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Identification of Employee Engagement Practices Viewed as Critical to Retention: A Cross-Generational Comparison

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IDENTIFICATION OF EMPLOYEE ENGAGEMENT PRACTICES VIEWED AS
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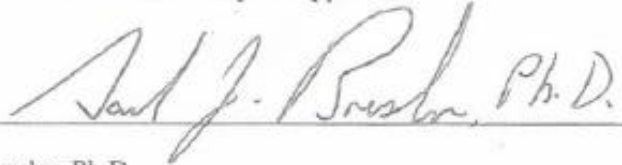
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Plans fail when there is no counsel, but with many advisers they succeed.
~ King Solomon

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Don't use words too big for the subject. Don't say "infinitely" when you mean "very"; otherwise you'll have no word left when you want to talk about something really infinite.
~ C. S. Lewis

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Honor is the practice of calling out the best in one another.
~ Danny Silk

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As iron sharpens iron; so one friend sharpens the countenance of another.
~ King Solomon

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Love never gives up, never loses faith, is always hopeful,
and endures through every circumstance.
1 Corinthians 13:7 NLT

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DEDICATION

God's dream for us is that we would be immersed in the majesty
of everything He feels for us.
~ Graham Cooke

This dissertation is dedicated to my father, Reverend Tom Floyd. A
number of years ago I remember receiving an out-of-the-blue phone call from
him. He shared a vision with me – one where I'd go back to school, earn my next
degree or degrees, and teach full-time for a University. Little did he know that his
words would ultimately come to fruition at the completion of this journey. I have
to believe that even now, from the heavenlies, he's celebrating my success and
cheering me on to victory. My only regret is that he is not here to share in my
accomplishment. Thanks, dad, for believing and speaking the best into me, even
when I was not "there" yet.

ABSTRACT

Identification of Employee Engagement Practices Viewed as
Critical to Retention: A Cross-Generational Comparison

By Sharon R. Floyd, EdD

Purpose. The purpose of this study was to identify the employee engagement practices that millennial IT workers perceive as important to retention. The secondary purpose of the study was to determine whether a difference exists between the engagement practices that appeal to millennial IT workers and the engagement practices that appeal to remaining IT working groups, which include the baby boomers and generation X.

Methodology. A quantitative, descriptive, survey-based research method was chosen for this study. The population included information technology workers representing three generations of working adults, including baby boomers, generation Xers, and millennials. The sample included technology workers belonging to the Association of Information Technology Professionals (AITP) located in the Southwestern Region of the United States (Arizona, California, and Nevada). An online, 18-question survey was utilized to identify engagement practices found in research to be linked to retention.

Findings. Examination of data included feedback from a total of 44 participants. The research found that millennial IT workers are most engaged when they worked for an organization that valued their professional growth and continuous learning. The millennial IT workers rated the majority of the 18 statements slightly higher than their generation X and baby boomer counterparts. The most interesting finding was that all generations of IT workers reported that having a confidant in the workplace was the least important workplace practice leading to engagement and retention.

Conclusions. As the need for qualified, skilled, and fully-engaged IT workers increases, it will be imperative for human resources leaders, Boards of Directors, and company CEOs to implement policies that ensure the implementation of programs and practices that increase engagement and retention among IT workers in the three worker generations, baby boomers, generation Xers, and millennials. Equally important is the need for Universities to design and develop management curriculum that address the importance of engagement, and the contributing practices leading to increased retention in the workplace.

Recommendations. Further studies are recommended and include: (a) conduct the same study nation-wide through the Association of Information Technology Professionals (AITP), and include additional demographic comparisons by gender, job title/position, length of employment, and industry, and then determine if a difference exists between employees and contractual workers; (b) conduct the study with soon-to-be University and College information technology graduates; (c) replicate this study in the future, as the next generation of IT workers enters the workplace, to determine if the findings for this generation are similar or different from their counterparts; and (d) replicate this study with other populations outside of information technology.

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CHAPTER I: INTRODUCTION

In every industry, information technology (IT) professionals provide significant contribution through the maintenance of hardware, software development, network security, and technical support. With economic change, globalization, and increased on-line consumerization, the IT professional plays a prominent role in the success of organizations world-wide. Consequently, retaining qualified IT professionals will continue to be a primary focus for the Human Resources (HR) professional in the years to come.

Globalization, increased on-line consumerization, and technical security concerns are not the only factors shaping the future of the IT landscape. According to the United States Department of Labor, Bureau of Labor Statistics (Lockard & Wolf, 2012), computer and mathematical occupations are projected to grow by 18% between 2012 and 2020. This growth will include a 36.5% increase in the information security analyst profession and a 22.8% increase for software application developers.

With the increased demand for qualified IT professionals, a higher percentage of college graduates are expected to earn a degree in the field of information technology and enter the workforce. The National Association of Colleges and Employers (NACE) Class of 2012 Student Survey Report (Koc, 2012) indicated computer science majors ranked highest at 69%, most likely to get job offers, followed closely by economic and accounting majors, at 62% and 61% respectively.

 With the economy continuing to gain strength within the United States, an increasing number of information technology professionals will be provided with career opportunities to manage technology solutions designed to satisfy business needs.

Presently, a large percentage of these leadership positions are held by baby boomers, who will soon be retiring, leaving a significant leadership skill and knowledge gap (Gallahgher, Gallagher, & Kaiser, 2013). The future success of organizations rests on the shoulders of tomorrow's workforce, and by 2014 millennials will account for 36% of the American workforce and by 2025, 75% globally (Deloitte, 2014; Schawbel, 2013). However, an estimated 91% of millennials expect to stay with their current employer less than 3 years (Gibson, 2013). Retaining and preparing the millennial for more responsible roles, including leadership roles, will be critical as organizations strive to remain competitive in the marketplace.

Much has been written about the impact employee engagement has on retention, and while employee engagement carries a variety of meanings, the Corporate Leadership Council identifies engagement as "the extent to which employees commit to something or someone in their organization, how hard they work and how long they stay as a result of that commitment" (Council, 2004a, p. 3).

In 2012, Gallup's engagement research revealed a reduction in turnover by 24% in high-turnover organizations and 65% in low-turnover organizations, when employees were actively engaged (Sorenson, 2013). The eighth study of its kind included meta-analysis using 263 research studies across 192 organizations, representing 49 industries and 34 countries. The research not only confirmed a positive connection between engagement and turnover, but a connection between engagement and profitability, productivity, quality, safety incidents, and absenteeism.

While engagement appears to contribute to a variety of performance outcomes, more information is needed to determine if there is a significant difference in the

engagement practices that appeal most to millennial workers, as opposed to the working groups of previous generations, including the baby boomers, and generation Xers. Gaining a greater awareness of the contributing practices that enhance the likelihood of engagement, enables organizations to purposefully create or strengthen processes and programs intended to increase engagement, ultimately retaining the millennial worker (Shaw, 2008).

It is important for organizations to realize the importance employee engagement plays in the retention of the IT millennial professional, and the characteristics that engage and retain the millennial may be different than the engagement characteristics of previous generations. It is also important for leaders to understand the characteristics of engagement from the perspective of the millennial IT professional so that structures, processes, and procedures can be developed and implemented to increase engagement within the workplace.

Background

The Role of Information Technology

Prior to the year 2000, information technology was considered to be nothing more than a supporting service to the overall performance of an organization (Chan, 2000). No longer forced to play a secondary, supporting role in business, informational technology now provides the backbone to successful business processes (Weske, 2012).

Information technology is being used for more than just business purposes. With the increase of globalization, and the necessity to secure our national borders, "the U.S. government is turning to information technology-based surveillance as it seeks to intensify and reconfigure border management practices" (Shields, 2009, p. 385).

National security is not the only sector seeking support from the information technology professional. The future of the United States health-care industry is heavily dependent on information technology services through the Presidential mandate of 2004, to standardize all electronic medical records by 2014 (Revels, 2012). Additionally, the educational system is exploring the use of web technologies in both K-12 and higher education, as the practice may be useful in fostering student learning (Hew & Cheung, 2012). Almost every industry is experiencing an increase and greater dependency on network performance in order to perform their daily work.

The Future Demand for Information Technology Professionals

With the increased demand for technology services worldwide, the industry is projected to grow by 22% between 2010 and 2020 (Lockard & Wolf, 2012). The demand for information technology professionals will be recognized through a variety of influences – the increase of automation, where technology or machinery replaces workers, and productivity-enhancing technology. This technology will enable task effectiveness, increasing the amount of work completed in a shorter period of time.

Cloud computing is also expected to contribute to the growth of information technology (Csorny, 2013). In a recent blue paper published by Morgan Stanley, "among the 300 IT decision-makers we interviewed, the percentage using the public cloud is expected to rise from 28% to 51% in three years, while the portion of their workload running in the cloud likely will more than double, from 10% to 22%" (G. Chen, Devgan, M., Flannery, S., Holt, A., Lu, J., Meunier, F., Rozof, N., Standaert, P., & Wood, A., 2011, p. 1; Csorny, 2013).

With virtually every industry and sector utilizing technology to manage processes, cyber security is projected to lead employment increases in the information technology profession. In recent years, cyber-attacks have increased dramatically and are expected to continue to be a threat to the health care industry, mobile networking, and data management portions of information technology (Aitoro, 2012). Symantec, a provider of antivirus and security software, "blocked more than 5.5 billion malicious attacks in 2011, an increase of 81% over the previous year. The number of unique malware types increased to 403 million, and the number of Web attacks blocked per day jumped 36 percent" (Aitoro, 2012, p. 2).

While external drivers pose a challenge to the future of the IT profession, an internal and equally challenging driver will affect the way it conducts business in the future. There are three generations – baby boomers, generation Xers, and millennials – contributing to today's workforce, all with different expectations and needs. Having a greater understanding of these differences and creating workplace structures that engage all generations of employees, and assist in the retention of millennials for future development and leadership, is essential to the success of every organization.

Baby Boomers

The baby boomers, born between 1943 and 1960, were influenced by the invention of the television, and grew up listening to music from such groups as the Beatles and 60's music (Strauss & Howe, 1991). The boomers are characterized as optimistic and team-oriented and are drawn by personal gratification and the desire to be young and healthy. Corporate culture and being part of the greater picture drive

the Boomer to environments where they can collaborate with like-minded colleagues (Glass, 2007). Boomers were the first generation to question authority, build social networks at work, and work in teams.

Generation X

Generation X (also known as Xers) were born between 1961 and 1981, and are the generation influenced by the Cold War, Star Wars, and rock music (Strauss & Howe, 1991). This generation, more than any other, holds a strong entrepreneurial spirit. They are independent, self-reliant, informal, and detached. Looks and quality are important for this group, and they enjoy splurging on the extras. This generation desires their own workspace and alternative work environments, and they want to have access to leadership (Westerman & Yamamura, 2007). Watching their parents and grandparents lose pensions and retirements after layoff, leaves this generation expecting little loyalty from their company.

Millennials

Millennials, sometimes referred to as Generation Y, are the youngest of the generations currently in the workplace. This generation was born between 1982 and 2004 (Strauss & Howe, 2000). They grew up during a period of economic prosperity, with technological influences such as the cell phone, internet, and other forms of technology (Armour, 2005). Unlike the previous generations of workers who spent their entire career with one employer, this is not the case with the Millennial. Their behavior is born out of a broader cultural change, placing a greater emphasis on the need for work-life balance. They regard this balance as equally as important as the quality of the work, job performance, long-term job satisfaction, and ethical decision-making (Smith, 2010).

The Shifting Workplace

In 2012, over 30 million baby boomers were represented in the workforce (Toossi, 2012). Within the next two decades, over 10,000 baby boomers per day will reach the age of 65 and consider retirement (Center, 2010). The Society for Human Resources Management (SHRM), in partnership with AARP, released a poll in 2012 that reflected concerns over the mass exodus of boomers, with concerns that organizations are largely unprepared for the knowledge drain and skills gap that will accompany retirement of this generation. Seventy-two percent of human resources professionals polled described this loss as problematic for their organizations (SHRM, 2012).

As the baby boomers transition out of the workforce, the new face of technology may be populated with a demographic of workers with much different expectations than those held by previous generations. While baby boomers place a strong focus on hard work and achievement, status, and monetary reward for their loyalty and commitment (Collins, 1998), Millennials are driven by more responsibility, challenging work, and independence (Martin, 2005). Information technology will not be exempt from this phenomenon. To attract and retain the millennial IT professional, leaders will need to understand the role that employee engagement plays in the retention of the newest segment of the workforce (Deloitte, 2014).

The Engagement Factor

Research reflects a positive correlation between employee engagement and retention (Consulting, 2013). It is therefore important that leaders take the time to understand what employee engagement is and the motivators that have enabled the establishment of practices that have increased employee engagement in the workplace.

While a variety of engagement-related data exists in current literature, The Corporate

Leadership Council and Gallup provide comprehensive data by age, gender, tenure with a

company, organizational level, function, and geographical location (Council, 2004a).

However, the research lacks data related specifically to the engagement practices

considered most important to retention for the millennial IT professional, and whether a

difference in engagement exists between the millennial and other generations, including

the, baby boomers, and gen Xers.

Gallup

Since the early 1950s, Gallup has been studying work and learning environments

to determine the practices that contribute to a positive work environment. During the

1980s, Gallup scientists studied high-performing individuals and teams, including

workplace attitudes and individual attitudes contributing to high performance. By 1990,

Gallup researchers had developed the first version of the Q^{12} assessment; then named The

Gallup Workplace Audit or GWA (Asplund, 2006). The Q^{12} instrument uses twelve

questions designed to measure *attitudinal outcomes* such as satisfaction, loyalty,

customer service intent, pride, and intent to stay with the company, as well as *actionable*

issues for management, which drive these outcomes. Since 1998 the Q^{12} has been

administered to more than seven million employees within 112 different countries

(Asplund, 2006).

The Q^{12} instrument takes into consideration the following attitudinally-driven

outcomes and actionable issues for management: satisfaction, loyalty, pride, customer

service intent, and the intent to stay with the company. "On Gallup's standard Q^{12}

instrument, following an overall satisfaction item are 12 items measuring issues we have

found to be actionable at the supervisor or manager level in the company – items measuring the extent to which employees are *engaged* in their work" (Asplund, 2006, p. 10).

Gallup's engagement research reveals a positive correlation between employee engagement and critical business outcomes, including a decrease in absenteeism, turnover, shrinkage, safety incidents, and quality defects. Employee engagement also positively impacts customer service, organizational productivity, and profitability (Consulting, 2010, 2013).

Corporate Leadership Council

The Corporate Leadership Council (CLC) has over thirty years of experience consulting with companies to provide best practices, decision-making support, solutions, and talent management services that enable organizations to effectively optimize their talent investments (Council, 2013). They have worked with over six thousand organizations, in one hundred and ten countries, researching the activities that leaders find most critical to the human resource function, including strategic planning, performance management, succession management, and employee engagement (Council, 2013).

The Corporate Leadership Council identifies employee engagement as "the extent to which employees commit to something or someone in their organization and how hard they work and how long they stay as a result of that commitment" (Council, 2004a, p. 3). CLC further identifies two types of commitment for engagement – the *rational commitment* in which employees believe that their manager, team, or organization has their best interest in mind, and *emotional commitment* - the extent to which an employee

values, enjoys and believes in their manager, team or organization. The outputs of commitment include an increase in *performance*, or the willingness to go "above and beyond", and *attrition* – an employee's desire to stay with the organization.

Problem Statement

Information technology impacts every aspect of modern life. Whether it is used to establish systems for organizational or consumer use, provided as a solution to streamline processes, or used to design a smart-phone application to track expenses, information technology is here to stay.

Within the next two decades, organizations will experience a mass exodus of baby boomers (Center, 2010), requiring both the Gen X and, increasingly, the millennial generation to fill the resulting knowledge and skills gap as they move into leadership roles and significantly impact organizational practices. Information technology will not be exempt from this phenomenon. Retaining and preparing generation X and millennials for more responsible roles, including leadership roles, will be critical as organizations strive to remain competitive in the marketplace.

Deloitte's research indicates that millennial workplace expectations are different than the workplace expectations of previous generations (2014). Comfortable with change, they frequently move jobs, looking for opportunities to contribute to something significant. Identifying practices that retain the millennial will be a top priority for organizations.

Research has proven employee engagement to be a contributing factor in retention (Consulting, 2013; Council, 2004a). What is not provided in previous research is information about the engagement practices that resonate with the millennial IT

professional. Additionally, a gap exists as to whether the engagement practice

preferences differ between the millennial generation of IT professionals compared to

other generations of IT professionals, including the baby boomers, and the gen Xers.

