhary et al., 2012; Davenport, 2005; Frick & Drucker, 2011; Haag et al., 1998). Understanding of the environment to encourage engagement and motivate knowledge workers is an underrepresented area of research (Chaudhary et al., 2012; Frick & Drucker, 2011; Latham & Pinder, 2005). Businesses are increasingly reliant on the knowledge worker and the information technology infrastructures on which they are reliant (Chaudhary et al., 2012; Davenport, 2005; Senge, 1999). “As businesses increase their dependence on information technology, the number of fields in which knowledge workers must operate has expanded dramatically” (Frick & Drucker, 2011, p. 375). Thus, motivation of the knowledge worker is an intrinsic aspect to the retention of the employee.

Information technology is the infrastructure and underlying theme behind much of the contemporary discussion related to the organizational learning process. The modern workforce has transitioned from manual labor work to become knowledge workers, “achieving client solutions that reflect a focus on the knowledge worker requires organizations as a whole and the employees as individuals to focus on the continuous obtainment and dissemination of knowledge” (Chinowsky et al., 2007, p. 28). It is widely accepted that information technology infrastructure plays a significant role in the day to day operations of modern organizations. As such, information system teams have become the key to the success of corporate enterprises. Senge (2006a) posited that leadership has a distinct responsibility in designing IT-based infrastructure and the composition of the
team responsible for implementation (p. 325). The new work of the IT team is to design the underlying infrastructure and technical systems that provide the services in which knowledge in the form of information can freely move throughout the organization and be accessed by the employees of the organization in an “on-demand” method (Frick & Drucker, 2011; Fulmer, 2000; Garvin, 1993; Senge, 2006a). The expansion of reliance on technology has been sustained by the exponential increase in technological advancements.

Intense global competition, an explosion of information technology, and the emergence of a knowledge-based economy are reshaping the world’s business environment including higher education (Davis & Daley, 2008; Garvin et al., 2008; Holbeche, 2005; Langer, 2011).

Because technology is changing at such a rapid pace, the ability for organizations to operate within a new paradigm of dynamic change emphasizes the need to employ action learning as a way to build competitive learning organizations in the new millennium. This is only possible through a malleable organization where knowledge flows efficiently and effectively. (Langer, 2011, p. 1)

Organizational survival relies upon an organization's ability to evolve effectively and adapt to new technologies and is reliant on retention of knowledge at the organizational level, not the individual level (Argyris & Schöön, 1978; Fiol & Lyles, 1985; Garvin, 1993).

When information technology departments tend to operate in a reactionary mode when not mature as a learning organization. Operating in reaction to events is then followed by actions to resolve problems and restore services (Garvin, 1993; Garvin et al.,
Chinowsky, Molenaar, and Realph (2007) identified the lowest level of learning organizational entity maturity as being “a reactive learning philosophy” (p. 28). The reactionary IT organization demonstrates single-loop learning, as in trying multiple times to resolve the same issue (Argyris, 1976) and the earliest definition of the introspective process of organizational learning (Cyert & March, 1992). Thus, it is in the best interests of leaders to nurture a culture of organizational learning (Argyris, 1999; Brown & Duguid, 1991; Cangelosi & Dill, 1965; Garvin et al., 2008; Senge, 2006a).

A learningful organization is resilient in the face of crisis and events that negatively impact it. The resilient IT organization recovers rapidly, gains and retains knowledge of the event, and learns from it. Organizational resiliency is a key factor in many of the articles reviewed. Brooks and Goldstein (2003) described resiliency as a “set of skills and behaviors that influence a dynamic process that is constantly operating,” or in other words, learning from experience (p. 8). Also, Benard (2004) summarized organizational resiliency as: 1) “a capacity . . . for healthy development and successful learning”; 2) “certain personal strengths are associated with healthy learning”; and 3) “certain characteristics of families, schools and communities are associated with . . . learning” (p. 4). Luther (2003) defined resiliency as, “an ability to learn from and acquire characteristics of a protective factor” (p. 131). Thus, there is a distinct overlap in characteristics of a resilient organization and those of a learningful organization.

A further characteristic of a learningful organization is the flattening of traditional hierarchical organizational structures (Garvin, 1993; Langer, 2011; Schein, 2010; Senge, 1990b, 2004). Traditional organizational structures arose out of a need for line workers to
perform routine functions at the direction of superiors. This model was an outcome that emerged out of manufacturing sectors as a result of efforts to gain efficiencies in production to stay competitive (Schein, 2010; Senge, 1990b). The modern business environment is trending away from manufacturing into the realm of the knowledge worker (Chaudhary et al., 2012; Davenport, 2005). The traditional hierarchical model inhibits the flow of knowledge and thereby reduces the ability of an organization to become learningful (Argyris, 1993; Schwandt & Marquardt, 2000). Organizational structure change is evident as one component of an emerging learning organization. “The change we are talking about is not just external elements of the organization – its products, activities, or structures – but rather its intrinsic way of operating – its values, mindset, even its primary purpose” (Schwandt & Marquardt, 2000, p. 1). Argyris (1993) clarified the need for organizational transformation from the “traditional pyramidal form” (p. 107). Argyris (1993) described the requirements for organizational change as: (a) much more creative planning; (b) the development of valid and useful knowledge about new products and new processes; (c) increased concerted and cooperative action with internalized long-range commitment by all involved; and (d) increased understanding of criteria for effectiveness that meet the challenges of complexity (pp. 107-108).

Research has shown that the organizational structure itself can limit the learning process. The learning organization structure would be seen “as an evolving organism whose structure must constantly adapt to facilitate growth” (Fulmer, 2000, p. 194). Thus, leadership openness to exploring “alternative organizational structure that can support the application of emerging technologies” would be helpful (Langer, 2011, p. 272). Often however, the pyramidal organizational chart is not conducive to organizational learning
as information flows vertically, up the chain of command, rather than laterally among peers within the organization (Chaudhary et al., 2012; Chawla & Joshi, 2011; Chinowsky et al., 2007; Garvin, 1993; Garvin et al., 2008; Marsick & Watkins, 1994; Senge, 1999). To address this, the trend to “flatten” an organization is emerging out of the learning organization theory (Argyris, 1993; Schwandt & Marquardt, 2000). Activities related to flattening and decentralization of the organization are designed to facilitate communication and knowledge transfer among peers and “function as enablers of productive organizational learning” (Argyris, 1993, p. 6). To further understand the evolution of learning organization theory, it is important to review the various maturity models, some of which are emerging as leaders in the ability to assess the learning organization.

The culture of an organization is dependent on introspection, institutional memory, and the recollection and understanding of its leadership. At the peak of maturity, an organization would demonstrate five learningful characteristics: (a) leadership that champions the integration of knowledge and promotes and reinforces a learning environment; (b) the process and infrastructure to support the facilitation and exchange of new ideas; (c) concrete learning processes and practices that cultivate an environment of open communication and sharing of knowledge; (d) views education as providing a strategic value to the organization; and (e) a culture that is appreciative of differences and receptive to new ideas (Chinowsky et al., 2007; Garvin et al., 2008; Langer, 2011). Leadership as champion of a learningful organization begins with the “building a collaborative exchange of ideas, perspectives, knowledge, skills, and insights” (Collinson, Cook, & Sharon, 2006, pp110). The culture and environment of an
An organization can influence the structure, quantity, and nature of learning related events (Egan et al., 2004; Ellinger et al., 2002; Senge, 2006a, 2006b). Thus, the culture influences the employee job satisfaction as well as employee motivation to acquire and broadcast knowledge to the workplace (DiBella & Nevis, 1998; Egan et al., 2004; Frick & Drucker, 2011; Senge, 2006a, 2006b).

Literature is consistent in describing the need for an organization to be learningful, become a learning organization entity, or mature in the process of organizational learning (Argyris & Schön, 1978; DiBella & Nevis, 1998; Garvin, 1993). The most consistent reason for this need is the organizational ability to adapt and absorb new and emerging technologies (Garvin, 1993; Langer, 2011). By doing so, a learning organization would rapidly bounce back from negative events, be more resilient, adaptable and flexible, efficient and robust, learn from internal and external experiences, and evolve as a result (Cyert & March, 1963; Garvin, 1993; Garvin et al., 2008; Holbeche, 2005; Langer, 2011; Senge, 2006a; Wenger, 1998). These actions facilitate an organization’s ability to respond effectively and successfully to rapidly changing dynamics to stay competitive in markets where new technology is transformative at a global level. In addition, a mature learning organizational culture nurtures an environment where “learning and creativity are rewarded, supported, and promoted through various performance systems from the top down” (Gephart & Marsick, 1996, pp38). Individuals share their learning in ways that enable an organization to learn by transferring knowledge across it and by integrating learning into organizational routines and actions (Argyris, 1993; DiBella & Nevis, 1998; Gephart & Marsick, 1996). As Rait (1995) discussed:
Organizational learning represents ongoing learning in a deliberate manner, with a view to internal implementation of changes as improvements supporting the organization’s goals. Individual human beings learn, deliberately or accidentally, from many sources. Organizations can only learn from collective experiences perspectives, and capabilities of individuals. (p. 23)


**Conclusion**

Many challenges face HEIs: technology disruptors, aging workforce, and changing student demographics, to name a few (Bogaty & Nelson, 2015; Cronin & Horton, 2009; Ebersole, 2014; Gephardt & Fitzgerald, 2014; Selingo, 2016; Van Der Werf & Sabatier, 2009; Van Ginkel, 2003). While daunting, these challenges are not insurmountable. HEIs are becoming increasingly reliant on information technology, not only to operate the business but also to drive innovation and make data-driven decisions, upon which organizations have come to depend (Argyris, 1990, 1999; Bhaskar & Mishra, 2014; Chaudhary et al., 2012; Cyert & Mowery, 1987; Langer, 2011; Pedler et al., 1989).

It is widely accepted that the design of a learning organization contributes to a positive work environment in many ways: ease of access to and sharing of information, learning is emphasized and valued, mistakes or failures are not punished, and leaders expect employees to learn constantly and contribute to the greater good of the organization.
To contribute to the success of HEIs, leaders within IT departments should strive to understand the learning organization and the mechanism in which to achieve maturity (Bhaskar & Mishra, 2014; Chinowsky et al., 2007; Egan et al., 2004; Garvin, 1993; Garvin et al., 2008; Gephart & Marsick, 1996; Langer, 2011; Senge, 1990b). Leaders who are intentional about evolving the learning organization maturity levels of their organizations may result in a positive influence on employee engagement (Argyris, 1991; Balay, 2012; Chawla & Renesch, 1995; Chinowsky et al., 2007; Garvin, 1993; Gephart & Marsick, 1996; Senge, 1990b; Watkins & Marsick, 1993). Engaged employees consistently bring discretionary effort to their roles day after day and are willing to work above and beyond expectations because of their strong emotional connections to the organization (Gallup, 2013; Kahn, 2010; Macey & Schneider, 2008; Truss et al., 2013). Therefore, it is important to understand employee engagement and employee motivation source to nurture the workforce that is in the best position to support HEIs during this time of transformation (Argyris, 1999; Barbuto, 2006; Brooks, 2003; Fitzenz, 1997; Kahn, 1990; Macey & Schneider, 2008; Shuck et al., 2013; Wellins & Concelman, 2007; White, 1959). Gaining an understanding of the correlation between the learning organization maturity level, employee engagement, and work source motivation should provide leaders with a roadmap to establish a highly-engaged workforce that can assist in facilitating the success of HEIs well into the future.
CHAPTER THREE

METHODOLOGY AND METHODS

The purpose of this quantitative study was to determine if there is a relationship between learning organization maturity and employee engagement as mediated by motivation source within Higher Education Institutions (HEI) Information Technology (IT) departments. This study used a cross-sectional study of public and private HEIs and was a “point in time” benchmark. Cross-sectional studies are simple in design and are aimed at finding out the prevalence of a phenomenon, problem, attitude, or issue by taking a snapshot or cross-section of the population (Babbie, 2010; Creswell, 2014). The intent of this cross-sectional study was to obtain an overview of employee perceptions of the learning organization maturity, level of engagement or disengagement, and their work source motivation at the time of the study. As of the writing of this study, there has been no research that attempts to understand the learning organization maturity environment that may lead to increases or decreases in employee engagement and the mediating motivational factors that may influence this behavior. The intent of this cross-sectional study was to observe and record information about the participating IT departments without manipulating the study environment (Babbie, 2010; Creswell, 2014).

Research Question

To address the gap and forward understanding, this study posed one research question with several hypotheses. For this research, the question asked was: To what extent is there a relationship between HEI IT departments’ learning organization maturity level, employee engagement, and how, if at all, are the levels of employee engagement mediated by work source motivation?
Research Methods

This study attempted to determine if there is a relationship between three variables: learning organization maturity, employee engagement, and motivation source. This quantitative research utilized an Internet-based instrument to provide a “quantitative or numeric description of trends, attitudes, or opinions of a population by studying a sample of that population” (Creswell, 2014, p. 13). The purpose of this survey is to produce data to statistically analyze the population sample (Babbie, 2010; Creswell, 2014; Fowler, 2014). An Internet-based survey was the most convenient for the target population of IT professionals and resulted in a large response rate. Fowler (2014) described the advantages of Internet surveys as the low unit cost of data collection, high speed of returns, ease of presenting questions, and ability to ask batteries of similar questions, as well as being conducive to the acquisition of appropriate data for this analysis (pp. 71-73). As the target population consisted of professional employees within information technology, using an Internet-based survey tool provided the largest sample and most direct method for feedback.