Purpose of the Study

The purpose of this quantitative study is to identify the employee engagement

practices that millennial IT workers perceive as most important to retention. The

secondary purpose of the study will be to determine whether a significant difference

exists between the engagement practices that appeal to millennial IT workers and the

engagement practices that appeal to remaining IT working groups, which include the

baby boomers, and generation X.

Research Questions

The following questions will be used for this study:

1. What are the engagement practices that the millennial generation of IT workers
    perceive as most important to retention?

2. What are the engagement practices that the baby boomer generation of IT workers
    perceive as most important to retention?

3. What are the engagement practices that the generation X generation of IT workers
    perceive as most important to retention?

4. What is the difference between the engagement practices considered most important
    to retention by the millennial IT worker compared to the engagement practices
    considered most important by the baby boomer IT worker?

5. What is the difference between the engagement practices considered most important to retention by the millennial IT worker compared to the engagement practices considered most important by the generation X IT worker?

Significance of Study

With an increased focus on the importance of information technology, coupled with the mass exodus of baby boomers (K. Ball, 2011), organizations will be required to implement practices that increase engagement to ensure retention of both Gen X and, increasingly, millennial generation employees to fill the knowledge and skills gap as they move into leadership roles and significantly impact organizational practices.

While current research points to employee engagement as a contributing factor to retention, and provides information regarding the impact of employee engagement to retention by age, gender, tenure with a company, organizational level, function, and geographical location (Council, 2004a), research lacks data related specifically to the engagement practices considered most important to retention for the millennial IT professional. Additionally, a gap in literature exists as to whether engagement practices contributing to retention, differ between the IT millennial and previous generations of IT professionals, including the baby boomers, and gen Xers. By 2025, millennials are projected to make up 75% of the global workforce and with different workplace expectations than previous generations (Deloitte, 2014; Schawbel, 2013).

This study will add to the current body of research by identifying the engagement practices considered most important to retention of a generation of IT professionals instrumental in supporting the future of virtually every aspect of business and daily life, including healthcare, education, government, and national security (Csorny, 2013).

Human Resources leaders in corporations may find this information helpful in designing programs and establishing practices that increase retention for the millennial generation of IT professionals. Boards of Directors and company CEOs may use this information to develop and implement new policies that ensure the implementation of programs and practices that increase retention. Lastly, this information may be useful for Universities in the design and development of management curriculum that address the importance of engagement and the contributing practices leading to increased retention in the workplace.

Definition of Terms

The following definitions were used for the purposes of this study:

Association of Information Technology Professionals (AITP). A nationally-recognized association, established in 1951 to cater to the professional development and support of information technology professionals. The mission of AITP is to "provide its members with the opportunities and resources necessary to develop and advance their IT careers" (Professionals, 2014, p. 2)

Baby boomer. A generation of people identified as being born between the years of 1943 and 1960; also known as a group of people who fought for the rights of all people. Sometimes referred to as the "me" generation (Strauss & Howe, 1991).

Employee Engagement. "The extent to which employees commit to something or someone in their organization and how hard they work and how long they stay as a result of that commitment" (Council, 2004a, p. 3).

Employee Retention. "The implementation of integrated strategies or systems designed to increase workplace productivity by developing improved processes for

attracting, developing, retaining, and utilizing people with the required skills and aptitude to meet current and future business needs" (Lockwood, 2006, p. 2).

Employee Turnover. The movement of employees into and out of organizations (Fitz-enz, 2002).

Generation. Defined as an "identifiable group that shares birth years, age, location, and significant life events at critical developmental stages" (Kupperschmidt, 2000, p. 66).

Generation X. A generation of people identified as being born between the years of 1961 and 1981; often referred to as Gen X, Xers, or "latchkey" children (Erickson, 2010; Strauss & Howe, 1991).

Information Technology. Technology that involves "the development, maintenance, and use of computer systems, software, and networks for the processing and distribution of data" (Dictionary, 2014, p. 1).

Maslach et al Engagement Theory. A 2001 study that resulted in the theory that job burnout resulted in the absence of engagement; defining engagement as the "persistent positive affective state of fulfillment in employees, characterized by vigor, dedication and absorption" (Maslach, Schaufeli, & Leiter, 2001; W. Schaufeli, Martinez, Marques-Pinto, Salanova, & Bakker, 2002, p. 74).

Millennials. A generation of people identified as being born between the years of 1982 and 2004; often referred to as Generation Y or the nexters (Strauss & Howe, 2000).

William Kahn Engagement Theory. An engagement framework developed from research conducted by William Kahn, published in 1990. Kahn's theory aligns

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meaningfulness, safety, and availability within the working environment, to engagement (Kahn, 1990).

Q12. A twelve-statement instrument developed and administered by Gallup, that is designed to measure *attitudinal outcomes* such as satisfaction, loyalty, customer service intent, pride, and intent to stay with the company, as well as *actionable issues* for management, which drive these outcomes (Asplund, 2006).

Delimitations

The study participants were delimitated to information technology professionals working for businesses located in the Southwestern Region of the United States. For the purpose of this study, the Southwestern Region includes Arizona, California, and Nevada. Therefore, the results may not be generalized to other geographic areas. Additionally, the survey responses are self-reported via an online survey platform, providing no mechanism to verify the responses.

Organization of Study

This study is organized into five chapters followed by references used during the study. Chapter II provides a review of current literature and identifies the characteristics, historical contexts, and workplace values of the baby boomers, generation Xers, and millennials, as well as common workplace practices that have been identified as leading to employee engagement, and the effect of employee engagement on retention in the workplace. Chapter III outlines the details of the research design, methodology of the study, and includes the process that was used in population and sample selection, the survey instrument used, and the limitations of the study. Chapter IV is designed around the data gathered during the study and the analysis of said data. Chapter V concludes the

study by providing conclusions and recommendations for further research. The

references and appendices are located at the end of the study.

CHAPTER II: LITERATURE REVIEW

The intent of this research study was to identify the employee engagement practices that millennial IT workers perceive as most important to retention, and to determine whether a significant difference exists between the engagement practices that appeal to millennial IT workers and the engagement practices that appeal to remaining IT working groups, which include the baby boomer, and generation X.

This chapter focuses on the literature surrounding generational differences, information technology, and the evolution and future growth of the profession. The chapter also defines employee engagement and provides an overview of theories and models most widely recognized by academic leaders and practitioners, as well as the significance of employee engagement, including the characteristics that foster and impede engagement. Lastly, the chapter highlights the relationship between engagement and retention, and the significance of employee retention and its implications to the workplace.

Generations

Today's workforce is comprised of three generations which include the baby boomers (born between 1943 and 1960), generation X (born between 1961 and 1981), and the millennials (born between 1982 and 2004) (Strauss & Howe, 2000). The workforce is diverse, and each generation is motivated by a different set of workplace expectations, stemming from a distinct set of reference points, characteristics, and historical contexts (Cennamo, 2008; Whitney, 2009).

Baby Boomer

Baby boomers, born between the years of 1943 and 1960, grew up during the Vietnam War, the Civil Rights Movement, and peace protests (Elliott, 2009; Steinhorn, 2006; Strauss & Howe, 2000). This generation fought for the rights of people, including women, African Americans, and the disabled (Elliott, 2009; Steinhorn, 2006). They witnessed the assassinations of Martin Luther King, Jr., Bobby Kennedy, and John F. Kennedy (Elliott, 2009; Steinhorn, 2006). They initiated the sexual revolution, redefined swinging-singles, and believed in power for all people (Kupperschmidt, 2000; Steinhorn, 2006).

The baby boomers are idealists, optimistic, and believed in success through life-long learning (Elliott, 2009; Weston, 2001). Baby boomers enjoy challenge and hard work. They also value their leisure, and are willing to spend extravagantly because they "deserve it" (as cited by P.-J. Chen & Choi, 2008). Self-absorbed and independent, this generation looks for opportunities in and outside of work to find self-fulfillment and gratification (Kupperschmidt, 2000).

This generation changed the face of the workplace as we know it today (Steinhorn, 2006). Baby boomers enjoy the collaborative approach to decision-making and prefer workplace practices that involve teamwork and participation from fellow colleagues (Kupperschmidt, 2000; Steinhorn, 2006). They enjoy challenging work and are willing to spend long hours in the office if they believe that they are contributing, valued, and have the opportunity for career advancement (Elliott, 2009; Kupperschmidt, 2000; Steinhorn, 2006). Career development and training, and the opportunity to learn new skills, are important for the baby boomer, as they look to advance to their highest

possible career position before retirement (Jurkiewicz, 2000; Tulgan, 2004). Boomers enjoy sharing their expertise and knowledge with others, finding this to be a rewarding aspect of their careers (Barnes & Harris, 2006). As this generation ages, they require more flexibility in their work, and 42% are projected to work until they are 65 years old (Hewlett, Sherbin, & Sumberg, 2009; Tulgan, 2004).

Generation X

Generation Xers were born between the years of 1961 and 1981 and comprise a smaller population than the previous baby boomer generation, due to the adoption of birth control in the 1960s and boomers' desire to wait to have children until later in life (Allen, 2004; Strauss & Howe, 2000). With baby boomer parents both working, generation Xers are frequently referred to as the "latchkey" children. After school, they went home to empty houses and waited for their parents to return home from work (Erickson, 2010). This generation is sometimes referred to as the MTV generation, and their views were shaped by the onset of the AIDS epidemic, the war on drugs, and the Challenger explosion (Allen, 2004; Johnson & Lopes, 2008).

With an absence of personal parenting, generation Xers place a greater focus on family than previous generations who had stay-at-home moms (Allen, 2004; Erickson, 2010). They are the first generation to take part in day care and experienced the highest number of divorced parents among all generations (Allen, 2004; Erickson, 2010; Strauss & Howe, 1991).

The Gen Xer's workplace view is marred by the layoffs and downsizing experienced by their parents in the 1980s (Erickson, 2010). They tend to be skeptical and cynical toward institutions and corporations, and their sense of loyalty is much less than

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that of that previous generations, and moving from job to job is their method for career advancement (Allen, 2004; Erickson, 2010; Jennings, 2000). This generation is self-reliant and prepared with survival skills that enable them to weather the economic landscape (Becton, Jones-Farmer, & Walker, 2014; Erickson, 2010).

Millennial

The millennials, also referred to as Generation Y, the Nexters, and the "net" generation, were born between the years of 1982 and 2004 (Allen, 2004; Erickson, 2010; Strauss & Howe, 2000). According to the 2010 Census data (2010), millennials are the fastest growing population, representing nearly 27% of the United States population. They are living during a time of rapid globalization, technological advancement, and diversity (Erickson, 2010). Defining moments for millennials include the Columbine massacre, the 9/11 attacks, the onset of reality TV shows, and the increased use of the Internet (Thielfoldt & Scheef, 2004). This generation was born to parents from multiple generations, including baby boomers and Xers, and they had the most child-centered parents in history (Bartley, Ladd, & Morris, 2007).

The millennial generation is also referred to as the "found" generation, born to parents who wanted to have children. Their parents frequently visited fertility clinics in lieu of having abortions or using contraceptives (Strauss & Howe, 2000). This generation has reaped the most from privilege and have had more money spent on them then previous generations (Elliott, 2009). Consequently, millennials have a positive outlook, are optimistic, and are family and friend centered, looking up to their parents more than to athletes, famous people, or political figures (Burmeister, 2008; Elliott, 2009; Strauss & Howe, 2000).

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By 2014, Millennials will account for 36% of the American workforce and by 2025, 75% globally (Schawbel, 2013). Being the generation of privilege, few Millennials worked for pay as teenagers. Both allowances and possessions were provided by parents (Strauss & Howe, 2000). As the millennial generation enters the workforce, they view their income as a means to an end, and a way to provide for friends and family (Burmeister, 2008; Gravett & Throckmorton, 2007). During the 1990s and early 2000s, "character education" adopted teamwork as a tenet. Character education was a national movement creating educational environments fostering ethical values such as respect for self and others, responsibility, integrity, and self-discipline (WCPSS, 2014). Consequently, teamwork is a foundational workplace value and is incorporated into getting the work done and relationship building (Burmeister, 2008; Deal, 2007; Gravett & Throckmorton, 2007). This generation is described by Deloitte as "global, highly connected, technology-savvy, and demanding" (Deloitte, 2014, p. 2).

Table 1 provides an overview of the three generations represented in today's workplace, and includes historical contexts and influencers, generational descriptors, and workplace preferences.

Table 1

Three Generations in the Workplace

	Baby Boomers 1943-1960	Generation X 1961-1981	Millennials 1982-2004
Historical Contexts, Influencers	Civil Rights Movement Vietnam War Peace protests Fought for the rights of all people Assassination of Martin Luther King, Jr., Bobby Kennedy, and John F. Kennedy Sexual Revolution	Parents both working MTV AIDS, onset of War on drugs Challenger explosion Absence of parenting Highest percentage of parental divorce	Columbine Massacre 9/11 attacks Reality TV shows Internet Rapid globalization Technological advancement Diversity Born to multiple-generation parents
Descriptors	Idealistic, optimistic, life-long learning, self-absorbed, independent	Latch-key children Skeptical Cynical toward institutions	Positive outlook, optimistic, friend and family centered
Workplace Preferences	Enjoy a challenge and working hard Collaborative decision-making Direction from senior management Teamwork Spend long hours at work contributing Value career development and training	Workplace view marred by layoffs and downsizing experienced by parents Self-reliant in the workplace Move from job to job for career advancement	Income is a means to an end – provide for family and friends Teamwork Globally connected Flexibility Highly tech savvy Demanding

Adapted from *Generations: The History of America's Future, 1584 to 2069*, by W. Strauss, and N. Howe, 1991, copyright Harper Perenial; and From Ties to Tattoos: *Turning Generational Differences into a Competitive Advantage*, by S. Elliott, copyright Brown Books 2009; and *Guiding Generation X to Lead*, by T. J. Erickson, 2010, T + D Magazine.

Information Technology

Evolution of Information Technology

The evolution of information technology is divided into four periods – the premechanical age (3,000 B.C. to 1450 A.D.), the mechanical age (1450 A.D. to 1840 A.D.), the electromechanical age (1840 to 1940), and the current age, or electronic age (1940 through present) (Augarten, 1984). The earliest forms of information technology can be traced back to the premechanical age, beginning in 3,000 B.C. (Augarten, 1984). During the premechanical age, humans communicated via spoken and written word, using first petroglyphs and then paper and pen (Augarten, 1984; Karol, Williams, & Elliot, 2006). Between 100 and 200 A.D. the Hindus in India created a nine-digit numbering system, and by 875 A.D. the concept of the number zero had evolved. Around 300 B.C., the most primitive calculator – the abacus, was created (Augarten, 1984).

Innovative technologies of the mechanical age (1450 to 1840) included the invention of the printing press in 1450, and the slide rule – an analog tool used for multiplying and dividing, as well as the introduction of algorithmic devices (Augarten, 1984; Karol et al., 2006). Between 1622 and 1623, Blaise Pascal and Wilhelm Schickard invented the first mechanical computing machine, also referred to as the arithmetic machine, and later the Pascaline (Karol et al., 2006). The mechanical age also yielded the first difference engine, created by Charles Babbage, tabulating polynomial equations using finite differences (Augarten, 1984; Karol et al., 2006).

The invention of electricity introduced the electromechanical age (1840 – 1940). Telecommunications marked this time period and included the invention of Samuel Morse's telegraph in 1830, followed by Alexander Graham Bell's telephone in 1875, and Guglielmo Marconi's radio in 1894 (Augarten, 1984; Moreau, 1984). In 1940 Harvard introduced the first automatic digital computer, the Mark 1. The first large-scale computer of its kind weighed five tons, was eight feet high, fifty feet long, and two feet wide, and was programmed using punch cards (Karol et al., 2006; Moreau, 1984).

Electronic vacuum tubes and the Electronic Numerical Integrator and Computer (ENIAC), built in 1942, marked the beginning of the electronic age (1940 to present) (Augarten, 1984; Moreau, 1984). The ENIAC was the first generation (1940 – 1956) of high-speed, digital computers used by the U.S. Army to design artillery firing tables. Physically larger than the Mark 1, the ENIAC weighed 30 tons and measured 680 square feet, costing the government $500,000 (Augarten, 1984; Karol et al., 2006).

The second generation of computers (1956 – 1963) marked the introduction of magnetic tape and disks, and high-level programming, including FORTRAN and COBOL (Augarten, 1984; Karol et al., 2006). The third generation of computers (1964 – 1971) replaced transistors with integrated circuits and silicon-backed chips (Karol et al., 2006). The fourth generation of computers (1971 – 1980) were designed using large-scale microprocessors and integrated circuits, and central processing units (CPUs). These units contained memory and logic on a single chip. It was during this time that the first personal computer (PC) appeared, as well as the fourth generation of software languages including Lotus 1-2-3, dBase, and Microsoft Word (Karol et al., 2006).

The fifth generation of computing (1980 until present) introduced the declarative languages of SQL, C++, and Java, and included markup languages, such as html, XML, RDF, and OWL (Karol et al., 2006). Technology inventions between 1980 and 1990 allowed for the purchase of the first low-cost IBM personal computer (1982), the Global Positioning System (GPS) for aircraft (1983), and the CD-ROM used for storage of data and music (1984). In 1984 Apple released the Macintosh Computer, and network file systems replaced backup tape systems (1985) (C. Ball, 2012; GCN, 2007). In 1987 Power Point (originally called Presenter) replaced overhead projectors and transparencies, and in 1990 Tim Berners-Lee invented the World Wide Web (C. Ball, 2012; GCN, 2007).

The 1990s were marked by the introduction of notebook computers (1991), the web browser (1992), electronic mail (e-mail) (1993), Adobe PDF document-sharing technology (1993), and Windows 95, a 35-bit multi-tasking software (1995). With the increased demand for personal computing, "the number of homes with one or more personal computers increased by 16% in 1995 to about 38 million households, up from 33 million in 1994 and 25 million in 1993" (C. Ball, 2012, p. 1). In 1996 the MP3 audio format and "flash", changed the movie industry and web page experience (C. Ball, 2012; GCN, 2007). With the introduction of broadband and digital cable (1997), telecommuting became an alternative work option, and Wi-Fi and the Blackberry (1999) allowed 24-hour connectivity for the executive (GCN, 2007).

By the year 2000, 60% of all households in the United States owned at least one computer, and in 2001 Apple released the iPod and opened the iTunes store,

revolutionizing the manner in which music was distributed and purchased (C. Ball, 2012). In 2003 Intel released wireless internet receiving capability (Wi-Fi) and web-service standards, allowing online program data sharing (C. Ball, 2012). Beginning in 2003, a variety of social media technologies were introduced including Facebook (2004), YouTube (2005), and Twitter (2006). In 2010 Apple's portable tablet, the iPad, became available, followed by Amazon's Kindle Fire tablet computer reader (2011), providing an alternative to the traditional book purchase through the upload of a book-to-tablet option (C. Ball, 2012). In 2007 Apple introduced the first iPhone, revolutionizing the mobile phone industry. It is estimated that by 2014 more than 4.55 billion people worldwide will own a mobile phone, and by 2017 global mobile phone penetration will increase from 61.1% to 69.4% (eMarketer, 2014).

Information Technology Occupations

As in other industries, technology and computer systems design and services are represented by many occupations. The U.S. Bureau of Labor Statistics divides information technology occupations into two categories – management and administration of computer systems and related services, and those occupations that design and provide information technology services. Computer occupations account for more than half of all the technology industry, with a large portion of these positions held by managers, administrative workers, and business workers that support the industry (Csorny, 2013). Technology support roles include accountants, auditors, customer service representatives, and office managers. While these roles are not directly related to

computer design and services, they play a significant role in supporting information technology, representing 2.478 million workers in 2010 (Bureau, 2010; Csorny, 2013).

In 2010, 56% or 1.387 million workers provided system design and related services (Bureau, 2010). These positions are held by computer system analysts, programmers, software application developers, software systems developers, and support specialists (Csorny, 2013; Wright, 2009). Computer system analysts are the liaisons between management and the information technology department. They analyze company computer systems, and select and recommend the best products to increase business effectiveness (Csorny, 2013; Wright, 2009). System analysts are also involved in the migration of systems to cloud computing. Computer programmers take concepts designed by software engineers and write code used as instruction for system applications (Csorny, 2013; Wright, 2009). Developers are responsible for the end-to-end design process, including planning, and upgrades. There are two distinct types of developers – application software developers and system software developers. Application software developers design software used by accountants, as well as applications such as mapping or location software, mobile games, and cloud computing (Csorny, 2013). System software developers are responsible for the creation and upgrade of operating systems and the software supporting basic computer functions, such as scheduling tasks, controlling peripherals, and executing applications. Software developers represent the highest percentage of workers in this industry, at 20% (Csorny, 2013).

Lastly, computer support specialists provide help and advice to those using computer software or equipment. They perform network maintenance and run diagnostic

programs, and may also answer technical questions or install equipment or software for individual home or company use (Csorny, 2013; Wright, 2009).

Information Technology Occupational Growth Trends

For a majority of the past twenty years (1990-2011), the information technology profession has grown rapidly, as companies began investing in computer systems (Csorny, 2013). The use of technology became a large part of everyday life, as the purchase and use of personal computers increased, along with the onset of the Internet (Wright, 2009). Companies hired information technology workers at a rapid pace to keep up with the demands of evolving interest (Csorny, 2013; Wright, 2009).

Between 2001 and 2011, computer system design and services occupations increased by 18% (Csorny, 2013), and while other industries struggled through the dot com crash of 2001, information technology continued to expand to keep up with the demand of personal and business applications and use (Csorny, 2013; Wright, 2009). In 2001 information technology employment was at approximately 3.54 million workers. The numbers dipped slightly in 2002 to 3.37 million as a result of struggling Internet ventures (Wright, 2009).

During the last recession of December 2007 through June 2009, the industry experienced a minimal decline of 1% in its workforce and by 2010 had fully recovered with numbers even greater than those in 2008 (Csorny, 2013). As of May 2013, there were approximately 3.7 million individuals employed in information technology-related positions in the United States (Bureau, 2013). Figure 1 reflects information technology growth from 1990 through 2011 (Csorny, 2013).

Employment in the computer systems and design related services industry, in thousands, 1990–2011
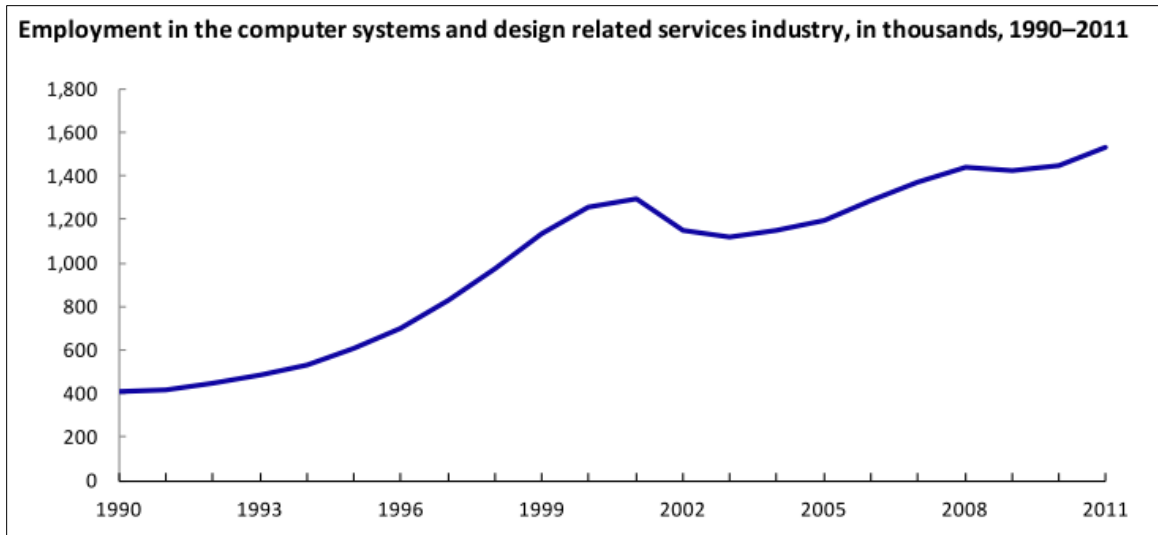
Figure 1. Employment in the computer systems and design related services industry, in thousands, 1990-2011. From the U.S. Bureau of Labor Statistics, Current Employment Survey, 2013.

Csorny's 2013 Bureau of Labor Statistics Report, titled Careers in the Growing Field of Information Technology Services, and reported the following:

Between 2010 and 2020, output in computer systems design and related services is expected to grow at an average annual rate of 6.1%, compared with 3.6% for the broad industry category – professional, scientific, and technical services – and 2.9% for all industries. Employment in computer system design and related services is projected to grow 3.9% percent annually from 2010 to 2020, compared with 2% for professional, scientific, and technical services and 1.3% for all industries (Csorny, 2013, p. 3).

Between 2010 and 2020, information technology administrative roles (i.e., managers, accountants, auditors, customer service representatives, and office managers), are expected to increase from between 39.3% for office and administrative support occupations and 49.3% for computer and mathematical occupations (Bureau, 2010;

Csorny, 2013), surpassing their counterparts in all other industries. Figure 2 reflects

occupational growth and wages in computer systems design and related services between

2010 and 2020.

Occupational growth and wages in computer systems design and related services, 2010–2020					
Occupation group	Employment in 2010 (in thousands)	Projected employment growth 2010–2020 (percent change)		Median annual wage 2011	
		Computer systems design and related services	All industries	Computer systems design and related services	All industries
Management occupations	144.7	39.5	7.0	$130,760	$92,880
Business and financial operations occupations	130.7	48.5	17.3	73,050	61,700
Computer and mathematical occupations	802.6	49.3	22.0	78,320	75,080
Office and administrative support occupations	161.0	39.3	10.3	36,230	31,250
Source: U.S. Bureau of Labor Statistics.					

Figure 2. Occupational growth and wages in computer systems design and related
services, 2010-2020. From the U.S. Bureau of Labor Statistics, Current Employment
Survey, 2013, page 5.

Additionally, technical occupations (i.e., computer system analysts, computer

programmers, software developers, and computer support specialists) are expected to

increase from between 28.8% for computer programmers and 71.7% for software systems

developers, between 2010 and 2020 (Bureau, 2010; Csorny, 2013). Figure 3 reflects

employment and employment growth projected between 2010 and 2020, and the wages

and required education for occupations in computer systems design and related services

in 2011.

Employment and employment growth, projected 2010–2020, wages and required education for selected occupations in computer systems design and related services in 2011				
Occupation	Employment in 2010 (in thousands)	Projected growth 2010–2020 (percent)	Median annual wage 2011	Typical education needed for entry
Computer systems analysts	135.3	43.1	$82,160	Bachelor's degree
Computer programmers	116.8	28.8	72,100	Bachelor's degree
Software developers, applications	174.0	57.4	88,120	Bachelor's degree
Software developers, systems	117.8	71.7	94,570	Bachelor's degree
Computer support specialists	107.4	43.1	48,800	Some college, no degree
Source: U.S. Bureau of Labor Statistics.				

Figure 3. Employment and employment growth, projected 2010-2020, wages and required education for selected occupations in computer systems design and related services in 2011. From the U.S. Bureau of Labor Statistics, Current Employment Survey, 2013, page 7.

There are several reasons for this projected growth, including an increased demand for systems design and related services from organizations, as well as individual consumer demands (Csorny, 2013). Cloud computing is expected to play a significant role in this growth, as organizations adopt cloud options replacing computer hardware and software, with storage delivered via the Internet (Tadjer, 2010).

Cyber-attacks have also increased dramatically and will continue to threaten systems. Between 2009 and 2011, there was a reported 17-fold increase of cyber-attacks on United States infrastructures (Sanger & Schmitt, 2012), and the Washington Business Journal, January 2014, reported an 81% increase of malicious cyber-attacks in 2011 (Aitoro, 2012). This new challenge has created the demand for security services to help businesses find solutions to protect data and intellectual property.

Cyber security and cloud computing are not the only factors impacting computer systems design-related services growth. The future of the United States health-care industry is heavily dependent on information technology services through the Presidential mandate of 2004, which was introduced to standardize all electronic medical records, and is expected to be complete by 2014 (Revels, 2012). Additionally, the educational system is exploring the use of web technologies in both K-12 and higher education as the practice may be useful in fostering student learning (Hew & Cheung, 2012).

Employee Engagement

Employee Engagement Defined

Defining employee engagement can be challenging due to the lack of a universal definition of engagement. The Corporate Leadership Council defines engagement as "the extent to which employees commit to something or someone in their organization and how hard they work and how long they stay as a result of that commitment" (2004a, p. 3). Academic research provides several definitions for engagement. Schaufeli et al. (2002) contrasts employee engagement with burnout, defining engagement "as a positive, fulfilling, work-related state of mind that is characterized by vigor, dedication, and absorption" (p. 74).

Kahn's research includes references to cognitive, behavioral, and emotional components (1990). The cognitive aspect of employee engagement focuses on the employee *beliefs* about the organization, management, and working conditions (Kahn, 1990; Perrin, 2003). The emotional components define the *feelings* associated with the organization, employer, management, and working conditions (Perrin, 2003; Robinson,

2007). The *behavioral* aspect of engagement measures the willingness of employees to go the "extra mile" or "above and beyond" (Perrin, 2003).

Kahn defines engagement as the harnessing of organization members' selves to their work roles. When employees are fully engaged, they express themselves physically, cognitively, and emotionally during role performance (Kahn, 1990). Towers Perrin, a provider of professional services and workplace consulting, defines engagement as an "employee's willingness and ability to contribute to company success" (Perrin, 2003, p. 1) by putting "discretionary effort into their work, in the form of extra time, brainpower and energy" (p. 1)". Similarly, Gallup defines engaged employees as "those who are involved in, enthusiastic about, and committed to their work, and contribute to their organization in a positive manner" (Consulting, 2013, p. 12).

Engagement Theories and Models

William Kahn. William Kahn's engagement framework is built around the common themes of engagement and disengagement. According to Kahn, engagement is dependent upon meaningfulness, safety, and availability within the working environment (Kahn, 1990). Kahn defines meaningfulness as the positive "sense of return on investment of self in role of performance" (Kahn, 1990, p. 705). There are three factors that influence one's degree of meaningfulness, including the perceived value of one's position, the projects completed, and the alignment to personal values (Kahn, 1990). The degree of engagement is derived from the perception the employee has on how much creativity, challenge, and ownership of the task is available. The second factor contributing to meaningfulness is the employee's perception of the value placed on their

role, and its influence on other stakeholders within the organization. The final

contributing factor to meaningfulness is the alignment of the one's personal and

professional values to the organizational goals and values (Kahn, 1990).

The second factor impacting engagement is safety. Kahn's research found trust to

be a contributing factor to safety (Kahn, 1990). The degree of perceived trust with other

employees, groups, and supervisor, influenced the employee's level of engagement.

Management style and process, the employees' perception of their leaders' trust in them,

and the perceived competency of their leaders, were all found to have a significant impact

on engagement. Lastly, organizational norms influence how safe employees feel,

influencing how employees might exert themselves (Kahn, 1990).

The final factor to impact the level of engagement is the employees' availability

(Kahn, 1990). Availability is defined as the "sense of possessing the physical, emotional,

and psychological resources necessary for investing [them]selves in role performances"

(p. 705). Availability is determined by the employees' capacity to physically and

emotionally exert themselves, and may impact one's self-efficacy. Family and personal

responsibilities can also impact availability. The more secure an employee feels in each

of the dimensions, the greater the level of engagement (Kahn, 1990).

Maslach, Schaufeli, and Leiter Burnout-Antithesis Theory. In 2001, Maslach,

Schaufeli, and Leiter began research on job burnout. Their findings resulted in the theory

that burnout resulted in the absence of job engagement (Maslach et al., 2001). They

defined engagement as "a persistent positive affective state of fulfillment in employees,

characterized by vigor, dedication and absorption" (W. B. Schaufeli, Salanova, González-Romá, & Bakker, 2002, p. 74). A lack of these characteristics resulted in job burnout.

Vigor, as defined by this research, refers to an employee's willingness to invest effort into their job; providing a level of energy and endurance, and persistence during difficulty (Maslach et al., 2001). Dedication refers to an employee's "strong involvement and 'feelings of enthusiasm' about their work" (W. B. Schaufeli et al., 2002, p. 74). Absorption occurs when the employee is fully aware and occupied with doing their job. As a result, they are unable to separate themselves from their work to do other things (Maslach et al., 2001).

The antithesis to employee engagement is disengagement and burnout. Burnout occurs when worker expectations differ from what is actually found in the worker's workplace environment in terms of workload, control, reward, community, fairness, and values (Maslach et al., 2001). Engagement is possible when the workplace settings and employee values align, and is characterized by a "sustainable workload, feelings of choice and control, appropriate recognition and reward, a supportive work community, fairness and justice, and meaningful and valued work" (Maslach et al., 2001, p. 417).