Surveys are an efficient way to capture employee’s views on issues. With the promise of providing more open and honest feedback than they would if asked the same questions by other means where their identity is known. Think of your employees as front-line reporters, telling you about what is really happening when “the rubber meets the road”. Surveys provide executives with unfiltered information and data-employee’s views on how they feel, and how the organization works or fails to work-data to which executives otherwise might not
have access. It’s been said that feedback is a gift. Survey feedback is especially so because it is unfiltered. (Macey, Shchneider, Barbera, & Young, 2009, p. 89)

Further, the survey method standardized the measurement, was consistent across all respondents, and ensured that comparable information was obtained about everyone who is described. Standardization of survey responses is a method of measuring to produce meaningful statistics, “Without such measurement, meaningful statistics cannot be produced” (Fowler, 2014, p. 3). As this research sought to measure variables and analyze results, quantitative is the preferred research paradigm.

While Internet surveys are the most appropriate means for this study, potential disadvantages of Internet surveys are described by Fowler (2014) as being limited to samples of Internet users, a need for comprehensive address lists, and challenges related to enlisting cooperation from participants (p. 73). The targeted population sample of IT professionals utilized the internet on a daily basis as a tool required for their job duties. Thus, an Internet survey reached the target population more effectively than alternatives such as a mail-in paper survey.

In addition to Internet sampling, this research will utilize a single stage non-probability sampling procedure with a target population of IT employees within HEIs. The sampling is geared toward employees who have an IT related job function within the organization, thus, establishment of homogeneity within the sample. There should be homogeneity of variance within sample means and established a small-scale representation of the total population (Babbie, 2011). Ideally, population within a cluster is as heterogeneous as possible; however, there should be homogeneity within the cluster means (Babbie, 2011, pp. 231-234). An e-mail solicitation for participation was sent to
personal distribution lists to technology employees within HEIs. Distribution lists include colleges and universities in the Association of Jesuit Colleges and Universities (AJCU), North West Academic Computing Consortium (NWACC), and others. As such, institutional participation came from a variety of institution types and geographic locations, thereby establishing a heterogeneous cluster. Individual participation was voluntary. Survey respondents were requested to forward the survey link to their teams and colleagues. Understanding of the IT environment, engagement, and motivation should be meaningful such that the targeted population ought to feel a connection and therefore, express an interest in participating in the research. The survey was administered via the Internet using Survey Monkey® online survey vendor. This method of survey was a non-probabilistic sampling of convenience, provides a rapid turnaround for data collection, and is more convenient for the targeted population (Babbie, 2011; Creswell, 2014).

**Variables.** The characteristics of the individuals and organization to be measured in this study are: the independent variable of learning organization maturity, the dependent variable of employee engagement, and mediator variable of motivation source. By analyzing the relationships among these variables, this research seeks to identify and describe relationships between levels of learning organization maturity and employee engagement. A further question—if employee motivation source has a mediating influence on engagement behaviors at various levels of organizational maturity—is also asked. Investigating these variables should lead to a greater understanding of the organizational environment that may nurture employee engagement.
**Population and sampling.** Full-time IT employees currently employed by HEIs constitute the population for this research. This population was chosen intentionally to narrow the scope of research to a specific type of department within a larger organization to gain a deeper understanding of employee engagement and motivation within the context of a technological environment. It was intended to review data from this population within similarly positioned departments at other HEIs, thereby gaining an in-depth understanding of the specific population. Survey methodology could be more broadly applied to the organization in its entirety; however, the focus of this research was specifically directed toward employees within an IT environment with information technology responsibilities. A single stage sampling of IT employees within HEIs was utilized for the purposes of this study. “The single-stage sampling procedure is one in which the researcher has access to names in the population and can sample the people (or other elements) directly” (Creswell, 2014, p. 158). The survey instrument was distributed to various e-mail distribution lists and as such, is non-random accessibility sampling.

To recruit participants, the following process was utilized:

1. Phone, in-person, Facebook, or LinkedIn conversation with personal and professional contacts within university IT departments to assess interest in research participation.
2. Each personal and professional contact willing to participate was e-mailed the survey.
3. Participants were asked to forward the survey link to other HEI IT individuals.
4. The target population is employed in an IT role and over 18 years of age.

The survey procedure will be as follows:
1. Create the survey instrument within Survey Monkey® using the survey instruments in Appendices A-D.

2. Send the survey link to potential participants via e-mail.

3. Utilize the Survey Monkey® tool data collection services to collect survey results for 20 days.

4. Close the survey and download data to local drive for analysis.

5. Use Excel randomizer to randomize the e-mail addresses of participants, select the first five to receive $20 gift card for participation.

6. Send notification e-mail to winners with request for mailing addresses – (Addresses will only be utilized for the purposes of delivery of gift cards and will not be added to the data. Furthermore, addresses are purged from the records to maintain individual and institutional anonymity.)

7. Purge all e-mail addresses from the data set, leaving only responses to survey questions.

8. Analyze the data.

**Instruments.** The survey instrument is a consolidation of three independently validated survey instruments. The consolidated instruments consist of Garvin’s (2008) Learning Organization Survey (LOS) (Appendix A), an adaptation of the UTRECHT Work Engagement Scale (UWES) by (Schaufeli et al., 2006) (Appendix B), and the Barbuto and Scholl (1998) Motivation Sources Inventory (MSI) (Appendix C). The consolidated survey instruments measure a quantitative description of the attitudes or opinions of the population relating to their perceptions of organizational learning, employee engagement, and motivation source. The purpose was to generate hypothesis
from the sample so that analysis of the characteristics of organizational learning, employee engagement as mediated by motivation sources within the participating IT departments can be made. The three survey instruments have been widely cited and validated, and they are therefore combined into a single instrument for the purposes of this research with minimal modification. Each instrument has been widely utilized and verified; therefore, a pilot study is not necessary. Combining three independently validated instruments the results of this study provides an understanding of relationships between learning organization maturity, employee engagement behavior, and motivational source.

Developed in the late 1990s, Garvin, Edmondson, and Gino (Garvin et al., 2008) based the Learning Organization Survey on Senge’s (Senge, 1990a, 2006a) Fifth Discipline. The LOS (Appendix A) is a self-report questionnaire consisting of 55 Likert-style questions (Garvin et al., 2008). The survey participants are asked to respond to each item in terms of how descriptive it is of the work unit. Building blocks one and two utilize responses that range from one (highly inaccurate), to seven (highly accurate). Building block three uses a five-point Likert-style scale ranging from one (never), to five (always). From the utilization perspective, the LOS has been subject to score validity assessments. “In more recent studies, construct validity has become the overriding objective in validity, and it has focused on whether the scores serve a useful purpose and have positive consequences when they are used in practice” (Creswell, 2014, p. 160). Som et al. (2010) tested the reliability of the questionnaire using Cronbach’s α measurements and determined the Cronbach’s α of the instrument to range from 0.84 to 0.94, thus, “the survey questionnaire was deemed to be reliable for further analysis” (p.
Furthermore, the LOS has been examined along with several interdisciplinary variables beyond learning-oriented variables to prove the positive impact of the supporting learning culture on the various types of performance measures in terms of financial, knowledge, and behavioral performance (Garvin et al., 2008; Slater & Narver, 1995; Wenger, McDermott, & Snyder, 2002; Yin, 2011).

The Motivational Sources Inventory (MSI) developed by Barbuto and Scholl (1998) is a 30-item instrument, containing six items for each of the five motivational concepts proposed by the Leonard et al. (1999) motivation meta-theory. Participants respond to each item in the instrument on a five-point Likert-type scale ranging from one (entirely disagree) to seven (entirely agree) (Appendix B). These results show support for the five motivational concepts, as distinct factors that can be operationalized and measured. With respect to the reported process of development and statistical reliability, as reported by Barbuto and Scholl (1998), the goodness of fit for the five scales was reported at .92, while the Cronbach’s α of the scales ranged from .83 to .92, suggesting a useful quantitative measure of the instruments (Barbuto 2000; Barbuto, Fritz & Marx 2000; Barbuto & Xu 2006).

Developed by Schaufeli and Bakker (2003), the UTRECHT Work Engagement Scale (UWES) is a popular tool that measures three areas of work engagement: behavioral, emotional, and cognitive dimensions (Schaufeli et al., 2006). Worker engagement concepts of vigor, dedication, and absorption, correspond to these areas. The original UWES self-report questionnaire consisted of 17 statements, and, using a six point Likert-style scale, respondents self-identify to what extent they experience the statements by responding from one (almost never) to six (always). An updated UWES
refined the questions and resulted in nine questions. The updated questionnaire consists of statements related to vigor, dedication, and absorption (Appendix B).

Additionally, demographic questions are required to be embedded within the instrument. Participants are instructed to select the item in a pre-populated drop down list that is the best fit for all demographic questions (Appendix D). These questions were designed to develop further understanding regarding the key variables, environment, and the participants.

The combined survey instrument was submitted to a sample group of volunteers to determine ease of reading, tool use, and time required. The volunteer feedback suggested that there were too many questions on each page, requiring the participant to spend time scrolling through the questions. The feedback was utilized to modify the number of questions appearing on each page of the survey, thus increasing the number of pages but resulting in all questions being viewable on a single page. Ultimately, the time required to take the survey was less than fifteen minutes.

**Data collection procedure.** Survey response collection began immediately after the survey was submitted to the respondents. The survey was open for 35 days to ensure maximum opportunity for responses to be submitted. The survey required less than 15 minutes for respondents to complete, however it was later determined that some survey fatigue occurred.

Results were encrypted utilizing standard AES file encryption utility and stored on a local hard drive. The local hard disk was backed up to a cloud service provider for security and disaster recovery purposes. The data file will be retained for three years.
**Data analysis.** This study sought to understand the mediating factor of individual engagement within a particular organizational construct: the learning organization. Because this study strives to understand a specific behavior—employee engagement—the method used to evaluate was to be on the individual level, and therefore, the individual responses were grouped by individuals’ perception of the learning organization maturity utilizing the LOS. This aligned individuals with their perception of their institutional learning organization maturity. As individual experiences and perceptions may differ within each organization, it is important to identify this as an analysis of the human individual behaviors and motivational sources and not the overarching organizational structure. Thus, as mentioned earlier, individual responses were evaluated within the context of their perception of their learning organization’s maturity level and may not indicate that the organization as a whole is necessarily at a specific level of learning organization maturity.

This research sought to understand the relationship between three variables: learning organization maturity and employee engagement as mediated by motivation source. For this study, employee engagement is analyzed using the UWES instrument and will identify if employees are more or less engaged within the perceived level of learning organization maturity. The motivation source is identified utilizing the MSI instrument and utilized as the mediator variable. A mediator variable describes a circumstance when the relationship between a predictor variable, learning organization maturity, and an outcome variable, employee engagement, can be explained by a third variable, motivation source (Baron & Kenny, 1986b; Wu & Zumbo, 2008).
Mediation is a “causal model” (Rose, Holmbeck, Coakley, & Franks, 2004; Wegener & Fabrigar, 2000) that explains the process of why and how a cause-and-effect happens (Baron & Kenny, 1986a; Frazier, Tix, & Barron, 2004). Analysis using a mediator variable attempts to identify the process that leads from the independent variable to the dependent variable (Muller, Judd, & Yzerbyt, 2005, p. 853). Three conditions must be met for a variable to function as a mediator:

(a) variations in levels of the independent variable significantly account for variations in the presumed mediator, (b) variations in the mediator significantly account for variations in the dependent variable, and (c) when Paths a and b are controlled, a previously significant relation between the independent and dependent variables is no longer significant, with the strongest demonstration of mediation when Path c is zero. (Baron & Kenny, 1986b, p. 1176) (Figure 2)

![Figure 2. Mediator variable model showing motivation source as mediator](image)

To test for mediation, three regression models were used: first, regressing the mediator on the independent variable; second, regressing the dependent variable on the independent variable; and third, regressing the dependent variable on both the independent variable and on the mediator variable (Baron & Kenny, 1986b; Judd, Kenny, & McClelland, 2001; Wu & Zumbo, 2008). Baron and Kenny (1986) stated, “these three regression
equations provide the tests of the linkages of the mediational model” (p. 1177) and provide the conditions in which the linkages of the mediation model are established.

First, the independent variable must affect the mediator in the first equation; second, the independent variable must be shown to affect the dependent variable in the second equation; and third, the mediator must affect the dependent variable in the third equation. If these conditions all hold in the predicted direction, then the effect of the independent variable on the dependent variable must be less in the third equation than in the second. Perfect mediation holds if the independent variable has no effect when the mediator is controlled. (Baron & Kenny, 1986b, p. 1177)

If the hypotheses hold true, a regression coefficient will determine the value of paths $c'$, $a$, and $b$ in Figure 2 above.

Data was analyzed using IBM SPSS statistical analysis software. The Hayes (2013) PROCESS methodology was utilized to conduct the analysis. The Hayes PROCESS “is a computational tool for path analysis-based moderation and mediation analysis as well as their integration in the form of a conditional process model (Hayes, 2013, p. 419). The PROCESS macro developed by Hayes (2013) is an SPSS plugin that generates direct and indirect effects in mediation models (p. 419).

Following is a statement of the research question, related hypotheses, and the data analysis technique used for answering the question:

$H_{01}$ Level 1 (lowest) learning organization maturity is not significantly related to employee engagement as mediated by motivation source.
$H_{A1}$ Level 1 (lowest) learning organization maturity is significantly related to employee engagement as mediated by motivation source.

$H_{02}$ Level 2 (medium – low) learning organization maturity is not significantly related to employee engagement as mediated by motivation source.

$H_{A2}$ Level 2 (medium – low) learning organization maturity is significantly related to employee engagement as mediated by motivation source.

$H_{03}$ Level 3 (medium – high) learning organization maturity is not significantly related to employee engagement as mediated by motivation source.

$H_{A3}$ Level 3 (medium – high) learning organization maturity is significantly related to employee engagement as mediated by motivation source.

$H_{04}$ Level 4 (high) learning organization maturity is not significantly related to employee engagement as mediated by motivation source.

$H_{A4}$ Level 4 (high) learning organization maturity is significantly related to employee engagement as mediated by motivation source.

The LOS establishes maturity level as related to each Building Block. For the purposes of this study, learning organization maturity will be based on the LOS scoring and four levels of maturity will be established. The lowest level of learning organization maturity is level one and represented as the bottom quartile of the composite average LOS score. Level two, the next highest level, is represented in the second quartile of the composite average LOS score (Table 4).
Table 4: *Building Blocks and their Subcomponents*

<table>
<thead>
<tr>
<th>Building Blocks and their Subcomponents</th>
<th>Scaled Scores</th>
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<tbody>
<tr>
<td></td>
<td>Bottom Quartile</td>
</tr>
<tr>
<td>Psychological Safety</td>
<td>31-66</td>
</tr>
<tr>
<td>Appreciation of Differences</td>
<td>14-56</td>
</tr>
<tr>
<td>Openness to new ideas</td>
<td>38-80</td>
</tr>
<tr>
<td>Time for new ideas</td>
<td>14-35</td>
</tr>
<tr>
<td>Learning environment composite</td>
<td>31-61</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Concrete Learning Process and Practices</td>
<td></td>
</tr>
<tr>
<td>Experimentation</td>
<td>18-53</td>
</tr>
<tr>
<td>Information Collection</td>
<td>23-70</td>
</tr>
<tr>
<td>Analysis</td>
<td>19-56</td>
</tr>
<tr>
<td>Education and training</td>
<td>26-68</td>
</tr>
<tr>
<td>Information transfer</td>
<td>34-60</td>
</tr>
<tr>
<td>Learning processes composite</td>
<td>31-62</td>
</tr>
<tr>
<td>Leadership that reinforces learning</td>
<td>33-66</td>
</tr>
<tr>
<td>composite</td>
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(Adapted from Garvin et. al 2008, p. 7)

**Limitations**

While the survey provides quantitative data, the results rely on participants’ perceptions of their experience within the learning organization. Therefore, two participants from the same department may have contradictory experiences for many reasons. Thus, the individuals’ perception of the learning organization maturity was analyzed and not the department or institution. This research sought to understand a correlation between learning organization maturity as perceived by individuals, their level employee engagement, their motivation sources. The clustering of participants
based on their perceptions of learning organization maturity provided the context to understand these correlations.

Additionally, there was a limitation in the original methodology related to scoring building blocks. The normal range did not provide enough variation in the data to distinguish between low, medium-low, medium-high, and high levels of organizational maturity. Over 70% of the responses ranked in the second quartile of the building block model. Thus, the responses were modified to quartiles lowest 25% of responses, medium-low 25% etc. as an alternative to a score based method. This modification resulted in an exposure of motivation source as a possible mediating variable within each level of learning organization maturity.

**Ethical Considerations**

The research problem is non-personal in nature; no personally identifiable data is necessary for the purposes of this study. Rather, participants’ perceptions of their organizational environment, motivation, and levels of engagement were collected. Additionally, participant permission was granted via the survey instrument (Appendix A). As this was a self-directed survey, all participants received equal treatment and the collection of data is minimally disruptive. Additionally, the research data was de-identified to protect the confidentiality of the participants.

Permission was obtained for the use of the LOS, MSI, and UWES instruments. The UWES instrument indicates that permission is granted for the purposes of academic research; however, communication was sent to Utrecht to confirm use. Aside from the survey instruments cited and permission granted, no additional copyrighted work was used in this study, and all works within the study are cited and presented appropriately.
**Researcher Perspective**

The nature of creating a dissertation is to put into words and research that which we are passionate about. I have spent the last 20 years learning what it means to be an engaged employee and that which brings out the most from colleagues with whom I am privileged to work. Employee engagement, the willingness to invest more of oneself in the work, is a topic in which I am immersed daily and strive to understand. My passion for this subject matter would make it easy to bring my bias into the research. I have specifically selected existing survey instruments that have been utilized by many researchers to acquire the data necessary to quantifiably understand the story the data is telling, thereby eliminating the potential for bias in the creation of my own survey questions. Reporting results is accomplished using software and leaves little room for bias. I worked to suspend judgement and to report accurately the story the data tells.

“Even in the most mathematically explicit analysis, we can discover ample room for defining and measuring variables in ways that encourage one finding over another” (Babbie, 2010, p. 445). While my passion runs deep on this subject matter, I am more interested in a search for the true story of the relationship between learning organizations, employee engagement, and if motivation source is a mediating factor. I suspect there is a relationship; however, I suspend my judgement and allow the data to tell its story.

To avoid conflict of interest, Gonzaga University is not participating in this research study. The researcher has no affiliation with participating institutions other than potentially participating in similar professional affiliations and IT interest groups, such as Educause, Northwest Academic Computing Consortium, and the Association of Jesuit Colleges and Universities.
CHAPTER FOUR

FINDINGS

This study seeks to determine if there is a relationship between three variables: learning organization maturity, employee engagement, and motivation source. To investigate these relationships, this study utilizes three established and validated survey instruments for the purposes of discerning quantifiable data from the sample population, the Garvin’s (2008) Learning Organization Survey (LOS) (Appendix A), UTRECHT Work Engagement Scale (UWES) by (Schaufeli et al., 2006) (Appendix B), and (Barbuto & Scholl, 1998) Motivation Sources Inventory (MSI) (Appendix C).

An Internet-based survey was submitted via e-mail to HEI IT leaders utilizing several known e-mail distribution lists, including Educause CIO email distribution list, Association of Jesuit Colleges and Universities (AJCU), and social media tools such as Facebook, LinkedIn, and Twitter. The targeted distribution recipients were requested to forward the survey link on to other IT employees, colleagues, and distribution lists within HEI. The sampling target population were employees who had an information technology related role within the organization, thus creating homogeneity within the sample. Institutional participation was voluntary and IT leaders willing to participate forwarded the survey link to their teams. The population of IT professional warranted the use of an Internet-based survey instrument and: 1) provided a standardized measurement; 2) was consistent across all respondents; and 3) ensured that comparable information was obtained about everyone who is described. The responding institutions were a combination of public, private, two-year, and four-year, with a variety of degrees and
programs ranging from associates degrees and certifications to masters and doctoral programs. Institutional names and location data were not collected.

The survey resulted in 252 respondents self-identifying as IT employees or having an IT role within HEI. Of the 252 surveys submitted, 55 were invalidated as started but not completed, thus, no data was entered beyond the demographics questions for these 55. An additional 21 surveys were invalidated as having been completed using all the same number response, i.e. all questions were answered with the number three.

**Testing the Hypotheses**

To test the hypotheses, mediation analysis sought to determine if a statistically significant mediating relationship existed between engagement and learning organization maturity level directionally influenced by motivation source. Mediation analysis is a statistical method used help answer the question as to how some causal agent X transmits its effect on Y (Hayes, 2013, p. 86). Mediation is a hypothesized statistical method in which one variable affects a second variable that, in turn, affects a third variable. The intervening variable, $M$, is the mediator. In this study, the mediator variable is motivation source, and the other variables included learning organization maturity level and employee engagement. Thus, for the purpose of this study, motivation source is considered a “mediator” in the relationship between the predictor variable learning organizational maturity level and the outcome variable employee engagement (Figure 3).

During the analysis, the original methodology to determine learning organizational maturity level as defined by Garvin’s learning organization survey resulted in a lack of differentiation between the lowest and the highest organizational maturity level. Thus, the distance between the lowest organizational maturity level and the highest
level did not afford adequate participant variety to analyze the responses against the mediating variable of motivation and predictor employee engagement. After consulting with three professional statisticians where this topic was discussed, the methodology was modified by analyzing and breaking up the responses into equal quadrants. The quadrant method placed equal numbers of responses into the low, medium-low, medium-high, and high categories based on the response score. From there, mediation analysis was done on the resulting quadrants. Each quadrant contained 44 respondents in each of the building blocks as defined by Garvin et al. (2008). By utilizing this methodology as a modification to the original study methodology, the mediation analysis could run within each of the levels of organizational maturity, thus exposing mediation in the data.

A Pearson bivariate correlation analysis was conducted to produce a sample correlation coefficient to measure the strength and direction of linear relationship between the mediating variables and dependent variable (Field, 2013, p. 266). The Pearson correlation analysis shows a statistical significance in the linear relationship between engagements and goal internalization motivation and intrinsic process motivation (Table 5).

The first mediation analysis conducted was run using all responses combined using the variable learning organization maturity as the predictor, employee engagement as the outcome, and motivation source as the mediator. The results of the Hayes PROCESS analysis where learning organization maturity predicts motivation source showed no statistical significance:

\[ x \text{ and } m \text{ together predicting } y: F(1,174) = 1.05, p .31, R^2 = .01 \]

\[ m \text{ variable predicts } y - \text{ path } b: b = .02, t(174) = 1.02, p = .31 \]
x variable no longer predicts y or is lessened predicting y – path c’

However, there was a statistically significant correlation showing that learning

<table>
<thead>
<tr>
<th>Table 5: Correlations between motivation source and employee engagement</th>
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<tbody>
<tr>
<td>Motivation Source</td>
</tr>
<tr>
<td>------------------------------------------</td>
</tr>
<tr>
<td>1 Intrinsic Process</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>2 Instrumental</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>3 External Self Concept</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>4 Internal Self Concept</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>5 Goal Internalization</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>6 Engagement</td>
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N=173 **. Correlation is significant at the .01 level (2-tailed); *. Correlation is significant at the .05 level (2-tailed).

organizational maturity and motivation source together predict employee engagement:

x and m together predicting y: F(2,173) = 16.38, p < .001, R² = .16

m variable predicts y – path b: b = .04, t(173) = 6.23, p < .001

x variable no longer predicts y or is lessened predicting y – path c’:

b = .037, t(173) = 5.66, p = < .001

The combination of these two variables in this scenario predicts levels of employee engagement with a 95% level of confidence. Using this process, the findings show a correlation between motivation source; however, this summary information does not indicate which motivation source or combination of motivation sources had a mediating effect. To discover which motivation source has a mediating relationship with employee engagement, the analysis was narrowed to analyze each individual motivation source
independently. When analyzing path c’, Learning Organization Maturity effect on Employee Engagement, learning organizational maturity no longer predicts employee engagement when all motivation sources are present: $b = .037$, $t(173) = 5.66$, $p = < .001$ (Figure 3). The indirect effect was then bootstrapped, showing Significance equals .0007, lower boot confidence interval is -.0024, and upper boot confidence level equals. Here, when considering all variables, the findings indicate a statistically significant impact on employee engagement as mediated by all motivation sources together. This analysis shows a positive mediating relationship between motivation source and employee engagement. This summary analysis demonstrates that a deeper dive into an analysis of motivation sources independently of each other is warranted.

**Figure 3.** Mediation with all motivation sources

**Learning organization – lowest maturity level.** Analysis testing the hypotheses was then conducted. The general findings are stated below.

Hypothesis $H_{01}$ for the lowest level of learning organization maturity stated that learning organization maturity is not significantly related to employee engagement as mediated by motivation source. The hypothesis is supported: Accepted.
Hypothesis $H_{A1}$ for the lowest level of learning organization maturity stated that learning organization maturity is significantly related to employee engagement as mediated by motivation source. The hypothesis is not supported: Rejected.

After completing regression analysis for the lowest level of learning organizational maturity, the findings show that the learning organizational maturity variable, with the variable of motivation source, shows no effect on path $F(1,42) = .04$, $p = .84$, $R^2 = .001$; $b = -.01$, $t(42) = -.20$, $p = .84$. Likewise, learning organization maturity and motivation source together predicting employee engagement also show no effect at the lowest level of learning organization maturity: $F(2,41) = .23$, $p < .79$, $R^2 = .01$. Therefore, hypothesis $H_{01}$ is accepted. The second hypothesis was then measured and found to display that motivation source predicting employee engagement on path $b$ showed no effect: $b = .07$, $t(41) = 4.19$, $p = .79$. Finally, learning organizational maturity shows no effect in predicting employee engagement or lessened in predicting employee engagement on path $c'$: $b = -.05$, $t(41) = -.56$, $p = .79$. Thus, hypothesis $H_{A1}$ is rejected.

Further regression analysis was conducted using each motivation source as the mediating variable to determine if statistical significance exists for a single motivation source. The results shown in Table 6 demonstrate that each individual motivation source has no effect on employee engagement in the lowest level of learning organization maturity.
Hypothesis $H_{02}$ for the medium-low organization maturity level stated that learning organization maturity is not significantly related to employee engagement as mediated by motivation source. This hypothesis is supported: Accepted.

Hypothesis $H_{A2}$ for the medium-low organization maturity level stated that learning organization maturity is significantly related to employee engagement as mediated by motivation source. This hypothesis is not supported: Rejected.
The medium-low learning organizational maturity variable motivation source as path $a \ F(1,42) = .86, p = .36, R^2 = .02$; $b = .17 \ t(42) = .93 \ p = .36$ shows no effect.

Likewise, learning organization maturity and motivation source combined show no effect on employee engagement: $F(2,41) = .49, p = .61, R^2 = .02$. Motivation source predicting employee engagement on path $b$ was calculated and found to show no effect: $b = .01, t(41) = 1.44, p = .61$. Finally, learning organizational maturity was found to show no effect in predicting employee engagement on path $c'$: $b = .27, t(41) = .33, p = .79$.