Corporate Leadership Council. The Corporate Leadership Council's 2004 engagement study resulted in the adoption of an engagement model based on the following two drivers of commitment: the *rational commitment* or "the extent to which employees believe that managers, teams, or organizations are in their self-interest (financial, developmental, or professional)" (Council, 2004a, p. 3); and *emotional commitment* or "the extent to which employees value, enjoy and believe in their jobs,

managers, teams or organizations" (p. 3). When rational and emotional commitment are

present, employees experience increased commitment to their day-to-day work, team

efforts, and their relationships with their direct manager and organization (Council,

2004a).

As workplace commitment increases, so does "an employee's willingness to go

'above and beyond' the call of duty, such as helping others with heavy workloads,

volunteering for additional duties, and looking for ways to perform their jobs more

effectively" (Council, 2004a, p. 3). Not only does an employee's willingness to go above

and beyond increase, but their intent to leave decreases and their intent to stay increases.

In lieu of looking for new job opportunities or thinking about leaving the organization,

one's commitment to the organization increases, ultimately increasing performance and

reducing the desire to leave (Council, 2004a). The Corporate Leadership Council's

Engagement Model (Figure 4) reflects these interlocking dynamics.
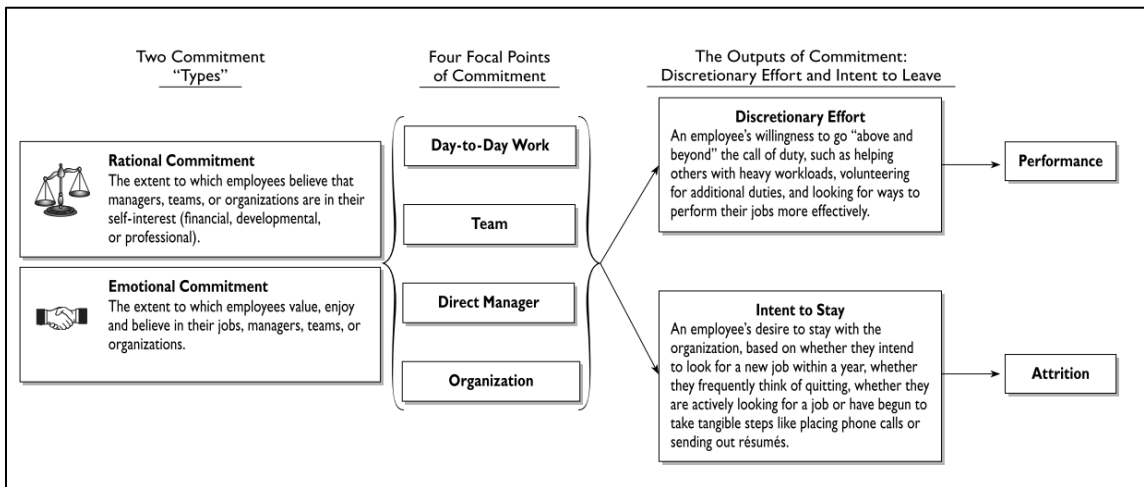
Figure 4. Corporate Leadership Council's engagement model. From "Driving Employee
Performance and Retention through Employee Engagement", by Presented at the
Corporate Leadership Council Teleconference, 2004.

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Gallup Consulting. Since the early 1950s, Gallup has studied work and learning environments to determine the practices that contribute to a positive working environment. During the 1980s, Gallup scientists studied high-performing individuals and teams, including the workplace attitudes and individual attitudes contributing to high performance. By 1990, Gallup researchers had developed the first version of the Q^{12} assessment, using twelve questions designed to measure *attitudinal outcomes* such as satisfaction, loyalty, customer service intent, pride, and intent to stay with the company, as well as *actionable issues* used by management to drive these outcomes. Since 1998 the Q^{12} has been administered to more than seven million employees in 112 different countries (Asplund, 2006).

Gallup's research reveals a positive correlation between employee engagement and critical business outcomes, including a decrease in absenteeism, turnover, shrinkage, safety incidents, and quality defects, as well as positively impacting customer service, organizational productivity, and profitability (Consulting, 2010, 2013). Gallup's research identified twelve workplace practices present in highly productive workplaces. See Figure 5 (Fleming & Asplund, 2007).

Figure 5. Gallup Consulting engagement model. From "Where Employee Engagement Happens", by John Fleming, Ph.D., and Jim Asplund, 2007, *The Gallup Management Journal, 3*(1), p. 1.

Significance of Employee Engagement

Scholars and practitioners have become increasingly interested in understanding workplace practices that bring about positive organizational change (Kim, Kolb, & Kim, 2014). In positive organizational change, engagement has been found to be an essential element, leading to increased performance, productivity, and retention (Consulting, 2013). A number of studies have contributed to the significance of engagement's impact on business outcomes. Gallup's 2012 research confirmed the "well-established connection between employee engagement and nine performance-related outcomes, [including]: customer ratings, profitability, productivity, turnover (for high- and low-turnover organizations), safety incidents, shrinkage (theft), absenteeism, patient safety incidences, and quality (defects)" (Consulting, 2013, p. 22).

To further support the significance of engagement on organizational outcomes, Gallup's 2010 to 2013 research identified three degrees of employee engagement: the engaged, not engaged, and actively disengaged (Consulting, 2013). Their research revealed that *engaged* employees (30% in 2011) demonstrated a passion and connection to their organizations, and were more involved with their colleagues and more committed to their work. Additionally, engaged workers were committed to finding new and improved ways of getting their work done, and they were the only category of workers to create new customers (Consulting, 2013). The *not engaged* employees (52% in 2011) were identified as the most difficult to recognize, as they were neither hostile nor disruptive. They always showed up for work, but spent a good portion of their day wasting time, with little or no regard for customers, productivity, or safety. They had essentially "checked out" (Consulting, 2013). Lastly, the *actively disengaged* employees (18% in 2011) monopolized their managers' time, and had more on-the-job accidents, showed an increase in quality defects, missed more days of work, and contributed to materials shrinkage (Consulting, 2013). In essence, "actively disengaged employees erode an organization's bottom line, while breaking the spirits of colleagues in the process" (p. 1). Actively disengaged employees are estimated to cost business $300 billion annually in lost productivity (Consulting, 2010).

To strengthen the significance of engagement on organizational outcomes, the Corporate Leadership Council's findings indicated that "once in place, engagement accounts for roughly 40% of observed performance improvements" (Council, 2004b, p. 12). These business improvements include increased employee performance and intent to

stay (Council, 2004a). The Leadership Council categorizes engagement levels as follows: the *true believers,* the *agnostics,* and the *disaffected*. Similar to Gallup's findings, engagement categories depicted employee characteristics impacting organizational outcomes.

The Council's 2004 research found that the true believer exhibited strong "emotional and rational commitment to day-to-day work, the manager, the team, and the organization (Council, 2004a, p. 7). True believers (engaged employees) are generally high performing workers. They frequently assist fellow colleagues with the workload and are always looking for better ways to do their work. They are less likely to leave their company and are nine times more apt to stay than those that are disaffected (disengaged) (Council, 2004a). The agnostics can be challenging to identify because they were capable of strong emotional and rational commitment. They are moderately committed to the organization and are mediocre producers who neither go to great lengths to complete a project nor fully ignore their work. The agnostics' intent to stay varies and is dependent upon the level of emotional and rational commitment, which varies depending upon the project (Council, 2004a). Lastly, the disaffected employee may exhibit the same emotional and rational commitments to their work as their counterparts; however, they are the worst performers, and provide only minimal work effort. They are "four times more likely to leave the organization than the average employee, and nine times more likely to leave the organization than the true believers" (Council, 2004a, p. 7).

Deloitte's Global Human Capital Trends 2014 report (2014), rated engagement and retention as "highly urgent" issues for the 21st-centry workforce, second only to the importance of building global leadership, and tying engagement and retention to the social fabric of business. As a result of their findings, Deloitte urged companies to identify and "develop innovative ways to attract, source recruit, and access talent; drive passion and engagement in the workforce" (p. 4).

Gallup's *2013 State of the American Workplace: Employee Engagement Insights for U.S. Business Leaders* report indicated that while the state of our nation's economy has shifted since 2000, the workplace has remained stagnant, with only 30% of the United States workers engaged. This stagnation has resulted in an almost two-thirds actively disengaged workforce (Consulting, 2013). Gallup's literature indicates that a majority of workers are disengaged and not reaching their full potential, having significant implications for the economy and company performance in the United States. Engaged employees make a difference to the bottom line. "Engaged workers are the lifeblood of their organizations …" (Consulting, 2013, p. 9).

> Organizations with an average of 9.3 engaged employees for every actively disengaged employee in 2010-2011 experienced 147% higher earnings per share (EPS) compared with their competition in 2011-2012. In contrast, those with an average of 2.6 engaged employees for every actively disengaged employee experienced 2% lower EPS compared with their competition during the same time period (Consulting, 2013, p. 9).

"Gallup estimates that active disengagement costs the U.S. $450 billion to $550 billion" (Consulting, 2013, p. 9) annually in lost productivity (Daily Caller, 2014).

Characteristics That Foster Engagement

Practitioner literature focuses primarily on engagement from a shared employee and organizational responsibility, while academic literature provides the framework of engagement from the employee's perspective (Robinson, Perryman, & Hayday, 2004). Kahn's literature points directly to the employee's perception of meaningfulness, safety, and availability within the working environment, as the driver of engagement (1990). Schaufeli et al. referred to employee engagement as "a persistent positive affective state of fulfillment in employees, characterized by vigor, dedication and absorption" (W. B. Schaufeli et al., 2002, p. 74). According to Maslach et al., the connection between the employee's role and values, is strengthened when a "sustainable workload, feelings of choice and control, appropriate recognition and reward, a supportive work community, fairness and justice, and meaningful and valued work" are present (Maslach et al., 2001, p. 417).

The Corporate Leadership Council (Council, 2004a) links employee engagement to commitment, stating that "engagement is the extent to which employees commit to something or someone in their organization and how hard they work and how long they stay as a result of that commitment" (p. 3). Employee commitment is further broken into two categories of rational commitment and emotional commitment. Rational commitment is "the extent to which employees believe that managers, teams, or organizations are in their self-interest (financial, developmental, or professional)" (p. 3).

Emotional commitment is describe as "the extent to which employees value, enjoy and believe in their jobs, managers, teams, or organizations" (p. 3).

The 2004 Employee Engagement report (Council, 2004a) identified The Top 50 Levers of Engagement (see Figure 6), categorizing them into six workplace categories:

1. "Organizational Culture and Performance Traits

2. Manager Characteristics

3. Day-to-Day Work Characteristics

4. Areas of Onboarding Focus

5. Learning and Development Opportunities

6. Senior Executive Team Qualities" (p. 41)

The Top 50 Levers of Engagement

	Lever	Impact	Category			Lever	Impact	Category
1.	Connection Between Work and Organizational Strategy	32.8	D		26.	Helps Attain Necessary Information, Resources, and Technology	25.7	M
2.	Importance of Job to Organizational Success	30.3	D		27.	Makes Sacrifices for Direct Reports	25.6	M
3.	Understanding of How to Complete Work Projects	29.8	D		28.	Quality of Informal Feedback	25.6	M
4.	Internal Communication	29.2	O		29.	Career Advisor Effectiveness	25.5	L&D
5.	Demonstrates Strong Commitment to Diversity	28.5	M		30.	Encourages Employee Development	25.4	M
6.	Demonstrates Honesty and Integrity	27.9	M		31.	Persuades Employees to Move in a Desired Direction	25.4	M
7.	Reputation of Integrity	27.6	O		32.	Accurately Evaluates Employee Performance	25.3	M
8.	Adapts to Changing Circumstances	27.6	M		33.	Identifies and Articulates a Long-Term Vision for the Future	25.3	M
9.	Clearly Articulates Organizational Goals	27.6	M		34.	Inspires Others	25.2	M
10.	Possesses Job Skills	27.2	M		35.	Places Employee Interests First	24.8	M
11.	Sets Realistic Performance Expectations	27.1	M		36.	Flexibility	24.7	O
12.	Puts the Right People in the Right Roles at the Right Time	26.9	M		37.	Provides Job Freedom	24.7	M
13.	Helps Find Solutions to Problems	26.8	M		38.	Is Intelligent	24.6	M
14	Breaks Down Projects into Manageable Components	26.7	M		39.	Clearly Communicates Performance Expectations	24.6	M
15.	Accepts Responsibility for Successes and Failures	26.6	M		40.	Appropriately Handles Crisis	24.4	M
16.	Encourages and Manages Innovation	26.5	M		41.	Creates Clear Work Plans and Timetables	24.1	M
17.	Accurately Evaluates Employee Potential	26.3	M		42.	Ability to Obtain Necessary Information	23.9	D
18.	Respects Employees as Individuals	26.1	M		43.	Importance of Projects to Employees' Personal Development	23.8	D
19.	Demonstrates Passion to Succeed	26.0	M		44.	Trusts Employees to do Their Job	23.8	M
20.	Cares About Employees	26.0	M		45.	Clearly Explains Job Importance	23.4	Onb
21.	Has a Good Reputation Within the Organization	26.0	M		46.	Customer Focus	23.2	O
22.	Innovation	26.0	O		47.	Future Orientation	23.1	O
23.	Is Open to New Ideas	25.9	M		48.	Lets Upper Management Know of Employee Effectiveness	23.0	M
24.	Defends Direct Reports	25.8	M		49.	Listens Carefully to Views and Options	23.0	M
25.	Analytical Thinking	25.7	M		50.	Is Open to New Ideas	22.9	Exec

O	Organizational Culture and Performance Traits	D	Day-to-Day Work Characteristics	L&D	Learning and Development Opportunities
M	Manager Characteristics	Onb	Areas of Onboarding Focus	Exec	Senior Executive Team Qualities

Figure 6. Corporate Leadership Council's *Top 50 Levers of Engagement*. From "Driving Employee Performance and Retention through Employee Engagement", Presented by the Corporate Leadership Council Teleconference, 2004.

Since the early 1950s, Gallup has studied work and learning environments and maintains one of the world's most comprehensive employee engagement databases (Consulting, 2010). This historical and comparative database contains data collected by 17 million respondents, in sixty-seven languages, representing 175 countries. Their instrument uses twelve questions designed to measure *attitudinal outcomes* such as satisfaction, loyalty, customer service intent, pride, and intent to stay with the company, as well as *actionable issues* for management, which drive these outcomes (Asplund, 2006; Consulting, 2010).

Over the past five decades Gallup has identified the following workplace characteristics as leading to engagement (Fleming & Asplund, 2007):

1. Opportunities are provided to learn and grow

2. Progress is given on a semi-annual basis

3. I have a best friend at work

4. My coworkers are committed to quality work

5. The company has a mission and purpose

6. My opinions count

7. My manager encourages development

8. My supervisor or someone at work, cares about me

9. I have been given recognition within the past seven days

10. I have opportunities to do what I do best every day

11. I have the materials and equipment I need to get the job done

12. I know what is expected of me at work

Characteristics That Impede Engagement

The best way to identify the characteristics that impede engagement is to look at the workplace characteristics that lead to disengagement. Disengagement occurs when individuals experience disconnect between the workplace characteristics and their personal values and needs. McCauley and Broomfield (2011) found that employees disengage, become indifferent, and emotionally disconnected, when job expectations are not met and role expectations or environment no longer meet the employee's expectations. When a "sustainable workload, feelings of choice and control, appropriate recognition and reward, a supportive work community, fairness and justice, and meaningful and valued work" (Maslach et al., 2001, p. 17) are missing in the workplace, employees disengage. The most common characteristics leading to disengagement include:

- the lack of clear expectations

- the lack of resources to effectively do the job

- the perception that inputs and strengths are not valued

- the perception that one is underpaid, under-utilized, and/or under recognized, and

- the lack of clear communication about company goals and strategies (Barney, 2014)

The consequences of disengagement can be detrimental to the individual. Disengagement may leave the employee overwhelmed and resentful, and increase the

likelihood of mistrust between colleagues and management (McCauley & Broomfield, 2011). When employees no longer believe their manager, team, or organization is interested in their financial, developmental, or professional growth, their commitment to the organization is reduced, resulting in burnout (Council, 2004a; Maslach et al., 2001). Employee burnout occurs when workplace settings such as workload, control, reward, community, fairness, and values, are incongruent with worker expectations (Maslach et al., 2001).

Lastly, the Corporate Leadership Council's research (Council, 2004a) identified fifty of the top levers of engagement. Of the fifty levers mentioned, 72% of these levers were directly related to managerial characteristics, and out of the top twenty, fifteen levers pointed directly to managerial characteristics (Council, 2004a). Employees become disengaged in the absence of strong managerial characteristics such as honesty and integrity, a commitment to diversity, a clear articulation of goals, and care for the welfare of one's employees (Council, 2004a).