Therefore, hypothesis $H_{02}$ is accepted and hypothesis $H_{A2}$ is rejected.

![Figure 5](Mediation at medium-low level of learning organization maturity)

A more detailed regression analysis was conducted using each motivation source as the mediating variable to determine if statistical significance exists for a single motivation source. The results shown in Table 7 demonstrate that each motivation source had no effect on employee engagement.
Table 7: Motivation source mediating employee engagement in medium-low learning organization maturity.

<table>
<thead>
<tr>
<th>Motivation Source</th>
<th>Effect</th>
<th>S.E.</th>
<th>t</th>
<th>p</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intrinsic Process</td>
<td>.28</td>
<td>.27</td>
<td>1.04</td>
<td>.31</td>
<td>No significance</td>
</tr>
<tr>
<td>Instrumental</td>
<td>.23</td>
<td>.26</td>
<td>.87</td>
<td>.39</td>
<td>No significance</td>
</tr>
<tr>
<td>External Self-Concept</td>
<td>.25</td>
<td>.27</td>
<td>.93</td>
<td>.36</td>
<td>No significance</td>
</tr>
<tr>
<td>Internal Self-Concept</td>
<td>.28</td>
<td>.27</td>
<td>1.07</td>
<td>.29</td>
<td>No significance</td>
</tr>
<tr>
<td>Goal Internalization</td>
<td>.26</td>
<td>.27</td>
<td>.96</td>
<td>.34</td>
<td>No significance</td>
</tr>
</tbody>
</table>

**Learning organization – medium – high maturity level.** Hypothesis H\(_0\) stated that at the medium-high learning organization, maturity is not significantly related to employee engagement as mediated by motivation source. This hypothesis is not supported: Rejected.

Hypothesis H\(_A\) stated that at the medium-high learning organization, maturity is significantly related to employee engagement as mediated by motivation source. This hypothesis is supported when both intrinsic process and goal internalization motivation sources are present. This hypothesis is supported: Accepted.

When learning organizational maturity is at the medium-high level, the regression analysis demonstrates that motivation source does have a mediating effect on employee engagement. The results of analysis with learning organization maturity at the medium-high level predicts motivation source demonstrates statistical significance when using intrinsic process motivation as the mediator:

\[x\text{ and } m\text{ together predicting } y: F(1,42) = 5.33, p = .03, R^2 = .11\]

\[m\text{ variable predicts } y\text{ – path } b: b = .38 \text{ t}(42) = 2.31 \text{ } p = .03\]
At this level, a statistically significant correlation shows that learning organizational maturity and motivation source together effect employee engagement when using goal internalization motivation:

\[ x \text{ and } m \text{ together predicting } y: F(2,41) = .04, p = .96, R^2 = .002 \]
\[ m \text{ variable predicts } y \text{ – path } b: b = .05, t(41) = .26, p = .96 \]
\[ x \text{ variable no longer predicts } y \text{ or is lessened predicting } y \text{ – path } c' \text{ when both intrinsic process and goal internalization motivation sources are present:} \]
\[ b = -.04, t(41) = -.16, p = .96 \]

Thus, the combination of the two variables in this scenario affect levels of employee engagement with a 95% level of confidence. When analyzing path c’, learning organizational maturity no longer predicts employee engagement or is lessened predicting employee engagement. Thus, hypothesis H$_{03}$ is rejected and hypothesis H$_{A3}$ is accepted.

A more detailed analysis of each motivation source shows a statistically significant correlation of effect on employee engagement by motivation source when intrinsic process and goal internalization are combined. The findings demonstrate the effect in the summary analysis above where all motivation sources were combined and analyzed. When broken out independently, the statistical significance of intrinsic process motivation and goal internalization motivation demonstrate an effect on path \( a \) only. Thus, learning organizational maturity level of medium-high predicts a prevalence of motivation sources of intrinsic process motivation and goal internalization motivation. These two motivation sources, intrinsic process and goal internalization, appear to mediate employee engagement when both are present.
Figure 6. Mediation where intrinsic process and goal internalization motivations have mediating effect on employee engagement.

Table 8: Motivation source mediating employee engagement in medium – high learning organization maturity.

<table>
<thead>
<tr>
<th>Motivation Source</th>
<th>Effect</th>
<th>S.E.</th>
<th>t</th>
<th>p</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intrinsic Process</td>
<td>.085</td>
<td>.04</td>
<td>2.16</td>
<td>.04</td>
<td>Significant</td>
</tr>
<tr>
<td>Instrumental</td>
<td>-.01</td>
<td>.23</td>
<td>-.03</td>
<td>.98</td>
<td>No significance</td>
</tr>
<tr>
<td>External Self-Concept</td>
<td>.01</td>
<td>.23</td>
<td>.03</td>
<td>.98</td>
<td>No significance</td>
</tr>
<tr>
<td>Internal Self-Concept</td>
<td>-.05</td>
<td>.22</td>
<td>-.21</td>
<td>.83</td>
<td>No significance</td>
</tr>
<tr>
<td>Goal Internalization</td>
<td>.13</td>
<td>.04</td>
<td>3.05</td>
<td>.04</td>
<td>Significant</td>
</tr>
</tbody>
</table>

Note: *p<.05 path a only; **p<.05 path a only; in both instances learning organization maturity predicts motivation

**Learning organization – high maturity level.** Hypothesis $H_{04}$ stated that the high learning organization maturity level is not significantly related to employee engagement as mediated by motivation source. This hypothesis is not supported: Rejected.

Hypothesis $H_{A4}$ stated that the high learning organization maturity is significantly related to employee engagement as mediated by motivation source. This hypothesis is
supported where internal self-concept motivation is present. This hypothesis is supported: Accepted.

The high learning organizational maturity variable motivation source as path $a$

$F(1,42) = 1.39, p = .25, R^2 = .03; b = .13 t(42) = 1.18 p = .25$ shows no effect when combined with all motivation sources. Likewise, learning organization maturity and motivation source together predicting employee engagement also show no effect: $F(2,41) = .04, p = .42, R^2 = .03$. Motivation source predicting employee engagement on path $b$ showed no effect: $b = .24, t(41) = 1.34, p = .42$. Finally, learning organizational maturity shows no statistical significance in predicting employee engagement or lessened in predicting employee engagement on path $c'$: $b = -.02, t(41) = -.11, p = .42$. Therefore, the findings show that, in this population, hypothesis $H_0$ is rejected, and $H_A$ is accepted.

However, when analyzing motivation sources independently by each of the five sources, a significant direct effect exists on employee engagement as mediated by internal self-concept motivation.

- $x$ and $m$ together predicting $y$: $F(2,42) = 1.32, p = .26, R^2 = .03$
- $m$ variable predicts $y$ – path $b$: $b = 2.02, t(42) = 2.31, p = .03$
- $x$ variable no longer predicts $y$ or is lessened predicting $y$ – path $c'$:
  $b = -.033, t(42) = -.27, p = .023$

In this scenario, the findings show a significant increase in the prevalence of internal self-concept motivation (Table 9). Thus, $H_0$ is rejected and hypothesis $H_A$ is accepted when all motivation sources are analyzed independently of each other.
Figure 7. Mediation where Internal Self Concept motivation source effect on employee engagement

Table 9: Motivation source mediating employee engagement in high learning organization maturity.

<table>
<thead>
<tr>
<th>Motivation Source</th>
<th>Effect</th>
<th>S.E.</th>
<th>t</th>
<th>p</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intrinsic Process</td>
<td>.00</td>
<td>.12</td>
<td>.02</td>
<td>.98</td>
<td>No significance</td>
</tr>
<tr>
<td>Instrumental</td>
<td>.01</td>
<td>.13</td>
<td>.10</td>
<td>.92</td>
<td>No significance</td>
</tr>
<tr>
<td>External Self-Concept</td>
<td>.00</td>
<td>.13</td>
<td>.03</td>
<td>.98</td>
<td>No significance</td>
</tr>
<tr>
<td>Internal Self-Concept</td>
<td>2.02</td>
<td>.87</td>
<td>2.30</td>
<td>.03</td>
<td>Significant*</td>
</tr>
<tr>
<td>Goal Internalization</td>
<td>-.05</td>
<td>.08</td>
<td>-.62</td>
<td>.54</td>
<td>No significance</td>
</tr>
</tbody>
</table>

Note: *p<.05 path c' motivation source predicts employee engagement and learning organization maturity no longer predicts employee engagement or is lessened.

Demographics

In addition to the key variables, questions were also asked about the participants and their institution to discern information that may indicate other factors influencing employee engagement in the workplace. These questions included: a) is the institution public or private; b) the IT department size; c) is the IT department a member of a
collective bargaining unit (unionized); and d) IT departmental budget information was collected. An analysis of variance (ANOVA) was conducted on all demographics to test differences among the various groups. To maintain institutional and participant anonymity, the names of the institutions were not collected. Therefore, individual respondents were grouped by their responses to the survey questionnaire such that there is no distinguishing factor available to determine details specific to a unique institution. Rather, the results provide general information about the perceptions of employees within each demographic category.

Of the 252 respondents, 68 of them identified as being from a private institution, while 151 identified as being from a public, and 33 participants skipped this question. The research sought to determine if institution type influences employee engagement (Table 10). A one-way between subject analysis of variance (ANOVA) was conducted to compare the effect of institution type on employee engagement in private and public institutions. The findings showed a significant effect of private institution at the p<.05 level for three conditions \[F(1, 174) = 4.50, p = 0.035\]. Thus, the results provided a statistically significant correlation between institution type and the employee engagement scale. The results of the ANOVA showed a .035 significance that the institution type directly relates to the level of engagement. The research conclusions also indicate that IT employees within private institutions are more engaged than their counterparts in public institutions. While this finding is interesting, further research is suggested to fully understand why this particular phenomenon exists.
Table 10: *One-way ANOVA of Employee Engagement by Institution Type*

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>1</td>
<td>1479.885</td>
<td>1479.885</td>
<td>4.504</td>
<td>.035</td>
</tr>
<tr>
<td>Within Groups</td>
<td>174</td>
<td>57167.193</td>
<td>328.547</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>175</td>
<td>58647.078</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The institutional IT department size question provided eight ranges for respondents (Table 11). This question was used because IT department size may be an indicator of available resources. Thus, larger IT departments may have more free time to be creative or reflective as described by the highest level of learning organization maturity. Reviewing the IT department size provided insight into whether or not resources are indicative of employee engagement. An ANOVA analysis was conducted to determine if there is a relationship between IT department size as influencing employee engagement. The analysis did not result in a statistically significant relationship between institutional IT department size and level of engagement. Also asked was if the institution was under a collective bargaining agreement or unionized.

Public institutions tend to have a higher level of unionization than private institutions, and therefore, it was important to distinguish if there was a statistically significant influence of motivation source within the demographic of public or private institution if the significance was a result of unionization. Sixty-nine respondents indicated being under a collective bargaining agreement, 150 indicated no, and 33 respondents skipped this question. Like institutional IT department size and level of engagement, the ANOVA analysis did not result in a statistically significant relationship between collective bargaining agreement and level of engagement.
Table 11: *How many employees within your IT department?*

<table>
<thead>
<tr>
<th>Range</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-20</td>
<td>43</td>
<td>19.63</td>
<td>18.6</td>
<td>18.6</td>
</tr>
<tr>
<td>21-41</td>
<td>42</td>
<td>19.18</td>
<td>17.8</td>
<td>36.4</td>
</tr>
<tr>
<td>41-60</td>
<td>25</td>
<td>11.42</td>
<td>16.1</td>
<td>52.5</td>
</tr>
<tr>
<td>61-80</td>
<td>30</td>
<td>13.70</td>
<td>13.6</td>
<td>66.1</td>
</tr>
<tr>
<td>81-100</td>
<td>22</td>
<td>10.05</td>
<td>9.7</td>
<td>75.8</td>
</tr>
<tr>
<td>101-120</td>
<td>9</td>
<td>4.11</td>
<td>3.8</td>
<td>79.7</td>
</tr>
<tr>
<td>121-140</td>
<td>9</td>
<td>4.11</td>
<td>3.8</td>
<td>83.5</td>
</tr>
<tr>
<td>&gt;140</td>
<td>39</td>
<td>17.81</td>
<td>16.5</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>219</td>
<td>99.97</td>
<td>100.0</td>
<td></td>
</tr>
<tr>
<td>Missing</td>
<td>6</td>
<td>0.027</td>
<td></td>
<td></td>
</tr>
<tr>
<td>System</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>225</td>
<td>100.0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*N=225*

Table 12: *What is the budget for your IT department for the current fiscal year?*

<table>
<thead>
<tr>
<th>Range</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Don’t know – choose not to answer</td>
<td>99</td>
<td>40.7</td>
<td>41.9</td>
<td>41.9</td>
</tr>
<tr>
<td>&lt;$1 Million</td>
<td>26</td>
<td>10.7</td>
<td>11.0</td>
<td>53.0</td>
</tr>
<tr>
<td>$1 to $10 Million</td>
<td>74</td>
<td>30.5</td>
<td>31.4</td>
<td>84.3</td>
</tr>
<tr>
<td>$10 to $50 Million</td>
<td>23</td>
<td>9.5</td>
<td>9.7</td>
<td>94.1</td>
</tr>
<tr>
<td>$50 to $100 Million</td>
<td>8</td>
<td>3.3</td>
<td>3.4</td>
<td>97.5</td>
</tr>
<tr>
<td>$100 to $200 Million</td>
<td>2</td>
<td>.8</td>
<td>.8</td>
<td>98.3</td>
</tr>
<tr>
<td>&gt;$200 Million</td>
<td>4</td>
<td>1.6</td>
<td>1.7</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>236</td>
<td>97.1</td>
<td>100.0</td>
<td></td>
</tr>
<tr>
<td>Missing System</td>
<td>7</td>
<td>2.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>234</td>
<td>100.0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*N=234*
Budgetary information was also requested to determine if available resources might impact employee engagement. Well-resourced institutions may have influence on employee engagement as opposed to under-resourced institutions. The analysis was conducted on the summary data. The results of this question showed that 25 of the institutions represented in the sample had participants that identified as having less than $1 million dedicated funds for information technology; 66 identified as having $1 to $10 million; 23 identified as having $10 to $50 million; 16 identified as having $50 to $100 million; two identified as having $100 to $200 million; four identified funds of over $200 million; and 124 participants selected “don’t know” or chose not to answer (Table 12). The ANOVA analysis between institutional budget and level of engagement did not result in a statistically significant relationship.

The demographic information collected included number of years of service at the institution; 64 participants indicated they had been at the institution zero to five years; 35 indicated six to ten years; 34 indicated 11 to 15 years; 31 indicated 16 to 20 years; 11 indicated 21 to 25 years; eight indicated 26 to 30 years; 12 indicated 31 to 35 years; two indicated 36 to 40 years; two indicated over 40 years; and 50 participants chose not to answer this question. The ANOVA analysis did not result in a statistically significant relationship between years of service and level of engagement.

Additionally, years within the current role was asked: 119 indicated 0 to 5 years in their current role; 49 indicated six to ten years in their current role; 16 indicated 11 to 15 years in their current role; 17 indicated 16 to 20 years; two indicated 21 to 25 years; and five indicated 26 to 30 years; and 50 participants chose not to answer this question.
The ANOVA analysis did not result in a statistically significant relationship between years within the current role and level of engagement.

Table 13: Please select the job title that is closest to your current role within the institution?

<table>
<thead>
<tr>
<th>Range</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIO/CTO</td>
<td>49</td>
<td>20.2</td>
<td>22.0</td>
<td>22.0</td>
</tr>
<tr>
<td>IT Director, Manager or Supervisor</td>
<td>60</td>
<td>24.7</td>
<td>26.9</td>
<td>48.9</td>
</tr>
<tr>
<td>Network Engineer</td>
<td>5</td>
<td>2.1</td>
<td>2.2</td>
<td>51.1</td>
</tr>
<tr>
<td>Network Support</td>
<td>13</td>
<td>5.3</td>
<td>5.8</td>
<td>57.0</td>
</tr>
<tr>
<td>Help Desk</td>
<td>3</td>
<td>1.2</td>
<td>1.3</td>
<td>58.3</td>
</tr>
<tr>
<td>Other IT Tech</td>
<td>4</td>
<td>1.6</td>
<td>1.8</td>
<td>60.1</td>
</tr>
<tr>
<td>Data Base Administrator</td>
<td>18</td>
<td>7.4</td>
<td>8.1</td>
<td>68.2</td>
</tr>
<tr>
<td>Application/Web Developer</td>
<td>1</td>
<td>.4</td>
<td>.4</td>
<td>68.6</td>
</tr>
<tr>
<td>Project Manager</td>
<td>13</td>
<td>5.3</td>
<td>5.8</td>
<td>74.4</td>
</tr>
<tr>
<td>System Administrator</td>
<td>31</td>
<td>12.8</td>
<td>13.9</td>
<td>88.3</td>
</tr>
<tr>
<td>CISO/IT Security Director</td>
<td>6</td>
<td>2.5</td>
<td>2.7</td>
<td>91.0</td>
</tr>
<tr>
<td>Security Analyst</td>
<td>1</td>
<td>.4</td>
<td>.4</td>
<td>91.5</td>
</tr>
<tr>
<td>IT Specialist</td>
<td>1</td>
<td>.4</td>
<td>.4</td>
<td>91.9</td>
</tr>
<tr>
<td>Academic IT Tech</td>
<td>16</td>
<td>6.6</td>
<td>7.2</td>
<td>99.1</td>
</tr>
<tr>
<td>Lab Manager</td>
<td>2</td>
<td>.8</td>
<td>.9</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>223</td>
<td>91.8</td>
<td>100.0</td>
<td></td>
</tr>
<tr>
<td>Missing System</td>
<td>20</td>
<td>8.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>243</td>
<td>100</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

N=243

Employment role within the institution showed that thirty-six identified as VP, CIO or CTO; five identified as networking/telecommunications; 60 identified as IT
director, manager or supervisor; 12 identified as help desk; 12 identified as other IT tech; 23 identified as application/web developer/database administrator; 13 identified as project manager; 31 identified as system administrator; 16 identified as academic IT; and 50 chose not to respond. The one-way between subject ANOVA was conducted to compare the effect of employment role on employee engagement in VP, CIO, and CTO conditions (Table 13). The results showed a significant effect of job role on employee engagement at the $p<.05$ level for the three variables: $[F(14, 161) = 1.97, p = .021]$. The relationship between these roles and their impact on employee engagement at the $p=.021$ level warrants further research to fully understand these phenomena.

Table 14: How many years have you been in your current job, position, or role?

<table>
<thead>
<tr>
<th>Range</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-5 Years</td>
<td>130</td>
<td>53.5</td>
<td>58.3</td>
<td>58.3</td>
</tr>
<tr>
<td>6-10</td>
<td>51</td>
<td>21.0</td>
<td>22.9</td>
<td>81.2</td>
</tr>
<tr>
<td>11-15</td>
<td>17</td>
<td>7.0</td>
<td>7.6</td>
<td>88.8</td>
</tr>
<tr>
<td>16-20</td>
<td>17</td>
<td>7.0</td>
<td>7.6</td>
<td>96.4</td>
</tr>
<tr>
<td>21-25</td>
<td>3</td>
<td>1.2</td>
<td>1.3</td>
<td>97.8</td>
</tr>
<tr>
<td>26-30</td>
<td>5</td>
<td>2.1</td>
<td>2.2</td>
<td>100.0</td>
</tr>
<tr>
<td>31-35</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>100.0</td>
</tr>
<tr>
<td>36-40</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>100.0</td>
</tr>
<tr>
<td>&gt; 40</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>223</td>
<td>91.8</td>
<td>100.0</td>
<td></td>
</tr>
<tr>
<td>Missing System</td>
<td>20</td>
<td>8.2</td>
<td>8.2</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>243</td>
<td>100.0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

$N=243$
Table 15: *One-Way ANOVA of Employee Engagement by Employment Role*

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>SS</th>
<th>Mean Square</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>14</td>
<td>8675.572</td>
<td>619.684</td>
<td>1.997</td>
<td>.021</td>
</tr>
<tr>
<td>Within Groups</td>
<td>161</td>
<td>49971.506</td>
<td>310.382</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>175</td>
<td>58647.078</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Demographic information related to gender showed participants responding 57 females, 142 males, and 50 chose not to respond. While this study has an unequal number of women and men, (26% identified as female), this distribution is not uncommon in HE IT departments (Educause, 2016). Nevertheless, the ANOVA analysis did not result in a statistically significant relationship between gender and level of engagement, showing that gender did not have an effect in this study regarding employee engagement.

In further exploring the demographic questions asked, the survey question related to ethnicity allowed the participants to select all ethnicities that they felt applied to them, or choose not to answer. Of the respondents, four identified as American Indian or Alaska native; seven identified as Asian or Pacific Islander; one responded as Black or African-American; five responded as Hispanic or Latino; 180 responded as White or Caucasian; two responded as Asian Pacific Islander and White; and one responded as Hispanic or Latino and White Caucasian; 11 selected “prefer not to answer”; and, finally, 48 skipped this question. The ANOVA analysis did not result in a statistically significant relationship between ethnicity and level of engagement.

Education level was also asked of the survey participants. One participant selected less than high school degree or equivalent; 23 selected some college but no degree; nine
selected associate degrees; 80 selected bachelor degrees; 95 selected graduate degrees; and 50 skipped this question. The ANOVA analysis did not result in a statistically significant relationship between education level and level of engagement.

The participants were requested to indicate what their primary support area was and the respondents indicated that 23 were primarily responsible for academics and faculty; 45 indicated operations and administration; nine indicated student services as their primary support; 128 chose all of the above; and 53 skipped this question. The ANOVA analysis did not result in a statistically significant relationship between primary support role and level of engagement.

**Learning Organization Maturity**

The sample of 252 respondents was grouped into quartiles by levels of learning organization maturity. The variable learning organization maturity level was adapted from Garvin, Edmondson and Gino (2008) and was a self-reporting questionnaire consisting of 55 Likert-style questions. The survey participants were asked to respond to each item in terms of how descriptive it was of the work unit. Building blocks one and two utilize responses that range from one (highly inaccurate) to seven (highly accurate). Building block three uses a five-point Likert scale ranging from one, ‘never’, to five, ‘always’. The Learning Organization Survey (LOS) establishes maturity level as related to each building block. Thus, the lowest level of learning organization maturity was equated to Level I and represented as the bottom quartile of the composite average LOS score. Level II, was the next highest level, and was represented in the second quartile of the composite average LOS score. Level III was the third-highest and represented as the third quartile, and the highest level of organizational learning will be identified as Level
IV and represented by the fourth quartile. Table 16 below shows the ranking of the participant’s perceptions of the learning organization maturity level in their respective quartiles and representative levels of organizational learning maturity. The respondents were first grouped by the total learning organization score (see Table 15). To understand the relationship between learning organizational maturity and employee engagement the total respondents were divided into four groups. This resulted in the lowest 44 respondents being grouped in Maturity Level 1; 44 respondents grouped in Maturity Level 2; 44 respondents in Maturity Level 3; and 44 respondents in Maturity Level 4 (Table 17). Slicing the data in this manner provides a better understanding of the relationship between employee engagement as mediated by motivation source in this study.

Table 16: Learning Organization building block analysis

<table>
<thead>
<tr>
<th>Building Blocks and their Subcomponents</th>
<th>Scaled Scores</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Bottom Quartile Maturity Level 1</td>
</tr>
<tr>
<td>Learning environment composite</td>
<td>31-61</td>
</tr>
<tr>
<td>Learning processes composite</td>
<td>31-62</td>
</tr>
<tr>
<td>Leadership that reinforces learning composite</td>
<td>33-66</td>
</tr>
</tbody>
</table>

(Adapted from Garvin et. al 2008, p. 7)
Table 1: Building block maturity levels modified

<table>
<thead>
<tr>
<th>Building Block Maturity</th>
<th>Maturity Level 1</th>
<th>Maturity Level 2</th>
<th>Maturity Level 3</th>
<th>Maturity Level 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>176</td>
<td>176</td>
<td>176</td>
<td>176</td>
</tr>
<tr>
<td>Valid</td>
<td>44</td>
<td>44</td>
<td>44</td>
<td>44</td>
</tr>
<tr>
<td>Missing</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Mean</td>
<td>78.86</td>
<td>88.48</td>
<td>92.9</td>
<td>100.58</td>
</tr>
<tr>
<td>Median</td>
<td>83.5</td>
<td>91.5</td>
<td>92.5</td>
<td>103</td>
</tr>
<tr>
<td>Std. Deviation</td>
<td>17.305</td>
<td>18.949</td>
<td>15.433</td>
<td>14.661</td>
</tr>
<tr>
<td>Minimum</td>
<td>37</td>
<td>51</td>
<td>59</td>
<td>50</td>
</tr>
<tr>
<td>Maximum</td>
<td>116</td>
<td>114</td>
<td>118</td>
<td>119</td>
</tr>
<tr>
<td>Percentiles</td>
<td>25</td>
<td>64.5</td>
<td>73.5</td>
<td>80</td>
</tr>
<tr>
<td></td>
<td>50</td>
<td>83.5</td>
<td>91.5</td>
<td>92.5</td>
</tr>
<tr>
<td></td>
<td>75</td>
<td>90.2</td>
<td>104</td>
<td>105</td>
</tr>
</tbody>
</table>

N=176

Employee Engagement

The variable employee engagement was established utilizing Schaufeli and Bakker’s (2003) Utrecht Work Engagement Scale (UWES). The UWES measures three areas of work engagement: behavioral, emotional, and cognitive dimensions. Survey respondents self-identify to what extent they experience the statements by responding using a Likert scale from 1—almost never—to 5—always. For the purposes of this research, the aggregate score for each measure of UWES responses was utilized to establish the level of respondent engagement. Table 18 shows research findings related to the level of level of engagement within each learning organization maturity. High levels of employee engagement occur most frequently in maturity level 3.
Table 18: Learning organization building block and related levels of engagement

<table>
<thead>
<tr>
<th>Learning organization maturity level</th>
<th>Percent engaged</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maturity level 1</td>
<td>37%</td>
</tr>
<tr>
<td>Maturity level 2</td>
<td>51%</td>
</tr>
<tr>
<td>Maturity level 3</td>
<td>59%</td>
</tr>
<tr>
<td>Maturity level 4</td>
<td>50%</td>
</tr>
</tbody>
</table>

Note: Histogram analysis results from all participant perceived level of engagement within each maturity level.

Motivation Sources

The next variable, motivation source inventory (MSI), developed by Barbuto and Scholl (1998) was a 30-item instrument containing six items for each of the five motivational concepts. The participants responded to each item in the instrument using a five point Likert-type scale ranging from 1—entirely disagree—to 7—entirely agree (Appendix B). The results in Table 19 show the primary motivational source for the participants.