Engagement Preferences by Generation

Each generation of workers is motivated by a different set of workplace expectations (Cennamo, 2008; Whitney, 2009). The challenge for leaders is to identify the workplace practices that not only meet these expectations, but lead to increased engagement and subsequent retention of all workers.

Baby boomers are idealistic, optimistic, and believe in success through life-long learning (Elliott, 2009; Weston, 2001). They enjoy the collaborative and teamwork approach with fellow colleagues (Kupperschmidt, 2000; Steinhorn, 2006), and are willing

to contribute a significant amount of time in the office if they believe their contributions

are valued and there is opportunity for advancement (Elliott, 2009; Kupperschmidt,

2000). Career development is important for this generation, as it prepares them for career

advancement and additional responsibilities within the workplace (Jurkiewicz, 2000;

Tulgan, 2004). Engagement research from Towers Perrin (2003), the Corporate

Leadership Council (2004), and Gallup Consulting (2010) support the Boomer's need to

work for an organization that values professional growth and continuous learning. The

Boomer's desire for collaborative working environments also rated high on the list of

workplace practices leading to engagement (Perrin, 2003).

Generation Xers have a more skeptical view of the workplace, as they watched

their parents experience the misfortune of organizational downsizing in the 1980s

(Erickson, 2010). Consequently, this generation tends to be cynical toward institutions

and corporations, with a limited sense of loyalty, resulting in job-hopping for

advancement (Allen, 2004; Erickson, 2010; Jennings, 2000). Engagement research

supports the Xer's concern, reflecting that being fairly compensated for work (Council,

2004a), and a focus on personal welfare (Consulting, 2010; Council, 2004a; Kahn, 1990;

Maslach et al., 2001; Perrin, 2003) as critically important factors to engagement within

the workplace. Being fairly compensated may also positively impact the Xers

engagement level, increase loyalty, and decrease their desire to terminate employment

(Council, 2004a).

The Millennial generation is the fastest growing generation. By 2025 they will

represent 75% of the global workforce (Schawbel, 2013). Deloitte describes this

generation as the most globally-connected and technology-savvy of all generations

(Deloitte, 2014). Millennials are the generation of privilege, as their parents provided

their every need – both allowances and possessions (Strauss & Howe, 2000). This

generation views income as a means to an end, and a way to provide for friends and

family (Burmeister, 2008; Gravett & Throckmorton, 2007). Relationship-building

through teamwork, is a foundational workplace value for the millennial (Burmeister,

2008; Deal, 2007; Gravett & Throckmorton, 2007). For the technically-savvy Millennial,

organizations can increase engagement by providing resources, in the form of tools,

equipment, and materials (technology), to do the job well (Consulting, 2010; Council,

2004a; Perrin, 2003). Research by Towers Perrin (2003) also reported an increase in

employee engagement for organizations in which employees work well in teams,

supporting the Boomer and Millennial's need for collaborative opportunities for decision-

making.

Employee Retention

Understanding the importance of employee retention is possible when the impact

of employee turnover is recognized. "Retention refers to the percentage of your

employees who remain employed by your company" (Mayhew, 2014, p. 2). Turnover

refers to "the percentage of employees who leave the company through involuntary

termination or through resignation, which is called voluntary termination" (p. 2).

Retaining the most qualified employees will be critical as organizations strive to remain

competitive in the marketplace.

Significance of Employee Retention

The topic of employee turnover has been an ongoing challenge for organizations and has received substantial attention from managers focusing to understand the causes in order to develop the workplace practices necessary to mitigate the risks (Ton & Huckman, 2008). Even with substantial focus spent on understanding the causes and subsequent impact, "retention is one of the most poorly managed goals in HR" (Sullivan, 2009, p. 7). Developing workplace practices, leading to engagement, can be vital to an organization's long-term success, by reducing turnover, increasing productivity, and ensuring positive employee morale (Scott, 2014).

The Human Capital Institute (HCI, 2014) places retention at the top of today's list of management concerns. The following statement was published in their most recent findings:

> The true ROI of top talent isn't realized if that talent leaves. Add the significant cost of replacing talent to the loss of skills and institutional knowledge when top performers leave, and the importance of retention becomes even more manifest. These factors, coupled with the rapidly changing demographics of today's workforce as the Baby Boomer generation begins to leave in significant numbers and the Millennial generation makes its presence increasingly felt, demands that savvy leaders understand the dynamics of retaining talent and know how to manage talent with retention as a goal (HCI, 2014, p. 1).

The unrealized cost of lost talent is not the only challenge organizations face. Total costs for turnover vary, depending on the research. Some studies estimate that for

50

every salaried employee lost, the cost to replace can be as much as six to nine months'

the average salary for that employee (Merhar, 2014). Other studies estimate the cost to

be at one-and-a-half to two times the annual salary (Bersin, 2013). Total costs are

difficult to estimate, but are frequently hidden in the following buckets (Bersin, 2013):

- the cost to hire a replacement (advertising, interviewing, and hiring)

- the cost of onboarding (training and management's time)

- lost productivity (1-2 years to reach full productivity potential)

- lost engagement of employees who experience turnover within their
environment

- training costs (approximately 10-20% of an employee's annual salary)

The Relationship between Engagement and Retention

In recent years, human resource professionals have studied the relationship

between employee engagement and retention, and have become increasingly aware of the

costs associated with turnover. As a result, organizations are adopting effective

managerial strategies and workplace practices, in order to increase engagement and

reduce turnover (Deloitte, 2014). Today's employee is continually making choices as to

how committed or engaged they are to their work and organization, carefully weighing

indicators of whether their company is committed to their growth and whether their

personal values align with the company purpose (Deloitte, 2014).

Gallup's 2012 research confirmed the connection between employee engagement

and nine performance-related outcomes, including turnover. They found that engaged

employees were not only less likely to leave their organization, but were twice as likely

to let others know that their company was hiring new workers, than their counterparts who were actively disengaged (Consulting, 2013). Towers Watson found a strong correlation between employee engagement and retention, noting that while 43% of engaged employees have no plans to leave their company, 25% of the disengaged employees were actively looking for a job, and an additional 17% making plans to leave (Watson, 2011).

To further corroborate the positive connection between engagement and retention, the Corporate Leadership Council noted that for every 10% improvement in commitment to one's organization, the employee's probability of leaving decreases by nine percent. Lastly, engaged employees are 87% less likely to leave than those who are actively disengaged (Council, 2004a).

Summary

There are three generations currently contributing in the workplace (Strauss & Howe, 2000). Each generation displays a unique set of workplace expectations and values that are derived from a distinct set of historical contexts (Cennamo, 2008; Whitney, 2009). Baby boomers view their workplace much differently. Boomers display a strong work ethic. They tend to challenge authority, dislike conformity and rules, and question everything. They prefer a collaborative, rather than directive leadership style (P.-J. Chen & Choi, 2008; Kupperschmidt, 2000; Strauss & Howe, 2000). For the Gen Xer, balance is everything. They have high job expectations, crave independence, are confident, and results-driven. Gen Xers are generally unimpressed with authority, but are loyal to a leader who has proven to be competent (Allen, 2004; Erickson, 2010; Jennings,

2000). Lastly, Millennials are the most educated of all generations and are consequently the most confident (Elliott, 2009). They are fiercely independent, diversity focused, and techno-savvy (Deloitte, 2014). Millennials are achievement oriented and comfortable with authority figures (Elliott, 2009). They place high expectations on their managers to mentor them in the attainment of their goals (Elliott, 2009).

In the past twenty years, the information technology profession has grown rapidly, as companies invested in computer systems, and technology became a large part of everyday life (Csorny, 2013). With the increased demand, the number of technology-related positions is expected to increase by 49.3% between 2010 and 2020 (Bureau, 2010). An increasing number of management opportunities will also become available (Csorny, 2013). At the same time, baby boomers will be vacating these positions for retirement, and will leave a significant gap in leadership (K. Ball, 2011). It will be imperative to retain highly qualified millennials to ensure continuity and growth of contribution to that generation.

Literature provides evidence substantiating the positive correlation between engagement and retention in the workplace (Consulting, 2013; Council, 2004a). As employee engagement increases, employee willingness to go "above and beyond" the call of duty increases, as well as their desire to stay with the organization (Council, 2004a). Identifying engagement practices considered most important for every generation of information technology professional will be critical as organizations strive to retain these workers, in an effort to remain competitive in the marketplace.

The information in this chapter focused on the literature surrounding generational differences, as well as information technology and the evolution and future growth of the profession. The chapter defined employee engagement and provided an overview of theories and models, and outlined the characteristics that foster and impede engagement, as well as the positive impact engagement plays in the retention of workers.

CHAPTER III: METHODOLOGY

The intent of this study was to understand the workplace engagement practices that influenced the information technology workers' decision to remain employed with their organization. With an increased focus on the importance of information technology, coupled with the impending mass exodus of baby boomers, organizations will be required to implement practices that *increase engagement* to ensure retention of both the Gen X and, increasingly, the millennial information technology worker to fill the knowledge and skills gap as they move into leadership roles and significantly impact organizational practices. One of the most prominent challenges that leaders will face during this change, will be to create and sustain cultures that *attract, reward,* and *retain* the most qualified information technology workers.

This chapter begins with the purpose of the study, followed by the research questions. The research design, the population and sample selected, instrument selection and use – including the instrument's reliability and validity, are also outlined. The procedures for data collection, statistical analysis, and limitations for the study conclude this chapter.

Purpose of the Study

The purpose of this quantitative study was to identify the employee engagement practices that millennial IT workers perceive as most important to retention. The secondary purpose of the study was to determine whether a significant difference exists between the engagement practices that appeal to millennial IT worker and the

engagement practices that appeal to the remaining IT working groups, which include the baby boomers, and generation X.

Research Questions

1. What are the engagement practices that the millennial generation of IT workers perceive as most important to retention?

2. What are the engagement practices that the baby boomer generation of IT workers perceive as most important to retention?

3. What are the engagement practices that the generation X generation of IT workers perceive as most important to retention?

4. What is the difference between the engagement practices considered most important to retention by the millennial IT worker compared to the engagement practices considered most important by the baby boomer IT worker?

5. What is the difference between the engagement practices considered most important to retention by the millennial IT worker compared to the engagement practices considered most important by the generation X IT worker?

Research Design

A quantitative, descriptive, survey-based research method was chosen for this study. The quantitative approach provides objectivity by using numbers and statistics to describe an important phenomenon (Krathwohl, 1998). The quantitative method is most practical for this research because quantitative designs are frequently adopted to test theory (Creswell, 2009). Additionally, quantitative studies "can range from formal large-

scale systems developed in academic disciplines to informal hunches or speculations from laypersons, practitioners or participants in the research" (Robson, 2002, p. 61).

According to McMillan and Schumacher, the descriptive design is a simple quantitative design that "provides a summary of an existing phenomenon by using numbers to characterize individuals or groups" (McMillan, 2010, p. 22); assessing the very nature of existing conditions. Additionally, Krathwohl (1998) refers to the descriptive design as the natural process in contrasting two or more groups.

Quantitative research can be either experimental or nonexperimental in nature. Experimental designs include the introduction of an intervention to determine cause-and-effect of the intervention on outcomes. Nonexperimental designs examine the relationships between different phenomena, without intervention or manipulation (McMillan, 2010). For the purpose of this study, the nonexperimental design was used to identify the employee engagement practices that millennial IT workers perceived as most important to retention, and to determine whether a difference exists between the engagement practices that appeal to the millennial IT worker and the engagement practices that appeal to remaining IT working groups, which include baby boomers, and generation Xers. The nonexperimental design was chosen, as no treatments were administered to determine cause-and-effect relationships and research was collected without manipulation of participant environments (McMillan, 2010; Patten, 2012).

An online survey was used to collect numeric data, in an unbiased and accurate manner, from a sample of individuals, with the purpose of applying these results to a general population (Creswell, 2009; Glesne, 2006).

Population and Sample

A population is a group of individuals "that conform to a specific criteria and to which we intend to generalize the results of the research" (McMillan, 2010, p. 129). Creswell defines a population as a "group of individuals having one characteristic that distinguishes them from other groups" (Creswell, 2008, p. 359). The group may also be referred to as a target population, or the survey population, which is a subset of the target population (McMillan, 2010). For this study, the population was three generations of information technology workers. The three generations that participated in this study were: (1) the baby boomers (born between 1943 and 1960), (2) generation Xers (born between 1961 and 1981), and (3) millennials (born between 1982 and 2004) (Strauss & Howe, 2000).

The U.S. Bureau of Labor Statistics divides information technology occupations into two categories – management and administration of computer systems and related services, and those occupations that design and provide information technology services (Bureau, 2013). Computer occupations account for more than half of all the technology industry, with a large portion of these positions held by managers, administrative workers, and business workers that support the industry (Csorny, 2013). Technology support roles include accountants, auditors, customer service representatives, and office managers. While these roles are not directly related to computer design and services, they play a significant role in supporting information technology, and represented 2.478 million workers in 2010 (Bureau, 2010; Csorny, 2013).

A sample population, as defined by Creswell (2008), is a "subgroup of the target population that the researcher plans to study for the purpose of making generalizations of the target population" (p. 646). Sampling allows the researcher to select a small number of units from a population, and from that population make reliable inferences about the characteristics of the general population (Krathwohl, 2004). Purposive sampling was used for this study, and participants were selected based on specific characteristics (Babbie, 2001). The researcher invited all members belonging to the Southwestern Region of the Association of Information Technology Professionals (AITP) to participate in the study. Members belonging to AITP represent every sector of industry and occupational category within information technology. The Southwestern Region is comprised of chapters located in Arizona, California, and Nevada. Table 2 identifies the AITP Chapter locations and total members for each chapter.

Table 2

Membership information for the AITP Southwestern Region 2014

Chapter Locations	Total Members
Arizona	
Phoenix	12
California	
Los Angeles	55
San Diego	72
Southland	20
Nevada	
Las Vegas	32
Region 1 (Independent from a Chapter)	16
Total Memberships	207

The sample included a total of 207 participants and used a 95% confidence level to generalize the sample to the population. The confidence level was determined using the following formula: $1/\sqrt{}$ where N is the number of participants. The researcher used an online sample-size calculator from Creative Research Systems, using a confidence level of 95%, with a .5 confidence interval. Sample size was determined to be 135 participants. The sample size calculation is indicated in Figure 7.

Determine Sample Size

Confidence Level: ● 95%   ○ 99%
Confidence Interval: 5
Population: 207

[Calculate]   [Clear]

Sample size needed: 135

Figure 7. Sample size calculator from Creative Research Systems.

Instrumentation

Instruments can be administered in a variety of ways including a questionnaire, an observation, a test, a checklist, an assessment, or any other method of collecting and assessing data (Creswell, 2008). The tool selected for the purpose of this research was an online survey (See Appendix A). Online surveys allow participants the flexibility of accessing the instrument from any location or time zone, and ensure that the same instrument is available to all participants. The online survey approach provides anonymity for participants, as well as convenience, by allowing participants to complete the instrument on his or her own time (Creswell, 2008).

The survey instrument used for this research was developed by the researcher and included ratable statements that aligned to workplace practices reflected in research to be instrumental in the engagement and retention of employees. Data was collected from five studies, spanning twenty years of engagement research. William Kahn's 1990 engagement framework was built on common themes of engagement and disengagement, noting that there were three factors that influenced one's degree of meaningfulness - the perceived value of one's position, projects completed, and the alignment of these projects to personal goals (Kahn, 1990). Maslach et al. (2001) introduced the connection between job burnout and disengagement. Their findings resulted in the theory that burnout resulted in the absence of job engagement. In 2003 Towers Perrin published their 2003 Talent Report, linking increased engagement to financial performance, revenue growth, and turnover (Perrin, 2003). In 2004 the Corporate Leadership Council published findings that aligned engagement practices with drivers of rational and emotional commitment to the job, workplace, manager, and organization (Council, 2004a). Gallup's 2010 research findings revealed a positive correlation between employee engagement and critical business outcomes, including decreased turnover, increased job productivity, and performance (Consulting, 2010).

The data from these studies revealed an overlap of a number of key workplace practices, including (1) having someone at work care about me; (2) having the opportunity to do what I do best every day; (3) being part of an organization where the mission and purpose makes me feel my job is valued; (4) having the opportunity to do what I do best every day; and (5) continuing to have opportunities at work to learn and

grow. A total of eighteen workplace practices were identified as leading to increased

engagement and used in this instrument. Table 3 demonstrates the relationship between

the research questions to literature.