The research indicates that the most frequently appearing motivation source for IT employees within higher education, is self-concept internal (SCI) motivation. SCI motivation is described as being self-directed, having autonomy, conducting experimentation, and having the capacity to fail and learn from mistakes, all of which are foundational for this motivation source (Barbuto, 2006; Barbuto & Scholl, 1998). The second most prevalent motivation source was goal internalization motivation, as IT employees within HE adopt attitudes and behaviors because the content is congruent with their personal value system. Self-concept internal motivation and goal internalization motivation align with the characteristics of the medium-high learning organization.
maturity model. In the medium-high level, the organization is distinguished by its full implementation of organization-wide processes to support learning as well as a new focus on the learning culture at the individual and community levels; learning is no longer viewed as a necessary human resources requirement but is viewed as an integral part of an individual’s job and career (Garvin et al., 2008).

The least prevalent motivation source for IT employees within HE was instrumental motivation; in other words, the respondents are least likely to be motivated by rewards or extrinsic tangible outcomes such as pay, promotions, or bonuses (Barbuto & Scholl, 1998).

Table 19: Motivation source descriptive statistics

<table>
<thead>
<tr>
<th>Motivation source</th>
<th>Mean</th>
<th>Standard deviation</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intrinsic process</td>
<td>3.97</td>
<td>.51</td>
<td>173</td>
</tr>
<tr>
<td>Instrumental</td>
<td>3.39</td>
<td>.87</td>
<td>170</td>
</tr>
<tr>
<td>External self-concept</td>
<td>3.91</td>
<td>.71</td>
<td>172</td>
</tr>
<tr>
<td>Internal self-concept</td>
<td>4.10</td>
<td>.57</td>
<td>170</td>
</tr>
<tr>
<td>Goal internalization</td>
<td>4.06</td>
<td>.64</td>
<td>168</td>
</tr>
</tbody>
</table>

N=176

Other Potential Influences on Employee Engagement

Other potential influences on employee engagement were analyzed statistically, such as length of time at the job, years of service to the institution, institution type (public/private), and supporting role, such as primarily academic, operational, or both. These variables were determined to not have a statistically significant impact on employee engagement. Additional variables such as gender and ethnicity were not
considered, as the diversity of the population sample was not sufficient enough to provide clear answers.

Two demographic variables of institution type of public or private shows statistically significant impact on employee engagement in the ANOVA analysis. The findings show that employees are more engaged within private institutions. The potential causal effect of this phenomenon may be a result of a higher degree of personal values alignment with the values of the institution. Another possibility may be that vision and mission of the institution are more heavily ingrained in the culture of the private institution than that of public institutions. More research is warranted in this area.

The demographic of job type/role shows a statistically significant impact on employee engagement. The predominant motivation source for this group shows that managers and CIOs or those with supervisory roles have a higher presence of internal self-concept motivation. The research suggests that these roles may be more willing to take risks, experiment, and are more autonomous than other roles (Barbuto & Scholl, 1998). Self-concept internal motivation (SCI) is internally based when the individual is inner-directed or self-motivated (Barbuto & Scholl, 1998, p. 1013), and individuals with this type of motivation source are “continually expanding their ability to create the results in life they truly seek” (Senge, 1990a, p. 131). Indeed, Schein (2010) suggests that successful leaders in the upcoming decades will demonstrate characteristics of internal drive, creativity, positivity, and not necessarily be motivated by external rewards, rather, by a sense of accomplishment (Schein, 2010, pp. 367-369). The research suggests that the highest level of learning organization maturity is the environment in which employees are most engaged as a result of an internal self-direction and sense of accomplishment from a
job well done, and will set a high set of standards for themselves. More research is warranted to discern the causal effect of role on employee engagement.
CHAPTER V

DISCUSSION

In *The Fifth Discipline*, Senge (1990a) quoted Goran Carstedt, the former president of Volvo Sweden: “creating an environment where people can grow starts with having a purpose worthy of people's commitment” (p. 263). Carstedt (1990a) further posited, “business leaders often ask their people to be committed to the organization’s goals, but the real question is what is the organization committed to it is that worth my time” (p. 263). This research identified an organizational maturity model that may bring out the most engaged employees in HEI IT departments. For this research, the question asked was: To what extent is there a relationship between Higher Education Institutions (HEI) Information Technology (IT) department learning organization maturity level, employee engagement, and how, if at all, are the levels of employee engagement mediated by work source motivation? This research has established a connection between intrinsic process motivation and goal internalization motivation sources in a medium-high level of learning organization maturity as well as a connection between internal self-concept motivation at the highest level of learning organization maturity.

Low and Medium-Low Organization Maturity

Within the low and medium-low organizational maturity levels, there does not appear to be a significant mediating effect on employee engagement. This appears to align with the premise that the level of learning organizational maturity is the environment in which employees are more or less engaged. In the low and medium-low organization maturity levels, the findings from this research do not indicate a statistically significant level of engagement of employees. These conclusions may imply that, for HEI
IT professionals, some degree of organizational maturity is needed for higher engagement.

Within the medium-high and high levels of learning organization maturity; however, there was a statistically significant increase in employee engagement. Thus, for HEI IT employees, higher levels of learning organization maturity environment result in more engaged employees, and motivation source can increase the level of employee engagement. This might occur as a result of the presence of learning organization environment characteristics such as a supportive learning environment, concrete learning processes and practices, and leadership that reinforces learning as identified by Garvin (Garvin et al., 2008). In the supporting learning environment, employees experience psychological safety, appreciation of differences, openness to new ideas, and time for reflection (p. 112) (Table 20). When concrete learning processes and practices are present, the employee experiences support for experimentation, education and training, information collection, and analysis (p. 113). Finally, in the medium-high and high levels of learning organization maturity, leadership that reinforces learning and the aforementioned characteristics contributes to the creation of an environment in which HEI IT employees may thrive (p. 113). Thus, within the medium-high and high learning organization maturity levels, motivated employees will thrive and be more engaged.
Table 20: Building Blocks of a Learning Organization

<table>
<thead>
<tr>
<th>Building Block</th>
<th>Distinguishing Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>A supportive learning environment</td>
<td>Employees:</td>
</tr>
<tr>
<td></td>
<td>• feel safe disagreeing with others, asking naïve questions, owning up to mistakes, and presenting minority viewpoints</td>
</tr>
<tr>
<td></td>
<td>• recognize the value of opposing ideas</td>
</tr>
<tr>
<td></td>
<td>• take risks and explore the unknown</td>
</tr>
<tr>
<td></td>
<td>• time to review organizational processes</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Concrete learning processes</td>
<td>A team or company has formal processes for:</td>
</tr>
<tr>
<td></td>
<td>• generating, collecting, interpreting, and disseminating information</td>
</tr>
<tr>
<td></td>
<td>• experimenting with new offerings</td>
</tr>
<tr>
<td></td>
<td>• gathering intelligence on competitors, customers, and technological trends</td>
</tr>
<tr>
<td></td>
<td>• identifying and solving problems</td>
</tr>
<tr>
<td></td>
<td>• developing employee skills</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Leadership that reinforces learning</td>
<td>The organization’s leaders:</td>
</tr>
<tr>
<td></td>
<td>• demonstrate willingness to entertain alternative viewpoints</td>
</tr>
<tr>
<td></td>
<td>• signaled the importance of spending time on problem identification, knowledge transfer, and reflection</td>
</tr>
<tr>
<td></td>
<td>• engage in active questioning and listening</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>(Garvin et al., 2008)</td>
<td></td>
</tr>
</tbody>
</table>

The low and medium-low levels of learning organization maturity do not demonstrate a statistically significant directional mediating influence of employee motivation source, whether positively or negatively. Further research is warranted in the low and medium-low levels of learning organization maturity to further analyze the
relationships between learning organization maturity level, motivation source, and employee engagement. Further research in this area may prove insightful to leaders who wish to transform their organization.

**Medium-High Learning Organization Maturity**

While the research indicates a significant correlation between intrinsic process motivation, goal internalization motivation, and employee engagement, this research was designed to determine if there is a directional relationship between the motivation source and employee engagement within the context of the learning organization maturity. Therefore, it is important to note that the relationship between the learning organization maturity level and employee engagement has not been determined to be causal; rather, the dependent variable of employee engagement is shown here to be an outcome of learning organizational maturity as mediated by intrinsic process and goal internalization motivation sources.

The combination of intrinsic process motivation and goal internalization innovation demonstrate characteristics that are indicative of the Fifth Discipline also known as “personal mastery.”

Personal mastery is the discipline of continually clarifying and deepening our personal vision, of focusing our energies, of developing patience, and of seeing reality objectively. As such it is an essential cornerstone of the learning organization—the learning organization’s spiritual foundation. (Senge, 1990a, p. 7)

Intrinsic process motivation refers to behavior driven by internal processes, internal rewards, and engagement as a result of sheer enjoyment of the work they do. Goal internalization motivation is present when individuals adopt attitudes and behaviors of
the organization or mission when it is congruent with their personal value systems (Barbuto et al., 2008; Barbuto & Scholl, 1998). Thus, the findings from this research validate the conceptual framework of the medium-high learning organization maturity level as defined by Garvin et al. (1993; 2008). The characteristics present in the medium-high learning organizational maturity level such as encouraging experimentation, facilitating the exchange and management of knowledge, sharing of knowledge in pursuit of improvement, and a desire to seek, initiate, improve, and generate new ideas and concepts align with the motivation sources that are present in the medium-high learning organization maturity level. Additionally, the research suggests that engaged employees within the med-high learning organization maturity level enjoy the work they do and the organizational values are more aligned with their personal values. Thus, there is a higher sense of tangible contribution to the mission of the organization that leads to higher levels of engagement.

This research suggests that typical IT employees within HEIs tend to be introverted, take significant pride in their work, align themselves with departmental and institutional goals, and mission and values of the university. This type of employee tends to be in the position for the satisfaction of the sheer enjoyment of the work and making a contribution rather than financial or other external rewards. Within the context of IT, Mak and Sockel (1999) concluded that there is a difference between information technology workers and the general public. Mak and Sockel (1999) stated that job satisfaction is related to reduction in turnover, improved performance and that “employees with high job satisfaction are highly motivated and have little desire to leave their jobs” (p. 267). These characteristics and behaviors align with data from this
research. IT employees typically work highly autonomously and with little direction from supervisors, are problem solvers, and get satisfaction from the fun of resolving issues and challenges (Bhaskar & Mishra, 2014; Langer, 2011). In his case study of ICAP, Langer (2011) provided insight into the characteristics of IT employees in his interview with McDermott, “technology people are more individualistic that is, they seemingly were reluctant to take on responsibility of other people. They seem to have greater pleasure in designing and creating something and they love solving problems” (p. 214). These characteristics align themselves with the Fifth Discipline of personal mastery. As individuals practice the discipline of personal mastery, integrating recent intuition, seeing more connectedness, and an increased in commitment to the whole are characteristics that emerge within employees as the learning organization matures (Senge, 1990a, p. 156). When the learning organization environment is optimal at a medium-high maturity level, intrinsic process motivation and goal internalization motivation can result in a highly engaged workforce.

The connection between motivation source and its directional influence on employee engagement was demonstrated previously in Chapter III (Figure 2). When intrinsic process and goal internalization motivation are present within HEI IT employees, the resulting increase in employee engagement is related to the learning organization environment in which they work. What this research has exposed is a statistically significant connection between intrinsic process motivation and goal internalization motivation within the medium-high learning organization maturity level. This suggests that, wherever a learning organization culture supports and rewards learning and innovation; promotes inquiry, dialogue, risk-taking, and experimentation;
allows mistakes to be shared and viewed as opportunities for learning; and values the well-being of all employees; such environments nurture a highly engaged HEI IT workforce (Gephart & Marsick, 1996).

This research discerns that organizations at the medium-high maturity level in learning organization maturity as defined by Garvin et al. (2008) predicts employee engagement levels as mediated by the motivation sources of intrinsic process and goal internalization. Motivation sources of intrinsic process motivation and goal internalization are aligned with feelings of having fun, experimentation, risk-taking, team building, value alignment with mission, and other learning organization maturity characteristics (Barbuto & Scholl, 1998). Thus, the medium-high level of learning organization maturity and employee motivation results in higher levels of engagement.

The occurrence of goal internalization motivation in the medium-high learning organization maturity level is likely a result of information technology employees’ personal value systems aligned with organizational values. The alignments of personal value systems with the organizational value system in information technology employees has been identified as a critical factor in the retention of IT employees (Mak & Sockel, 1999, p. 268). As the perceptions of learning organization maturity transition from the medium-high level to the high level, a transition occurs in the demographic makeup of the sample as well as the motivation source. In the transition from medium-high learning organization maturity level to high learning organization maturity level, intrinsic process motivation and goal internalization motivation give way to internal self-concept motivation at the same time, the sample transitions more towards supervisors and manager level employees.
High Learning Organization Maturity

In the analysis of the highest levels of learning organization maturity, the research shows an increase in CIO/CTO and IT director or manager demographics, thus, employees with supervisory or management functions perceive themselves at a higher level of learning organization maturity than line level or operational employees. The learning organization maturity level perceptions of individuals who identified themselves as CIO/CTO and IT director or manager indicate internal self-concept motivation as the dominant motivation source affecting employee engagement at the highest levels of learning organization maturity. The evidence in the high level of learning organization maturity indicated that employees within HEI IT are most engaged when they are empowered to be autonomous, self-directing, and challenged (Langer, 2011). Indeed, the participants in this study appear to thrive on creative problem-solving, contribution to the greater good, and a sense of autonomy in the achievement of goals. The values system of HEI IT employees appears to be heavily threaded with the Fifth Discipline, personal mastery. Personal mastery is the discipline of personal growth and learning. It is about continuous improvement, creativity, and viewing problems from unique perspectives (Senge, 1990a). Being successful in the field of information technology lends itself well to employees who thrive in an environment that is complex, constantly changing, and presents new challenges on a daily basis. The evidence suggests that internal rewards, organizational success, and the joy of doing the work all bring out the most in these employees. Thus, a potential outcome may be that HEI IT employees are willing to go “above and beyond the call of duty” in their daily work.
At the highest level of organizational learning maturity, internal self-concept motivation has a statistically significant mediating correlation with employee engagement. Characteristics of internal self-concept motivation are self-direction, autonomy, experimentation, and the capacity to fail and learn from mistakes are foundational for this motivation (Barbuto, 2006), which align with the characteristics of a mature learning organization (Garvin et al., 2008). This research shows that the relationship between the learning organization maturity level and employee engagement has not been determined to be causal; rather, employee engagement is shown here to be an outcome of learning organizational maturity as mediated by internal self-concept motivation source. The interesting piece here is that individuals who identified as having the perception that their organizations are at the highest levels of learning organization maturity are primarily those in leadership positions. The perception of higher levels of learning organization maturity as perceived by the upper echelons of management may be a result of viewing the organization optimistically, meaning that organizational maturity is perceived to be greater as a result of the leader’s influence. Additionally, these individuals may have a perception of greater ownership, or they may be more committed to the characteristics of a learning organization as a result of their leadership role. The difference between the sample groups shows that motivation source changes from primarily intrinsic process motivation and goal internalization motivation to internal self-concept motivation. This may indicate that the group of respondents within the high level of learning organization maturity have an entirely different motivation source that mediates their engagement. While inconclusive, management level employees within HEI IT may perceive that their organization is more learningful than their subordinates.
The interesting aspect of the highest level of organizational learning maturity is that goal internalization and intrinsic process motivation sources were found to decrease and be statistically insignificant at the highest level of learning organization maturity.