Table 3

Relevance of Research Questions to Literature

Question and Authors	Corporate Leadership Council (2004)	Gallup Consulting (2010)	Kahn (1990)	Maslach et al. (2001)	Towers Perrin (2003)
1. Having a clear understanding of my roles and responsibilities		X			
2. Having the resources (tools, equipment, materials) to work well	X	X	X		X
3. Being given appropriate decision-making authority					X
4. Having the ability to leverage my skills and abilities	X	X	X		
5. Receiving regular acknowledgement for positive contributions		X		X	
6. Being fairly compensated for the work that I do	X				
7. Knowing my company cares about customer satisfaction	X				X
8. Knowing my welfare is important to someone at work	X	X	X	X	X
9. Having a colleague support my professional growth	X	X			X
10. Being given challenging work					X
11. Knowing my opinion is valued		X			
12. Working for an organization whose mission and values place importance on my work	X	X	X		X
13. Working with people who value quality		X			
14. Being part of an organization where employees work well in teams					X

Table 3 *(continued)*

15. Having a confidant in the workplace		X	X		
16. Receiving constructive and timely feedback		X			
17. Working for an organization that values professional growth and continuous learning	X	X			X
18. Having opportunities to work with a mentor	X				

The survey was organized into three sections: (1) an overview of the study and a consent form, followed by (2) eighteen questions that directly related to the research questions, and lastly (3) the demographic breakdown of the participants. The first eighteen survey questions included Likert type scale options that ranged from 1 (least important) to 6 (most important). The nineteenth question asked the participants to identify the generation to which they belonged, by selecting one of the following: (a) Baby Boomer (born between 1943 and 1960), (b) generation X (born between 1961 and 1981), or (c) Millennial (born between 1982 and 2004).

The invitation was extended to all members belonging to the Southwestern Region of the Association of Information Technology Professionals (AITP) inviting them to participate in the study. Members belonging to AITP represent every sector of industry and occupational category within information technology.

The researcher worked closely with the Region 1 President of the Association of Information Technology (AITP), and with the members of the AITP Executive Committee to gain access, via email communication, to Region 1 AITP Members. The AITP members were invited to participate through a series of email communications generated by the Executive Director of AITP.

The participant was asked to read the consent and either agree or decline participation (see Appendix B). If the participant agreed, they were directed to complete the online survey.

The online survey was developed and administered through Survey Monkey, a web-based survey tool. The survey collected data about engagement practices that

influenced the information technology worker's decision to remain employed with their organization.

Instrument Validity and Reliability

A study's instrument must be valid and reliable for the study to be valid (Cox & Cox, 2008; Creswell, 2008). For purposes of this study, a survey was used. A survey provides a way for a researcher to collect information from participants utilizing a "user-friendly, similarly worded, set of sequential questions" (Cox & Cox, 2008, p. 9). The survey was well-designed and included simple instructions, with clearly-worded and relevant questions, and was conveniently administered through an online survey tool, Survey Monkey. The process was easy for the participants to understand and complete (Cox & Cox, 2008; Roberts, 2010).

The reliability of an instrument is evidenced when the instrument provides "consistent responses over time, assuming no intervention" (Cox & Cox, 2008, p. 39). The reliability and validity of the instrument was determined by field experts. A field-test was conducted in August 2014, and included three professionals holding either a PhD or EdD degree. As recommended by Roberts, field-testing of the instrument included participants who were similar to those who would be involved in the study (information technology workers); however, these participants were not involved in the final study (2010). The survey field-test was administered to a group of information technology workers that were not members of the Association of Information Technology Professionals. The field-test was administered to ensure that the questions accurately reflected the workers' perceptions of the workplace engagement practices that were

influential to retention. Additionally assessed were the survey's ease of completion, clarity of wording, and relevance and appropriateness of the questions. After completion of the field-test, no questions were changed prior to sending the instrument to the final recipients.

Confidentiality of Participants and Data

Ensuring participant confidentiality is paramount when conducting a study (McMillan, 2010) "Confidentiality means that no one has access to individual data or the names of the participants except the researcher(s), and that the subjects know before they participate who will see the data" (p. 122). Confidentiality ensures that data cannot be linked to any one individual. There are a variety of ways that confidentiality is accomplished, including (a) collecting data anonymously via online survey format, (b) using software that allows for the destruction of names linked to data, (c) requesting participants to use alias names, and (d) reporting data by group rather than individual results (McMillan, 2010).

Throughout the study, the researcher ensured the confidentiality of data by keeping all information password protected on a personal computer (Creswell, 2008; Krathwohl, 2004). To ensure confidentiality of data shared with the dissertation committee, the data was free of participant personal information (Creswell, 2008). Data coding was utilized to measure nominal and ordinal values from data collected (Hay, 2005). The manner in which data was collected and stored ensured the ethical treatment of participants' by the researcher, doctoral chair, and committee members (Creswell, 2008; Krathwohl, 2004).

Data Collection Procedures and Timeline

On September 18, 2014 the researcher received contingent approval from Brandman University's Institutional Review Board (IRB) (Appendix C). IRB requested that three items be address prior to receiving final approval. The items additional items requested included: (1) an addition of the Participant's Bill of Rights verbiage within the survey; (2) an agreement of participation for AITP; and (3) the submission of a final copy of the instrument that would be administered to participants.

The researcher contacted the AITP Region 1 President and the members of the AITP Executive Committee via email, requesting approval to gather information from Region 1 members of the Association of Information Technology Professionals (AITP). The researcher forwarded the following documents with the request to the AITP Executive Committee on September 23, 2014: (1) Brandman University IRB Approval Letter; (2) Survey Instrument (Appendix A), and Communication Verbiage (Appendix B).

On September 24, 2014, the AITP Executive Committee approved the research study subject to a slight modification to the original survey which included an option for participation in a weekly incentive-to-participate drawing. The original survey included a graduated incentive payout schedule of $150 for week one; $75 for week two; and $50 for week three. Participants were asked to provide their name, email, and mailing address information immediately following the completion of the survey if they chose to participate in the weekly drawing. The AITP Executive Committee requested that the *incentive to participate* verbiage be moved to the beginning of the on-line survey, and

that the contact information be reduced to participant name and *one* form of contact only; email or phone number. The researcher modified the survey instrument as requested by the Committee, and forwarded the changes for a follow-up review at the October 2014 AITP Executive Committee meeting.

On October 29, 2014 the AITP Executive Committee awarded final approval via email, to commence with data collection. The researcher received a final approval letter from the AITP Executive Committee on November 14, 2014 (See Appendix D). The researcher then forwarded the final approval letter, updated survey instrument verbiage to include the Participant's Bill of Rights, to Brandman University's IRB Committee for review. The researcher received final approval from Brandman University's IRB on November 22, 2014 (See Appendix E). The researcher partnered with the AITP Executive Director to distribute the instrument using a three-consecutive-week invitation schedule, commencing on Monday, December 1, 2014.

At the end of the three-week data-gathering timeframe, the researcher and dissertation chair agreed to continue with additional data collection after the Winter holiday break (December 21, 2014 through January 4, 2015). This decision was made with the hopes of increasing the total number of participants. After the initial three-week period, only 29 responses had been received. Arrangements were made, and approval received from AITP Headquarters, to continue the data collection for an additional three-week period beginning on Monday, January 5. The incentive-to-participate dollar amount was reduced to a one-time drawing of $50 at the end of the three week period.

Data collection ended on Friday, January 23, at midnight, resulting in a total of 48

participants over an eight-week period.

To ensure confidentiality, the demographic data collected by the researcher did

not include information that could be used to identify any of the participants. Access to

the survey data was password protected, and access was only available to the researcher,

the dissertation chair, and committee members. The survey that was sent to participants,

asked the participants to identify the employee engagement practices that they perceived

as most important to retention.

Statistical Analysis – Analysis of Data

The analysis procedures used in this study were statistical analysis and inferential

statistics. *Inferential statistics* allow the researcher to infer certain characteristics of a

population onto the sample population of study (Krathwohl, 1998). The descriptive

method was used to gather the "general tendencies (mean, mode, and median), and the

spread of scores (variance, standard deviation, and range)" (Creswell, 2008, p. 190). An

independent sample *t* test was used for the study.

Limitations

Limitations are expected with any research. Limitations are features of the study

that may "negatively affect the results of your ability to generalize" (Roberts, 2010, p.

162). It is expected that a researcher recognize and report limitations of a study. By

doing so, the researcher allows the reader to determine the degree to which the limitations

might affect the study (Creswell, 2008; Roberts, 2010). Noting the limitations also

provides other researchers who replicate the study, clear and understandable limitations to ensure original data collection can be trusted (Creswell, 2008).

The following are limitations of this study:

1. This survey includes respondents located in the southwestern region of the United States – Arizona, California, and Nevada. Although the locations are vastly different, and likely include vastly different perceptions, it is possible to have different results from other geographical locations.

2. The researcher collected data in the last month of 2014 and the first 3 weeks of 2015. If the survey is collected again in the future, the culture of organizations will likely change.

3. The results are based on only those who agree to participate. If others participated, the outcome would have been different.

4. The respondents were members with the Association of Information Technology Professionals (AITP). The results may be different if administered to other technology workers not belonging to AITP.

5. The respondents work in different workplace environments. Responses are likely to be different depending on workplace environment.

6. The researcher was not able to have direct access to AITP members, relying upon the AITP representative for the disbursal of all communication. Had the researcher had direct access, additional communication and invitations would have been generated.

7. The time of year that the study took place likely negatively impacted returns. The study was conducted during the month of December and the first three weeks of January. It is likely that a focus on the holidays by the potential participants negatively impacted the response rate.

8. The response rate from the millennial IT workers was low and may have skewed the millennial data.

9. The sample size was too small to make any substantial generalizations about the results.

Summary

Chapter III of this study explained the methodology, purpose of the study, research questions, and design of the study. The chapter also included an explanation of the population and sample, the instrument used with data collection, and the instrument validity and reliability. Additionally, the chapter discussed the method of data collection, the timeline used, and statistical analysis of data. The chapter concluded with the limitations of the study. Chapter IV will provide analysis of the data.

CHAPTER IV: RESEARCH, DATA COLLECTION, AND FINDINGS

Chapter IV begins with an overview of the purpose of the study, the research questions, the methodology, and the population and sample used for the study. The chapter also includes a presentation of quantitative data analysis for each of the five research questions, and ends with a summary of the data analysis. The intent of the study was to understand the workplace engagement practices that influence the information technology workers' decision to remain employed with their organization. Additionally, the study explored the generational differences of workplace engagement practices that influence retention.

Purpose of the Study

The purpose of this quantitative study was to identify the employee engagement practices that millennial IT workers perceive as most important to retention. The secondary purpose of the study was to determine whether a significant difference exists between the engagement practices that appeal to millennial IT workers and the engagement practices that appeal to the remaining IT working groups, which include the baby boomers, and generation X.

Research Questions

1. What are the engagement practices that the millennial generation of IT workers perceive as most important to retention?

2. What are the engagement practices that the baby boomer generation of IT workers perceive as most important to retention?

3. What are the engagement practices that the generation X generation of IT workers perceive as most important to retention?

4. What is the difference between the engagement practices considered most important to retention by the millennial IT worker compared to the engagement practices considered most important by the baby boomer IT worker?

5. What is the difference between the engagement practices considered most important to retention by the millennial IT worker compared to the engagement practices considered most important by the generation X IT worker?

Methodology

This research employed the quantitative, descriptive, survey-based research method for this study. The quantitative approach provides objectivity by using numbers and statistics to describe an important phenomenon (Krathwohl, 1998). The quantitative method is most practical for this research because quantitative designs are frequently adopted to test theory (Creswell, 2009). Additionally, quantitative studies "can range from formal large-scale systems developed in academic disciplines to informal hunches or speculations from laypersons, practitioners or participants in the research" (Robson, 2002, p. 61).

According to McMillan and Schumacher, the descriptive design is a simple quantitative design that "provides a summary of an existing phenomenon by using numbers to characterize individuals or groups" (McMillan, 2010, p. 22); assessing the very nature of existing conditions. Additionally, Krathwohl (1998) refers to the descriptive design as the natural process in contrasting two or more groups.

Quantitative research can be either experimental or nonexperimental in nature. Experimental designs include the introduction of an intervention to determine cause-and-effect of the intervention on outcomes. Nonexperimental designs examine the relationships between different phenomena, without intervention or manipulation (McMillan, 2010). For the purpose of this study, the nonexperimental design was used to identify the employee engagement practices that millennial IT workers perceive as most important to retention, and to determine whether a difference exists between the engagement practices that appeal to the millennial IT worker and the engagement practices that appeal to remaining IT working groups, which include baby boomers, and generation Xers. The nonexperimental design was chosen, as no treatments were administered to determine cause-and-effect relationships and research was collected without manipulation of participant environments (McMillan, 2010; Patten, 2012).

The researcher designed a survey to collect information related to the relationship of engagement practices in the workplace as they relate to retention. An online survey collected numeric data, in an unbiased and accurate manner, from a sample of individuals, with the purpose of applying these results to a general population (Creswell, 2009; Glesne, 2006).

On September 18, 2014, the researcher received contingent approval from Brandman University's Institutional Review Board (IRB) (Appendix C). IRB requested that three items be addressed prior to receiving final approval. The additional items requested included: (1) an addition of the Participant's Bill of Rights verbiage within the

survey; (2) an agreement of participation for AITP; and (3) the submission of a final copy of the instrument that would be administered to participants.

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On October 29, 2014, the AITP Executive Committee awarded final approval via email to commence with data collection. The researcher received a final approval letter from the AITP Executive Committee on November 14, 2014 (See Appendix D). The researcher then forwarded the final approval letter, updated survey instrument verbiage to include the Participant's Bill of Rights, to Brandman University's IRB Committee for review. The researcher received final approval from Brandman University's IRB on November 22, 2014 (See Appendix E). The researcher partnered with the AITP Executive Director to distribute the instrument using a three-consecutive-week invitation schedule, commencing on Monday, December 1, 2014.

At the end of the three-week data-gathering timeframe, the researcher and dissertation chair agreed to continue with additional data collection after the Winter holiday break (December 21, 2014 through January 4, 2015). This decision was made with the hopes of increasing the total number of participants. After the initial three-week period, only 29 responses had been received. Arrangements were made, and approval received from AITP Headquarters, to continue the data collection for an additional three-week period beginning on Monday, January 5. The incentive-to-participate dollar amount was reduced to a one-time drawing of $50 at the conclusion of the three week period. Data collection ended on Friday, January 23, at midnight, resulting in a total of 48 participants over an eight-week period.

To ensure confidentiality, the demographic data collected by the researcher did not include information that could be used to identify any of the participants. Access to the survey data was password protected, and access was only available to the researcher,

the dissertation chair, and committee members. The survey that was sent to participants, asked the participants to identify the employee engagement practices that they perceived as most important to retention.

Population and Sample

A population is a group of individuals "that conform to a specific criteria and to which we intend to generalize the results of the research" (McMillan, 2010, p. 129). Creswell defines a population as a "group of individuals having one characteristic that distinguishes them from other groups" (Creswell, 2008, p. 359). The group may also be referred to as a target population, or the survey population, which is a subset of the target population (McMillan, 2010). For this study, the population was three generations of information technology workers. The three generations that participated in this study were: (1) the baby boomers (born between 1943 and 1960), (2) generation Xers (born between 1961 and 1981), and (3) millennials (born between 1982 and 2004) (Strauss & Howe, 2000).

A sample population, as defined by Creswell (2008), is a "subgroup of the target population that the researcher plans to study for the purpose of making generalizations of the target population" (p. 646). Sampling allows the researcher to select a small number of units from a population, and from that population make reliable inferences about the characteristics of the general population (Krathwohl, 2004). Purposive sampling was used for this study, and participants were selected based on specific characteristics (Babbie, 2001).

A total of 207 AITP members received the invitation to participate. Forty-eight (n=48) participants responded, representing a response rate of 28%. Out of the 48 participants that responded, four sets of participant data were removed, as they did not respond to the question related to generation. This resulted in a final participant count at 44 (n=44), or 21% of the total population invited to participate.

From the total of forty-four participants, *sixteen* (n=16) were from the baby boomer generation, representing 36% of the total respondents. The largest responding group was generation X; with a total of *twenty-three* (n=23) respondents, representing 52% of the total respondents. Lastly, a total of *five* (n=5) responses were received from the millennial generation, representing 11% of the total respondents.

The researcher was unable to communicate directly with the participants, but partnered with the AITP Region 1 President to initiate additional endorsement of participation. The Southland Chapter President, San Diego Chapter Marketing Director, and a Phoenix Chapter representative also provided support via follow-up emails to their respective chapters (see Appendix F)

The total response rate was 21%. Research conducted by Visser, Krosnick, Marquette, and Curtin (1996) revealed that surveys with lower response rates have a higher accuracy rate than those with higher response rates. Several studies indicate that response rates lower the 20% have no effect on the accuracy of results for a study (Curtin, Presser, & Singer, 2000; Holbrook, Krosnick, & Pfent, 2007; Keeter, Kennedy, Dimock, Best, & Craighill, 2006).