At the highest levels of organizational learning maturity, employees “feel safe disagreeing with others, asking naïve questions, owning up to their mistakes, and presenting minority viewpoints; recognize the value of opposing ideas; take risks and explore the unknown; take time to review organizational processes” (Garvin et al., 2008, p. 1). Thus, the prevalence of internal self-concept motivation as the dominant motivation source aligns with this level of learning organization maturity. Moreover, individuals who perceived that their organization was at the highest level of organizational learning maturity also exhibited internal self-concept motivation as the dominant source. This may be a result of individuals in leadership roles may have a perception of more control over the environment than those at lower levels of the organizational structure.

Discussion

Perceptions of learning organization maturity. This research clustered individuals who perceived their levels of learning organizational maturity as similarly positioned. This research did not reflect the level of learning organization maturity as perceived by employees at a specific institution. Rather, the research investigated employee perceptions of learning organization maturity, their level of engagement, and whether a particular motivation source had a directional influence on engagement. Thus, this research is not designed to investigate specific organizations learning organization maturity levels. This research concludes that in the medium-high learning organization maturity level, internal self-concept motivation combined with goal internalization
motivation are the dominant motivation sources that result in the highest level of employee engagement. Furthermore, at the highest learning organization maturity level, internal self-concept motivation was the dominant motivation source.

The research also concludes that the low and medium low levels of learning organization maturity result in the lowest levels of employee engagement and no statistical the statistically significant evidence that motivation source moves engagement either up or down. Thus, the learning organization environment that brings the most out of employees is the medium-high and high level.

**Leadership implications.** This research indicates that there is a connection between learning organization maturity levels, employee engagement level as mediated by intrinsic process motivation and goal internalization motivation at the medium-high level and internal self-concept motivation at the highest level of organizational maturity. The impact of this research on information technology leaders within HEI indicates that developing a strategic initiative to analyze and increase the levels of learning organization maturity may result in greater employee engagement. Additionally, an analysis and understanding of employee motivation source will assist the leader in developing the team that is highly engaged. The foundational premise is that IT leaders may nurture a thriving and engaged workforce by creating an environment in which the level of learning organization maturity may grow and develop. Leaders ought to review and gain an understanding of the five disciplines described by Senge (2006a) in The Fifth Discipline. Establishing and being in intentional about maturing as a learning organization may result in more highly engaged and productive employees. Also, by
gaining an understanding of employee motivation sources, leaders may drive up engagement.

The significance of this discovery may provide a roadmap for leaders to establish a thriving, high-performance, and highly-engaged workforce. A highly-engaged information technology department within higher education may provide the information technology infrastructure that supports a thriving institution, thereby contributing to the success of the institution. The leader is intentional about increasing the organizational learning maturity level needs to operate as the designer. “Learning infrastructures that effectively integrate working and learning do not emerge wholly formed. Rather, they develop over time in ways that depend on leaders who appreciate and are comfortable with an open, iterative design process” (Senge, 1990a, p. 322). The foundational principle of a thriving IT organization results in a successful institution by providing the infrastructure in which information can be easily accessed and disseminated. Indeed, an increase in the performance of the information technology department and the employees therein may result in a higher performing institution overall. This research indicates that an understanding of the core tenants of the building blocks of a learning organization and implementing a strategic process to improve the maturity level of the learning organizational principles can lead to a highly engaged workforce.

While this research focused on a narrow population of IT employees within higher education to determine if there is a statistically significant correlation between the variables, a larger and more broadly diversified population within other industries warrants further investigation. If proven true within other industries such as healthcare, banking, or manufacturing, then the resulting information will prove invaluable in the
organizational development literature. Indeed, continuing this research to quantifiably correlate motivation source influence on employee engagement within the context of the learning organization maturity building blocks may create a strategic roadmap for creation of a highly-engaged workforce.

The implications here are staggering in that the foundation of a high-performing highly-engaged workforce may have been discovered through this research. A leader who establishes a strategic initiative to be intentional about the design of a learning organization can result in a high-performing, highly-engaged workforce. This research indicates that a path between learning organization maturity and employee engagement is possible and directionally guided by motivation source. Leaders within HEI IT may be able to design an environment in which employees are more engaged; however, leaders must also take into account the five motivation sources. Generally speaking, high-performing IT employees tend to be motivated intrinsic process and goal internalization motivation sources and thus, will increase employee engagement within the department. Additionally, nurturing autonomy, encouraging risk-taking, and aligning the organizational values of the department with those of employee values will create an environment in which HEI IT employees may thrive.

While this foundation exists in employees within IT departments in HEI, the learning organization maturity level may bring out different levels of engagement within other industries. For example, an employee in a finance sector job may show that external rewards are the motivation source that is prevalent as a mediating variable on employee engagement and may occur at lower levels of learning organization maturity. Other industries such as healthcare, manufacturing, and finance should be analyzed using a
similar process to determine if there is a difference in motivation source based on the institution type, organization type, method of rewards, and other factors. It is my belief that research in these areas will result in findings of different motivation sources based on these criteria and may show that employees are most engaged at lower levels of learning organizational maturity.

**Limitations**

The limitations on this research are summarized in this section. The sample size of 252 total respondents and hundred and 173 valid responses is a limiting factor in that the total population of IT employees within HEI is not fully represented. Additionally, as this method used non-random sampling no generalized analysis may be applied to the entirety of the population. Further limiting factors related to diversity of the workforce, such as ethnic diversity and gender diversity within HEI IT departments, is a factor in determining if there is a correlation between these demographic sources and motivation sources influence on engagement within the context of the learning organization maturity building block.

An additional limitation on this research is the lack of quantifiable or empirical research to determine the causal relationship between organizational learning maturity level and employee engagement. Research is limited in determining if learning organizational maturity levels determine the level of employee engagement or if the level of employee engagement determines the learning organization maturity level. Further research in this area is needed.

A further limitation of the research is the possibility that the respondents may experience survey fatigue primarily in the areas of the last section of the survey, which
was the motivation source inventory. The resulting sample was a total of roughly 170 fully completed surveys; therefore, having a larger sample size, especially with richer demographic information may yield different results.

**Recommendations for Future Research**

This research was a highly complex undertaking, though rewarding in the discovery of the correlation between employee engagement and learning organizational maturity levels within the building blocks as defined by Garvin et al. (2008). The discovery of a correlation between intrinsic process motivation and goal internalization motivation as a directional influence on employee engagement warrants further research.

Future research could be done on an annual budget per full-time equivalency or some other detail to distinguish if an institution was better resourced than other institutions. Well-resourced institutions may have higher levels of employee engagement however motivation source may be dramatically different.

**Unique organization comparisons.** This research grouped institutions of higher education by the level of learning organizational maturity as defined by the perceptions of the participants. Further research to compare individual organizations at the same level of learning organization maturity should be conducted to determine if intrinsic process motivation and goal internalization motivation have directional influence on employee engagement at the organizational level as opposed to the department level. Individual organizations could be analyzed and compared to organizations of similarly situated learning organization maturity levels. By analyzing organizations and comparing them to each other may result in new more enlightening information and results. Additionally,
this research focused on institutions of higher education, and therefore, results may vary in different industries such as financial, healthcare, manufacturing.

Further research should be conducted that analyzes organizations independently of each other as opposed to clustering respondent samples by their perception of learning organization maturity. Analyzing the perceptions of HEI IT employees within their respective institutions may result in a discrepancy between line level or operational level employees’ perceptions and that of supervisor and managers. Additionally, within the same organization, further research should be conducted that can distinguish between functional or line workers and supervisors, managers, and other leaders within the organization to determine if the perception of learning organization maturity for each group is similar.

Alternative demographic analysis.

The participants in this research were predominantly Caucasian male; in fact, the participants were so homogenous that demographic analysis related to gender and ethnicity were not possible. This is a common occurrence within technology departments in higher education. According to Educause core data service (2016), a survey tool and data collection service for HEI IT departments, IT departments within higher education are predominantly Caucasian male, representing over 67% of employees. Thus, a broader sampling of organizations or institutions that have a higher representation of diversity is warranted. Gender and ethnicity may have a statistically significant impact on the results, and such an impact was not possible to obtain with the population of respondents for this research.
This research focused on the three building blocks as defined by Garvin et al. (2008) and resulted in a high-level view of the directional influence of intrinsic process motivation and goal internalization motivation on employee engagement. Further research into a more detailed look at each motivation source within each building block from low maturity level to high maturity level may provide a deeper understanding of the motivation sources evolution as higher levels of learning organization maturity are achieved. A deeper exploration into these building blocks may provide a roadmap of transition for organizational leaders to achieve higher levels of learning organization maturity, which may result in higher levels of employee engagement.

An interesting outcome of this research is the level of employee engagement within each building block. Further research should be conducted to investigate the Utrecht employee engagement levels within each learning organization maturity level. The UWES measures three areas—work engagement, behavioral, emotional, and cognitive dimensions—thus, an analysis of the areas of work engagement appearing most or least frequently within each maturity level may tease out some additional interesting detail.

Conclusion

This research sought to understand a correlation between three variables learning organizational maturity, employee engagement, as mediated by motivation source. This research discovered a statistically significant correlation between learning organization maturity and employee engagement. As learning organization maturity increases, so does employee engagement. Motivation source is a directional influence on employee engagement within the learning organization maturity quartiles resulted in a statistically
significant directional influence of intrinsic process motivation and goal internalization motivation. Further research is recommended to understand more intimately the relationship between employee motivation source, employee engagement, and learning organizational maturity level. This research provides information technology leaders within higher education a guideline to establish or create a highly motivated and engaged workforce. With a highly-engaged workforce, IT departments will increase productivity, profitability, performance of the institution, and may impact positively on the organization as a whole.

Further research within other industries may produce different results. If the research were to be conducted in finance or manufacturing, for example, the motivation source and learning organization maturity level may differ from higher education. The guidance for leaders in other industries may result in processes to model the learning organization maturity level that best suits the industry to bring out the most engaged employees. Using this research, it may be possible to discern the learning organization maturity level at which employees are most engaged.

Other interesting information resulting from the outcome of the research findings indicates a causal effect of employee engagement on team performance. Demographic information, including ethnicity, gender, tenure and others, were inconclusive in the research. The sample population was simply not diverse enough to generate valid statistical information.

The implications of this research on leadership within HEI IT departments and their strategic planning efforts, direction, and aspirations indicate that the organizational construct of the learning organization has a positive impact on employee engagement.
The significance of this provides IT leaders with a guideline for maturing their organizations and thereby, capitalizing on the human resources therein. Leaders ought to understand the core building blocks of the learning organization as described by Garvin et al. (2008) and begin planning a roadmap or establishing a strategic plan for improving the maturity levels of their organizations. This research supports the premise that an intentional maturing or growth as a learning organization will result in a high performing, highly engaged workforce. If leaders within higher education IT departments provide a mature learning organization environment in which employees may thrive, they will contribute to the success of the institution.
References


Appendix A

Learning Organization Survey

Adapted from the Harvard Business Review Learning Organization Survey (Garvin, 1993; Garvin et al., 2008). The following survey questionnaire is on a Likert seven-point scale and asks the participant to respond in terms of how descriptive each question is of their work unit ranging as follows: 0) highly inaccurate; 1) moderately inaccurate; 2) slightly inaccurate; 3) neither accurate nor inaccurate; 4) slightly accurate; 5) moderately accurate; 6) highly accurate.

Please respond to each item in terms of how descriptive it is of your work unit.