Demographic Data

The participants chosen for this research belonged to the Southwestern Region of the Association of Information Technology Professionals (AITP). Members belonging to AITP represent every sector of industry and occupational category within information technology. The Southwestern Region is comprised of members located in Arizona, California, and Nevada. The Southwestern Region has a total of 207 members. (Table 2 from Chapter III provided here for convenience)

Table 2

Association of Information Technology Professionals Southwestern Region 2014

Chapter Locations	Total Members
Arizona	
Phoenix	12
California	
Los Angeles	55
San Diego	72
Southland	20
Nevada	
Las Vegas	32
Region 1 (Independent from a Chapter)	16
Total Memberships	207

Findings Reported by Research Question

A quantitative, descriptive, survey-based research method was chosen for this study. The quantitative survey data was interpreted using descriptive statistics (means and standard deviations).

Research Question 1. What are the engagement practices that the millennial generation of IT workers perceive as most important to retention?

The first research question was answered by asking millennial IT workers to rate the importance of a list of 18 statements about engagement practices perceived to be important to retention. The instrument used a 6-point Likert type scale that ranged from "1" (least important) to "6" (most important).

Mean scores for the 18 statements were calculated and arranged in order by descending mean in Table 4. The researcher also presented the standard deviation for each of the 18 statements. The standard deviation shows the variation from the mean. When a standard deviation shows zero, all participants responded the same. A smaller standard deviation shows the participants had less variation in their answers, and the larger standard deviations show the ratings to be spread among the responses. Table 4 reflects the descriptive data statistics for the millennial IT workers.

Table 4

Descriptive Statistics for Millennial IT Workers (n = 5)

Engagement Statement	*M*	*SD*
S17. Working for an organization that values professional growth and continuous learning	6.0	.00
S2. Having the resources (tools, equipment, materials) to do work well	5.6	.55
S6. Being fairly compensated for the work that I do	5.6	.55
S9. Having a colleague support my professional growth	5.6	.58
S18. Having opportunities to work with a mentor	5.6	.55
S1. Having a clear understanding of my roles and responsibilities	5.4	.89

Table 4 *(continued)*

	Engagement Statement	*M*	*SD*
S3.	Being given appropriate decision-making authority	5.4	.55
S8.	Knowing my welfare is important to someone at work	5.4	.58
S13.	Working with people who value quality	5.4	.55
S7.	Knowing my company cares about customer satisfaction	5.2	.84
S11.	Knowing my opinion is valued	5.2	.48
S14.	Being part of an organization where employees work well in teams	5.2	.48
S16.	Receiving constructive and timely feedback	5.2	.45
S4.	Having the ability to leverage my skills and abilities	5.0	.71
S10.	Being given challenging work	5.0	.00
S5.	Receiving regular acknowledgement for positive contributions	4.8	.48
S12.	Working for an organization whose mission and values place importance on my work	4.8	.48
S15.	Having a confidant in the workplace	4.4	1.34

The researcher predetermined that engagement practices rated as a "5" or "6" to be *most important* to retention. Those engagement practices rated as "3" and "4" were determined to be *moderately important* to retention. Lastly, engagement practices rated as "1" or "2", were determined to be *least important* to retention. As illustrated in Table 4, five (*n*=5) millennial participants responded with fifteen out of the eighteen engagement practices as being *most important*. The five highest scoring engagement practices (those with mean importance scores between 5.5 and 6.0) to the millennial IT worker were:

- "Working for an organization that values professional growth and continuous learning" (Mean score of 6.0 for *all* respondents),

- "Having the resources (tools, equipment, materials) to do work well" (mean score of 5.6),

- "Being fairly compensated for the work that I do" (mean score of 5.6),

- "Having a colleague support my professional growth" (mean score of 5.6), and

- "Having opportunities to work with a mentor" (mean score of 5.6).

The remaining ten statements ranked by millennials as *most important* include the following (ranked highest mean score to lowest mean score):

- "Having a clear understanding of my roles and responsibilities" (mean score of 5.4)

- "Being given appropriate decision-making authority" (mean score of 5.4),

- "Knowing my welfare is important to someone at work" (mean score of 5.4),

- "Working with people who value quality" (mean score of 5.4),

- "Knowing my company cares about customer satisfaction" (mean score of 5.2,

- "Knowing my opinion is valued" (mean score of 5.2),

- "Being part of an organization where employees work well in teams" (mean score of 5.2),

- "Receiving constructive and timely feedback" (mean score of 5.2),

- "Having the ability to leverage my skills and abilities" (mean score of 5.0), and

- "Being given challenging work" (mean score of 5.0).

There were three engagement practices rated as only *moderately important* (between 3 and 5) in leading to retention in the workplace for the millennial IT worker. These statements represented the lowest ratings from millennial respondents:

- "Receiving regular acknowledgement for positive contributions" (mean score of 4.8),

- "Working for an organization whose mission and values place importance on my work (mean score of 4.8), and

- "Having a confidant in the workplace" (mean score of 4.4).

Research Question 2. *What are the engagement practices that the baby boomer generation of IT workers perceive as most important to retention?*

The second research question was answered by asking baby boomer IT workers to rate the importance of a list of 18 statements about engagement practices perceived to be important to retention. The instrument used a 6-point Likert type scale that ranged from "1" (least important) to "6" (most important).

Mean scores for the 18 statements were calculated and arranged in order by descending mean in Table 5. The researcher also presented the standard deviation for each of the 18 statements. The standard deviation shows the variation from the mean. When a standard deviation shows zero, all participants responded the same. A smaller standard deviation shows the participants had less variation in their answers, and the larger standard deviations show the ratings to be spread among the responses. Table 5 reflects descriptive data statistics for the baby boomer IT workers.

Table 5

Descriptive Statistics for Baby Boomer IT Workers (n = 16)

Engagement Statement	*M*	*SD*
S1. Having a clear understanding of my roles and responsibilities	5.8	.54
S4. Having the ability to leverage my skills and abilities	5.6	.62
S13. Working with people who value quality	5.6	.81
S2. Having the resources (tools, equipment, materials) to do work well	5.5	.63
S6. Being fairly compensated for the work that I do	5.5	.52
S11. Knowing my opinion is valued	5.4	.73
S12. Working for an organization whose mission and values place importance on my work	5.4	.81
S17. Working for an organization that values professional growth and continuous learning	5.4	.81
S7. Knowing my company cares about customer satisfaction	5.3	.60
S3. Being given appropriate decision-making authority	5.2	.91
S10. Being given challenging work	5.2	.91
S16. Receiving constructive and timely feedback	5.2	.93
S5. Receiving regular acknowledgement for positive contributions	5.1	.96
S8. Knowing my welfare is important to someone at work	5.1	.85
S14. Being part of an organization where employees work well in teams	5.0	.89
S9. Having a colleague support my professional growth	4.5	1.03
S18. Having opportunities to work with a mentor	4.5	.73
S15. Having a confidant in the workplace	4.1	.96

The researcher predetermined that engagement practices rated as a "5" or "6" to be *most important* to retention. Those engagement practices rated as "3" and "4" were determined to be *moderately important* to retention. Lastly, engagement practices rated as "1" or "2" were determined to be *least important* to retention. As illustrated in Table 5, sixteen (*n*=16) baby boomer participants responded with fifteen out of the eighteen engagement practices as being *most important*. The highest scoring sets of engagement practices (those with mean importance scores between 5.4 and 5.8) to the baby boomer IT worker were:

- "Having a clear understanding of my roles and responsibilities" (mean score of 5.8),

- "Having the ability to leverage my skills and abilities" (mean score of 5.6),

- "Working with people who value quality" (mean score of 5.6),

- "Having the resources (tools, equipment, materials) to do work well" (mean score of 5.5), and

- "Being fairly compensated for the work that I do" (mean score of 5.4).

- "Knowing my opinion is valued" (mean score of 5.4),

- "Working for an organization whose mission and values place importance on my work" (mean score of 5.4),

- "Working for an organization that values professional growth and continuous learning" (mean score of 5.4),

Note that there were four items rated by baby boomers with mean importance

scores of 5.4.

The remaining seven statements ranked by baby boomers as *most important* include the following (ranked highest mean score to lowest mean score):

- "Knowing my company cares about customer satisfaction" (mean score of 5.3),

- "Being given appropriate decision-making authority" (mean score of 5.2),

- "Being given challenging work" (mean score of 5.2),

- "Receiving constructive and timely feedback" (mean score of 5.2),

- "Receiving regular acknowledgement for positive contributions" (mean score of 5.1),

- "Knowing my welfare is important to someone at work" (mean score of 5.1), and

- "Being part of an organization where employees work well in teams" (mean score of 5.0).

There were three engagement practices rated as only *moderately important* (between 3 and 5) in leading to retention in the workplace for the baby boomer IT worker. These statements represented the lowest ratings for baby boomer respondents:

- "Having a colleague support my professional growth" (mean score of 4.5),

- "Having opportunities to work with a mentor" (mean score of 4.5), and

- "Having a confidant in the workplace" (mean score of 4.1).

Research Question 3. *What are the engagement practices that the generation X generation of IT workers perceive as most important to retention?*

The third research question was answered by asking generation X IT workers to rate the importance of a list of 18 statements about engagement practices perceived to be important to retention. The instrument used a 6-point Likert type scale that ranged from "1" (least important) to "6" (most important).

Mean scores for the 18 statements were calculated and arranged in order by descending mean in Table 6. The researcher also presented the standard deviation for each of the 18 statements. The standard deviation shows the variation from the mean. When a standard deviation shows zero, all participants responded the same. A smaller standard deviation shows the participants had less variation in their answers, and the larger standard deviations show the ratings to be spread among the responses. Table 6 reflects descriptive data statistics for the generation X IT workers.

Table 6

Descriptive Statistics for Generation X IT Workers (n = 16)

	Engagement Statement	M	SD
S4.	Having the ability to leverage my skills and abilities	5.5	.66
S2.	Having the resources (tools, equipment, materials) to do work well	5.3	.70
S13.	Working with people who value quality	5.3	.77
S6.	Being fairly compensated for the work that I do	5.2	.85
S10.	Being given challenging work	5.2	.78
S11.	Knowing my opinion is valued	5.2	.80
S17.	Working for an organization that values professional growth and continuous learning	5.2	.90

Table 6 *(continued)*

	Engagement Statement	*M*	*SD*
S1.	Having a clear understanding of my roles and responsibilities	5.1	.87
S7.	Knowing my company cares about customer satisfaction	5.1	.95
S12.	Working for an organization whose mission and values place importance on my work	5.1	1.06
S3.	Being given appropriate decision-making authority	5.0	.88
S14.	Being part of an organization where employees work well in teams	4.7	1.01
S16.	Receiving constructive and timely feedback	4.5	.99
S5.	Receiving regular acknowledgement for positive contributions	4.4	1.24
S8.	Knowing my welfare is important to someone at work	4.3	.97
S18.	Having opportunities to work with a mentor	4.3	1.42
S9.	Having a colleague support my professional growth	4.2	1.15
S15.	Having a confidant in the workplace	3.6	1.19

The researcher predetermined that engagement practices rated as a "5" or "6" to be *most important* to retention. Those engagement practices rated as "3" and "4" were determined to be *moderately important* to retention. Lastly, engagement practices rated as "1" or "2" were determined to be *least important* to retention. As illustrated in Table 6, twenty-three (*n*=23) generation X participants responded with eleven out of the eighteen engagement practices as being *most important*. The seven highest scoring engagement practices (those with mean importance scores between 5.2 and 5.5) to the generation X IT worker were:

- "Having the ability to leverage my skills and abilities" (mean score of 5.5),

- "Having the resources (tools, equipment, materials) to do work well" (mean score of 5.3),

- "Working with people who value quality" (mean score of 5.3),

- "Being fairly compensated for the work that I do" (mean score of 5.2), and

- "Being given challenging work" (mean score of 5.2).

- "Knowing my opinion is valued" (mean score of 5.2),

- "Working for an organization that values professional growth and continuous learning" (mean score of 5.2),

Note that there were four items rated by generation X IT workers with mean importance scores of 5.2:

The remaining four statements ranked by generation X IT workers as *most important* include the following (ranked highest mean score to lowest mean score):

- "Having a clear understanding of my roles and responsibilities" (mean score of 5.1),

- "Knowing my company cares about customer satisfaction" (mean score of 5.1),

- "Working for an organization whose mission and values place importance on my work" (mean score of 5.1), and

- "Being given appropriate decision-making authority" (mean score of 5.0).

There were seven engagement practices rated as only *moderately important*

(between 3 and 5) in leading to retention in the workplace for the generation X IT worker. These statements represented the lowest ratings for generation X respondents:

- "Being part of an organization where employees work well in teams" (mean score of 4.7),

- "Receiving constructive and timely feedback" (mean score of 4.5),

- "Receiving regular acknowledgement for positive contributions" (mean score of 4.4),

- "Knowing my welfare is important to someone at work" (mean score of 4.3), and

- "Having opportunities to work with a mentor" (mean score of 4.3).

- Having a colleague support my professional growth (mean score of 4.2)
  Having a confidant in the workplace (mean score of 3.6)

Research Question 4. *What is the difference between the engagement practices considered most important to retention by the millennial IT worker compared to the engagement practices considered most important by the baby boomer IT worker?*

An independent *t*-test was used to determine whether a difference existed between the engagement practices considered important to retention by the millennial IT worker and baby boomer IT worker. The researcher used an 18 statement survey instrument with a 6-point Likert type scale that ranged from "1" (least important) to "6" (most important). The mean and standard deviations were calculated for each of the 18 statements.

Table 7 compares the mean scores of all 18 engagement statements of millennial IT workers to baby boomer IT workers. Millennials scored the highest rating (mean=6.0)

on statement 17, "Working for an organization that values professional growth and continuous learning." The same statement was found to be rated significantly lower as compared to the baby boomers t (15) = 2.96, and p = .01 reflecting a significant difference between the millennial and baby boomer responses for this statement.

Millennials also rated statement 9, "Having a colleague support my professional growth", and statement 18, "Having opportunities to work with a mentor", much higher than their baby boomer counterparts. Statement 9 was found to be rated significantly lower by the baby boomers t (12) = 3.0, and p = .01, reflecting a significant difference between the millennial and baby boomer responses for this statement. Statement 18 was found to be rated significantly lower by the baby boomers t (8) = 3.60, and p=.01, reflecting a significant difference between the millennial and baby boomer responses for this statement as well. Lastly, both millennials and baby boomers rated statement 16, "Receiving constructive and timely feedback" the same, with a mean of 5.2.

The second highest rating (mean score of 5.8) was expressed by the baby boomers in statement 1, "Having a clear understanding of my roles and responsibilities." The millennials' slightly lower rating of 5.4 reflected a non-significant difference in their perception of this practice as it related to engagement and retention in the workplace. The results of the comparisons for the remaining statements reflected non-significant differences.

While the remaining statements reflected non-significant differences, five statements reflected high similarity in engagement practices considered important to retention by the millennial IT worker and the baby boomer IT worker. Millennials and

baby boomers rated statement 16, "Receiving constructive and timely feedback", with the same mean score of 5.2, t (14) = 0.0, and p = 1.0. This similarity may align with the millennials' character educational focus, where values including responsibility, integrity, and self-discipline were foundational to the learning process (WCPSS, 2014). The baby boomers may have rated this statement as most important due to their desire to advance to their highest possible career position before retirement (Jukiewicz, 2000; Tulgan, 2004). Receiving constructive and timely feedback may be a practice that enables the baby boomer to successfully navigate advancement.

While both groups displayed similar results, millennials rated statement 7, "Knowing my company cares about customer satisfaction", slightly lower than the baby boomers t (5) = -.25, and p = .81. While millennials rated this statement slightly lower with a mean score of 5.2, baby boomer results displayed a mean score of 5.3. Statement 2, "Having the resources (tools, equipment, materials) to do work well", was rated slightly higher by the millennials t (7) = .34, p = .74. Millennials and baby boomers scored similarly on this statement with a mean score of 5.6 for millennials and mean score of 5.5 for baby boomers. This similarity may be due in part to the fact that baby boomers generally spend longer hours at work contributing, desiring the resources that will help them to capitalize on the time devoted to providing good work (Elliott, 2009; Kupperschmidt, 2000; Steinhorn, 2006). The high score for millennials may be linked to their expectations to work in an environment that provides state-of-the-art technology (Deloitte, 2014).