LOSQ01 In this unit, it is easy to speak up about what is on your mind.
LOSQ02 If you make a mistake in this unit it is often held against you.
LOSQ03 People in this unit are usually comfortable talking about problems and disagreements.
LOSQ04 People in this unit are eager to share information about what does and doesn't work.
LOSQ05 Keeping your cards close to your vest is the best way to get ahead in this unit.
LOSQ06 Differences in opinion are welcome in this unit.
LOSQ07 Unless an opinion is consistent with what most people in this unit believe, it won't be valued.
The unit tends to handle differences of opinion privately or off-line, rather than addressing them directly with the group.
LOSQ08 In this unit, people are open to alternative ways of getting work done.
LOSQ10 In this unit, people value new ideas.
LOSQ11 Unless an idea has been around for a long time, no one in this unit wants to hear it.
LOSQ12 In this unit people are interested in better ways of doing things.
LOSQ13 In this unit, people often resist untried approaches.
LOSQ14 People in this unit are overly stressed.
LOSQ15 Despite the workload, people in this unit find time to review how the work is going.
LOSQ16 In this unit, schedule pressure gets in the way of doing a good job.
LOSQ17 In this unit, people are too busy to invest time in improvement.
LOSQ18 There is simply no time for reflection in this unit.
LOSQ19 This unit experiments frequently with new ways of working.
LOSQ20 This unit experiments frequently with new product or service offerings.
LOSQ21 This unit has a formal process for conducting and evaluating experiments or new ideas.
LOSQ22 This unit frequently employs prototypes or simulations when trying out new ideas.

This work unit systematically collects information on:

LOSQ23 Competitors
LOSQ24 Customers
LOSQ25 Economic and social trends
LOSQ26 Technological trends
LOSQ27 Competitors
LOSQ28 Best-in-class organizations

Please respond to each item in terms of how descriptive it is of your work unit.
This work unit has forums for meeting and learning from:

- experts from other departments, teams, or divisions
- experts from outside the organization
- customers and clients
- suppliers

Please respond to each item in terms of how descriptive it is of your work unit.

LOSQ29  This unit engages in productive conflict and debate during discussions.
LOSQ30  This unit seeks out dissenting views during discussions.
LOSQ31  This unit never revisits well established perspectives during discussions.
LOSQ32  This unit frequently identifies and discusses underlying assumptions that might affect key decisions.
LOSQ33  This unit never pays attention to different views during discussions.
LOSQ34  Newly hired employees in this unit receive adequate training.
LOSQ35  Experienced employees in this unit receive periodic training and training updates.
LOSQ36  Experienced employees in this unit receive training when new initiatives are launched.
LOSQ37  Experienced employees in this unit receive training when switching to a new position.
LOSQ38  In this unit training is valued.
LOSQ39  In this unit, time is made available for education and training activities.

The following section of the LOS questionnaire is on a Likert five-point scale and asks the participant to respond in terms of how descriptive each question is of their work unit ranging as follows: 0) never; 1) infrequently; 2) sometimes; 3) often; 4) always.

Please respond to each item in terms of how descriptive it is of your work unit.

LOSQ40  My managers invite input from others in discussions.
LOSQ41  My managers acknowledge their own limitations with respect to knowledge, information, or expertise.
LOSQ42  My managers ask probing questions.
LOSQ43  My managers listen attentively.
LOSQ44  My managers encourage multiple points of view.
LOSQ45  My managers provide time, resources, and venues for identifying problems and organizational challenges.
LOSQ46  My managers provide time, resources, and venues for reflecting and improving on past performance.
LOSQ47  My managers criticize views different from their own.
Appendix B

Motivation Sources Inventory

Adapted from Barbuto and Scholl (2008; 1998) Motivation Sources Inventory (MSI). Each participant is asked to rate their level of agreement with each of the following. The responses are on a five-point Likert scale and range as follows: 0) entirely disagree; 1) somewhat disagree; 2) neither agree nor disagree; 3) somewhat agree; 4) entirely agree.

Rate your level of agreement with each of the following statements. There are no right or wrong answers – just your answers. Read each statement and answer honestly about yourself.

MSIQ01 I prefer to do things that are fun.
MSIQ02 I like to be rewarded for extra responsibilities.
MSIQ03 It is important that others appreciate the work I do.
MSIQ04 Decisions I make reflect my personal standards.
MSIQ05 I work hard for a company if I agree with its mission.
MSIQ06 I get excited when working on things I enjoy doing.
MSIQ07 I will work harder if I get paid for the extra effort.
MSIQ08 I like to get recognition for a job well done.
MSIQ09 It is important that my work requires my unique skills.
MSIQ10 I need to believe in a cause before I work hard.
MSIQ11 I often put off work so I can do something better.
MSIQ12 I work harder if I know my efforts will lead to better rewards.
MSIQ13 I work harder if I know my efforts will be praised.
MSIQ14 I work harder if I know my skills are needed.
MSIQ15 When I believe in the cause, I work hard to help it succeed.
MSIQ16 I get excited when I know I’ll be doing my favorite activities.
MSIQ17 I work hard to find ways to earn more income.
MSIQ18 I am motivated when people make me feel appreciated.
MSIQ19 My favorite tasks are those that are most challenging.
MSIQ20 I work hard when I feel a sense of purpose in the work.
MSIQ21 I prefer to spend time with people who are fun to be with.
MSIQ22 I like to find ways to earn more money.
MSIQ23 I work hard on the job to strengthen my reputation.
MSIQ24 I prefer to do things that give me a sense of achievement.
MSIQ25 I am energized when I agree with an organization’s purpose.
MSIQ26 When choosing jobs, I consider which job will be most fun.
MSIQ27 I like to keep looking for better business opportunities.
MSIQ28 I give my best effort when my skills are needed.
MSIQ29 My motivation will be high when I believe in what I am doing.
Appendix C

Utrecht Work Engagement Scale

Adapted from the UTRECHT Work Engagement Scale, developed by Schaufeli and Bakker (2003). Each participant is asked to rate their level of agreement with each of the statements. The responses are on a six-point Likert scale and range as follows: 0) almost never; 1) rarely; 2) sometimes; 3) often; 4) very often; 5) always.

Definitions provided:
- Almost never – A few times per year or less
- Rarely – Once a month or less
- Sometimes – A few times per month
- Often – Once per week
- Very often – A few times per week
- Always – Every day

Rate your level of agreement with each of the following statements. There are no right or wrong answers – just your answers. Read each statement and answer honestly about yourself.

Vigor

WESQ01 At my work, I feel that I am bursting with energy
WESQ02 At my job, I feel strong and vigorous
WESQ03 When I get up in the morning, I feel like going to work
WESQ04 I can continue working for very long periods at a time
WESQ05 At my job, I am very resilient, mentally
WESQ06 At my work, I always persevere, even when things do not go well

Dedication

WESQ07 I find the work that I do full of meaning and purpose
WESQ08 I am enthusiastic about my job
WESQ09 My job inspires me
WESQ10 I am proud of the work that I do
WESQ11 To me, my job is challenging

Absorption

WESQ12 Time flies when I am working
WESQ13 When I am working, I forget everything else around me
WESQ14 I feel happy when I am working intensely
WESQ15 I am immersed in my work
WESQ16 I get carried away when I am working
WESQ18 It is difficult to detach myself from my job
Appendix D

Demographic questions

The following demographic questions will be asked. The participants are asked to select each response from a pre-determined list.

Institutional information

DEMQ01  Type of Institution: Public | Private
DEMQ02  IT Department Size: 1-20 | 21-60 | 61-100 | 101-150 | <150
DEMQ03  Is the IT Department a member of a Collective Bargaining Unit (Union): Yes | No
DEMQ04  What is your institutional total budget for this fiscal year, from all sources? >1Million | 1-10 Million | 10 - 50 Million | 50 - 100 Million | 100 - 200 Million | Over 200 Million | Don't Know

Information about you. Please select from the list.

DEMQ05  Years at current institution: 0-5 | 6-10 | 11-15 | 16-20 | 21-25 | 26-30 | 31-35
DEMQ06  Years in current job/role: 0-5 6-10 | 11-15 | 16-20 | 21-25 | 26-30 | 31-35
DEMQ07  Your current job/role: VP/CIO/CTO | Networking/Telecommunications | Help Desk Technician | Application/Web Developer/DBA | Project manager/ Business analyst | Server system administrator | Academic IT | Administration
DEMQ08  Your Age: 18 – 30 | 31 – 50 | 51 – 65 | <66
DEMQ09  Your gender:  Male | Female | Choose not to respond
DEMQ10  Ethnicity: White | Hispanic or Latino | Black or African American | Native American or American Indian | Asian / Pacific Islander | Other
DEMQ11  What is the highest degree or level of school you have completed? If currently enrolled, highest degree received: No schooling completed | High school graduate, diploma or the equivalent (for example: GED) | Associate Degree or Technical Certifications | Bachelor’s degree | Master’s degree | Doctorate degree
Appendix E

Participant Letter of Informed Consent

Dear Survey Participant,

As part of my graduate work at Gonzaga University, I am conducting a research study to assess a relationship between learning organization maturity and employee engagement mediated by motivation within higher education information technology departments. No prior research has attempted to discover a relationship between these before. You are invited to participate in this study.

Participation in this study requires completion of this survey. No personally identifying information is required. The survey should take less than 15 minutes to complete. Please complete the survey to the best of your ability, without the assistance of friends or co-workers.

The benefits of participating in the study are an increased insight into your organization, your own perception of engagement and motivations. The findings of this research may help leaders understand how to more effectively develop the workplace where employees may thrive.

If you have questions or concerns, please feel free to call me at 509-313-5926, my advisor, Kem Gambrell, PhD, at 509-313-3488, or the Gonzaga University Institutional Review Board at 509-313-6504.

I value your contribution to this study, I hope you will participate.

Sincerely,

Jim R. Alvarez-Jones (PhD Candidate)
# Application Cover Sheet for Study Review
## Institutional Review Board for Human Research
### SUBMIT AND FILL THIS OUT ELECTRONICALLY.

(Text and signatures can be placed using Adobe® "Sign" function on upper right hand corner on toolbar. Or, you can complete text in Word® and cut/paste signatures.)

<table>
<thead>
<tr>
<th>GU Principal Investigator Name, Title, GU School or Department, Address, Phone and most used Email Address.</th>
<th>GU Project Investigator/Advisor, School or Department, Phone, Email (qualified faculty or supervisor if PI is a student)</th>
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<tr>
<td>Jim R. Jones, DPLS Student Information Technology Services AD Box 95 Spokane, WA 99258 Telephone: 509-313-5926 or 509-209-1607 E-mail: <a href="mailto:Jones@gonzaga.edu">Jones@gonzaga.edu</a></td>
<td>Kem Gambrell, Ph.D., Professor Dissertation Advisor, Department of Leadership Studies, School of Professional Studies Telephone: 509-313-3488 E-mail: <a href="mailto:gambrell@gonzaga.edu">gambrell@gonzaga.edu</a></td>
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<th>The Influence of Learning Organization Maturity on Employee Engagement within Higher Education Information Technology Departments</th>
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<th>Anticipated starting date: This should not be earlier than the review date for your protocol. The IRB meets monthly to review full-board studies. You should allow 4 weeks approval review and approval turn-around.</th>
<th>Anticipated termination/stop date:</th>
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<td>February, 2017</td>
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You CANNOT self-determine that your study is Exempt from review and forgo submitting to the IRB. If you believe your study qualifies as exempt, indicate this. The IRB Chairperson will verify Exempt status.

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<th>Request for full IRB review</th>
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By default, Greater Than Minimal Risk (GTMR) studies and studies with minors/children require a full IRB review. The IRB may also review any protocol via full Board at its discretion.

### Abstract

Your abstract should provide an overview of your study purpose/hypothesis and methodology, as well as the importance of your study. This is usually about one paragraph; more if you feel it’s needed.

The purpose of this quantitative study is to determine if there is a relationship between learning organization maturity and employee engagement as mediated by employee motivation source within higher education IT departments. More specifically, this study will assess maturity levels of the learning organization environment within IT departments and seek to establish a directional relationship between higher levels of learning organization maturity and higher levels of employee engagement. Additionally, work source motivation will be reviewed to determine if there is a mediating relationship to employee engagement and learning organization.

The discovery of a relationship between learning organization maturity and employee engagement as mediated by motivation source within higher education IT could establish a framework for recruitment and retention of employees who are contributing members of the team. Using these theories, leaders can
potentially support organizational success by creating an environment in which employees are more engaged, and learning occurs.

For the purposes of this study the research question is: Within HEI IT departments, to what extent is there a directional relationship between learning organization maturity level, employee engagement, as mediated by work source motivation?

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The information provided above is accurate and the project will be conducted in accordance with applicable Federal, State and University regulations:

Recommendations and Signature:

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Department Chair ____________________________
[Red font items are required elements; items in black font are to be included in the protocol if applicable. Delete all instructions/guidance text when finished.]

This protocol template is for NEW study submissions only.]

I. PROTOCOL & PRINCIPAL INVESTIGATOR’S (PI’s) INFORMATION

Title, Phase of Study (e.g. early phase descriptive, exploratory, hypothesis-driven, Phase I, etc.), Version/Date of Protocol. PI Name, Title, Name & Address PI, Phone #, Email Address.

TITLE: The Influence of Learning Organization Maturity on Employee Engagement within Higher Education Information Technology Departments

PHASE OF STUDY: Hypothesis-driven

VERSION/DATE: November 2016

PI NAME(S), TITLE: Jim R. Jones, Student, Doctoral Program in Leadership Studies, Gonzaga University, School of Professional Studies

ADDRESS: AD Box 95, Spokane WA 98958

PHONE: 509-313-5926 or 509-209-1607

EMAIL: Jonesj@gonzaga.edu

II. ADVISOR / SPONSOR INFORMATION

List sponsor (if funded) or university advisor name and address, phone, email info.

ADVISOR NAME, TITLE: Kem Gambrell, Ph.D. Professor, Doctoral in Leadership Studies

DEPARTMENT: Gonzaga University, School of Professional Studies

ADDRESS: 502 E Boone, MSC Box

PHONE: 509-313-3488

EMAIL: Gambrell@Gonzaga.edu