Statement 6, "Being fairly compensated for the work that I do", was rated slightly higher by the millennials t (6) = .36, and p = .73. Millennials rated this statement with a mean score of 5.6, and baby boomers rated the same statement with a mean score of 5.5. The similarity in scoring of this statement may be directly related to the baby boomers' need to maximize their income earning potential before retirement, while millennials view their income as a means to an end so that they can provide for friends and family.

Lastly, millennials and baby boomers scored similarly on the lowest rated statement, number 15, "Having a confidant in the workplace". The baby boomers rated this statement slightly lower t (5) = .46, and p = .66, with a mean score of 4.1, as compared to the millennials' mean score of 4.4. Neither group viewed the need for a confidant as important to their engagement in the workplace.

Table 7

Differences Between Engagement Practices of Millennials and Baby Boomer IT Workers

Engagement Statement	Millennials N=5		Baby Boomers N=16		t-score	df	*p*
	Mean	SD	Mean	SD			
S1. Having a clear understanding of my roles and responsibilities	5.4	.89	5.8	.54	-.95	4	.39
S2. Having the resources (tools, equipment, materials) to do work well	5.6	.55	5.5	.63	.34	7	.74
S3. Being given appropriate decision-making authority	5.4	.55	5.2	.91	.60	11	.56
S4. Having the ability to leverage my skills and abilities	5.0	.71	5.6	.62	-1.70	6	.14
S5. Receiving regular acknowledgement for positive contributions	4.8	.48	5.1	.96	-.93	14	.37
S6. Being fairly compensated for the work that I do	5.6	.55	5.5	.52	.36	6	.73
S7. Knowing my company cares about customer satisfaction	5.2	.84	5.3	.60	-.25	5	.81
S8. Knowing my welfare is important to someone at work	5.4	.58	5.1	.85	.89	9	.39

Table 7 *(continued)*

Engagement Statement	Millennials N=5		Baby Boomers N=16		t-score	df	*p*
	Mean	SD	Mean	SD			
S9. Having a colleague support my professional growth	5.6	.58	4.5	1.03	3.0	12	.01
S10. Being given challenging work	5.0	0	5.2	.91	-.88	15	.39
S11. Knowing my opinion is valued	5.2	.48	5.4	.73	-.71	10	.49
S12. Working for an organization whose mission and values place importance on my work	4.8	.48	5.4	.81	-2.03	11	.06
S13. Working with people who value quality	5.4	.55	5.6	.81	-.63	10	.54
S14. Being part of an organization where employees work well in teams	5.2	.48	5.0	.89	.65	13	.53
S15. Having a confidant in the workplace	4.4	1.34	4.1	.96	.46	5	.66
S16. Receiving constructive and timely feedback	5.2	.45	5.2	.93	0.00	14	1.0
S17. Working for an organization that values professional growth and continuous learning	6.0	0	5.4	.81	2.96	15	.01
S18. Having opportunities to work with a mentor	5.6	.55	4.5	.73	3.60	8	.01

Note. $p < .05$

Research Question 5. *What is the difference between the engagement practices considered most important to retention by the millennial IT worker compared to the engagement practices considered most important by the generation X IT worker?*

An independent *t*-test was used to determine whether a difference existed between the engagement practices considered important to retention by the millennial IT worker and generation X IT worker. The researcher used an 18 statement survey instrument with a 6-point Likert type scale that ranged from "1" (least important) to "6" (most important). The mean and standard deviations were calculated for each of the 18 statements.

Table 8 compares the mean scores of all 18 engagement statements of millennial IT workers to generation X IT workers. Millennial IT workers scored the highest on statement 17 (mean score of 6.0), "Working for an organization that values professional growth and continuous learning." The same statement was found to be rated significantly lower by generation X t (22) = 4.26, and p = .0003 reflecting a significant difference between the millennial and generation X IT worker responses for this statement.

Four additional statements were rated significantly higher by millennials when compared to statements provided by generation X IT workers. Statement 8, "Knowing my welfare is important to someone at work", was rated by millennial IT workers with a mean of 5.4, compared to the generation X IT worker mean response of 4.3. The same statement was found to be rated significantly lower by generation X t (9) = 3.34, and p = .01 reflecting a significant difference between the millennial and generation X IT worker responses for this statement.

Millennial IT workers rated statement 9, "Having a colleague support my professional growth" higher than generation X IT workers. Millennial IT workers reflected a mean score of 5.6, whereas generation X IT workers produced a mean score of 4.2. The same statement was found to be rated significantly lower by generation X t (12) = 3.96, and p = .002 reflecting a significant difference between the millennial and generation X IT worker responses for this statement.

Statement 16, "Receiving constructive and timely feedback" was rated significantly higher by the millennial IT worker, reflecting a mean score of 5.2, compared to the mean score of the generation X IT worker, at 4.5. The same statement was found to be rated significantly lower by generation X t (14) = 2.43, and p = .03 reflecting a significant difference between the millennial and generation X IT worker responses for this statement.

Lastly, millennials rated statement 18, "Having opportunities to work with a mentor" higher with a mean score of 5.6. Generation X IT worker responses resulted in a mean score of 4.3. The same statement was found to be rated significantly lower by generation X t (17) = 3.38, and p = .004 reflecting a significant difference between the millennial and generation X IT worker responses for this statement. There was no significant difference found between the ratings of the remaining statements between the millennial and generation X IT workers.

While the remaining statements reflected non-significant differences, three statements reflected high similarity in engagement practices considered important to retention by the millennial IT worker and the generation X IT worker. Millennials and

gen Xers rated statement 11, "Knowing my opinion is valued", with the same mean score of 5.2, $t(9) = 0.0$, and $p = 1.0$. Millennial IT workers rated statement 7, "Knowing my company cares about customer satisfaction", slightly higher that the generation X IT workers $t(6) = .23$, and $p = .82$, as indicated by a millennial mean score of 5.2 and a generation X mean score of 5.1. Statement 13, "Working with people who value quality", was rated similarly, with millennials rating this statement with a mean score of 5.4 and gen Xers with a mean score of 5.3, $t(7) = .34$, and $p = .74$.

The similarity between the generations for statements 11 and 13 may be due in part to the millennials' "character education" which fostered ethical values such as respect for self and others, responsibility, and integrity (WCPSS, 2014). Generation Xers may view these workplace practices as important and as best practices used by organizations to reduce the likelihood of workforce reduction, and downsizing – a phenomenon which negatively impacted their parents' livelihood.

Table 8

Differences Between Engagement Practices of Millennials and Generation X IT Workers

Engagement Statement	Millennials N=5		Generation X N=23		t-score	df	*p*
	Mean	SD	Mean	SD			
S1. Having a clear understanding of my roles and responsibilities	5.4	.89	5.13	.87	.62	5	.56
S2. Having the resources (tools, equipment, materials) to do work well	5.6	.55	5.3	.70	1.05	7	.33
S3. Being given appropriate decision-making authority	5.4	.55	5.04	.88	1.17	9	.27
S4. Having the ability to leverage my skills and abilities	5.0	.71	5.5	.66	-1.44	5	.21
S5. Receiving regular acknowledgement for positive contributions	4.8	.48	4.4	1.24	1.20	17	.25
S6. Being fairly compensated for the work that I do	5.6	.55	5.2	.85	1.32	8	.22
S7. Knowing my company cares about customer satisfaction	5.2	.84	5.1	.95	.23	6	.82
S8. Knowing my welfare is important to someone at work	5.4	.58	4.3	.97	3.34	9	.01

Table 8 *(continued)*

Engagement Statement	Millennials N=5		Generation X N=23		t-score	df	*p*
	Mean	SD	Mean	SD			
S9. Having a colleague support my professional growth	5.6	.58	4.2	1.15	3.96	12	.002
S10. Being given challenging work	5.0	0	5.2	.78	-1.23	22	.23
S11. Knowing my opinion is valued	5.2	.48	5.2	.8	0.00	9	1.0
S12. Working for an organization whose mission and values place importance on my work	4.8	.48	5.1	1.06	-.97	14	.35
S13. Working with people who value quality	5.4	.55	5.3	.77	.34	7	.74
S14. Being part of an organization where employees work well in teams	5.2	.48	4.7	1.01	1.66	13	.12
S15. Having a confidant in the workplace	4.4	1.34	3.6	1.20	1.23	5	.27
S16. Receiving constructive and timely feedback	5.2	.45	4.5	1.0	2.43	14	.03
S17. Working for an organization that values professional growth and continuous learning	6.0	0	5.2	.90	4.26	22	.0003
S18. Having opportunities to work with a mentor	5.6	.55	4.3	1.42	3.38	17	.004

Note. *p<.05*

Summary

Chapter IV reviewed the purpose of the study, research questions, the data collected methods, and analysis of the data. The data presented for each of the five research questions were analyzed and reported in narrative and table format. Chapter V presents a summary of findings, surprises, conclusions, and recommendations for further research.

CHAPTER V: FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

Chapter V is a summary of the study, including an overview of the problem, the purpose statement, the research questions, a review of the methodology and design, and population and sample. Additionally, this chapter provides an overview of major findings from the study, unexpected findings from the study, implications for action, recommendations for further research, and the study's conclusions.

Summary of the Study

Overview of the Problem

Information technology impacts every aspect of modern life. Whether it is used to establish systems for organizational or consumer use, provided as a solution to streamline processes, or used to design a smart-phone application to track expenses, information technology is here to stay.

Within the next two decades, organizations will experience a mass exodus of baby boomers (Center, 2010), requiring both the Gen X and, increasingly, the millennial generation to fill the resulting knowledge and skills gap as they move into leadership roles and significantly impact organizational practices. Information technology will not be exempt from this phenomenon. Retaining and preparing generation X and millennials for more responsible roles, including leadership roles, will be critical as organizations strive to remain competitive in the marketplace.

Deloitte's research indicates that millennial workplace expectations are different than the workplace expectations of previous generations (2014). Comfortable with change, they frequently move to different jobs, looking for opportunities to contribute to

something significant. Identifying practices that retain the millennial will be a top priority for organizations.

Research reflects employee engagement to be a contributing factor in retention (Consulting, 2013; Council, 2004a). What is not provided in previous research is information about the engagement practices that resonate with the millennial IT professional. Additionally, a gap exists as to whether the engagement practice preferences differ between the millennial generation of IT professionals compared to other generations of IT professionals, including the baby boomers, and the gen Xers.

Purpose of the Study

The purpose of this quantitative study was to identify the employee engagement practices that millennial IT workers perceive as most important to retention. The secondary purpose of the study was to determine whether a significant difference exists between the engagement practices that appeal to millennial IT workers and the engagement practices that appeal to the remaining IT working groups, which include the baby boomers, and generation X.

Research Questions

1. What are the engagement practices that the millennial generation of IT workers perceive as most important to retention?

2. What are the engagement practices that the baby boomer generation of IT workers perceive as most important to retention?

3. What are the engagement practices that the generation X generation of IT workers perceive as most important to retention?

4. What is the difference between the engagement practices considered most important to retention by the millennial IT worker compared to the engagement practices considered most important by the baby boomer IT worker?

5. What is the difference between the engagement practices considered most important to retention by the millennial IT worker compared to the engagement practices considered most important by the generation X IT worker?

Methodology and Design

This research employed the quantitative, descriptive, survey-based research method for this study. The quantitative approach provides objectivity by using numbers and statistics to describe an important phenomenon (Krathwohl, 1998). The quantitative method is most practical for this research because quantitative designs are frequently adopted to test theory (Creswell, 2009). Additionally, quantitative studies "can range from formal large-scale systems developed in academic disciplines to informal hunches or speculations from laypersons, practitioners or participants in the research" (Robson, 2002, p. 61).

According to McMillan and Schumacher, the descriptive design is a simple quantitative design that "provides a summary of an existing phenomenon by using numbers to characterize individuals or groups" (McMillan, 2010, p. 22); assessing the very nature of existing conditions. Additionally, Krathwohl (1998) refers to the descriptive design as the natural process in contrasting two or more groups.

Quantitative research can be either experimental or nonexperimental in nature. Experimental designs include the introduction of an intervention to determine cause-and-

effect of the intervention on outcomes. Nonexperimental designs examine the relationships between different phenomena, without intervention or manipulation (McMillan, 2010). For the purpose of this study, the nonexperimental design was used to identify the employee engagement practices that millennial IT workers perceived as most important to retention, and to determine whether a difference exists between the engagement practices that appeal to the millennial IT worker and the engagement practices that appeal to remaining IT working groups, which include baby boomers, and generation Xers. The nonexperimental design was chosen, as no treatments were administered to determine cause-and-effect relationships and research was collected without manipulation of participant environments (McMillan, 2010; Patten, 2012).

An online survey was used to collect numeric data, in an unbiased and accurate manner, from a sample of individuals, with the purpose of applying these results to a general population (Creswell, 2009; Glesne, 2006).

Population and Sample

A population is a group of individuals "that conform to a specific criteria and to which we intend to generalize the results of the research" (McMillan, 2010, p. 129). Creswell defines a population as a "group of individuals having one characteristic that distinguishes them from other groups" (Creswell, 2008, p. 359). The group may also be referred to as a target population, or the survey population, which is a subset of the target population (McMillan, 2010). For this study, the population was three generations of information technology workers. The three generations that participated in this study were: (1) the baby boomers (born between 1943 and 1960), (2) generation Xers (born

between 1961 and 1981), and (3) millennials (born between 1982 and 2004) (Strauss & Howe, 2000).

A sample population, as defined by Creswell (2008), is a "subgroup of the target population that the researcher plans to study for the purpose of making generalizations of the target population" (p. 646). Sampling allows the researcher to select a small number of units from a population, and from that population make reliable inferences about the characteristics of the general population (Krathwohl, 2004). Purposive sampling was used for this study, and participants were selected based on specific characteristics (Babbie, 2001).

A total of 207 AITP members received the invitation to participate. Forty-eight (n=48) participants responded, representing a response rate of 28%. Out of the 48 participants that responded, four sets of participant data were removed, as they did not respond to the question related to generation status. This resulted in a final participant count at 44 (n=44), or 21% of the total population invited to participate.

From the total of forty-four participants, *sixteen* (n=16) were from the Baby Boomer generation, representing 36% of the total respondents. The largest responding group was generation X; with a total of *twenty-three* (n=23) respondents, representing 52% of the total respondents. Lastly, a total of *five* (n=5) responses were received from the millennial generation, representing 11% of the total respondents. The Association of Information Technology Professionals (AITP) does not collect generational demographics. Therefore, the researcher was unable to determine if these percentages reflect AITP demographics in general.

The researcher was unable to communicate directly with the participants, but partnered with the AITP Region 1 President to initiate additional endorsement of participation. The Southland Chapter President, San Diego Chapter Marketing Director, and a Phoenix Chapter representative also provided support via follow-up emails to their respective chapters (see Appendix F)

The total response rate was 21%. Research conducted by Visser, Krosnick, Marquette, and Curtin (1996) revealed that surveys with lower response rates have a higher accuracy rate than those with higher response rates. Several studies indicate that response rates lower than 20% have no effect on the accuracy of results for a study (Curtin et al., 2000; Holbrook et al., 2007; Keeter et al., 2006).

Summary of Major Findings

Research Question 1. *What are the engagement practices that the millennial generation of IT workers perceive as most important to retention?*

The data collected from millennials revealed a set of workplace practices that ultimately impact professional growth. The findings indicated that the millennial IT worker placed their highest value on the opportunity for professional growth and continuous learning (mean score of 6.0), having a colleague support their professional growth (mean score of 5.6), and having opportunities to work with a mentor (mean score of 5.6). Having the resources (tools, equipment, materials) to do their work well (mean score of 5.6) and being fairly compensated for the work that they do (mean score of 5.6), were also important for the millennial IT worker.

The above findings corroborate with research from Strauss and Howe (2000), noting that millennials are the generation of privilege. Their parents provided their every need – both allowances and possessions. Millennials view their income as a means to an end; as a way to provide for their friends and family (Burmeister, 2008; Gravett & Throckmorton, 2007). Lastly, for the technically savvy millennial, providing resources, in the form of tools, equipment, and technology, is imperative for the millennial worker (Consulting, 2010).

Research Question 2. *What are the engagement practices that the baby boomer generation of IT workers perceive as most important to retention?*

The data collected form the baby boomer IT workers revealed a high desire to have a clear understanding of workplace roles and responsibilities (mean score of 5.8), having the ability to leverage their skills and abilities (mean score of 5.6), and working with people who value quality (mean score of 5.6). Additional findings included having the resources (tools, equipment, materials) necessary to do their work well (mean score of 5.5), and being fairly compensated for the work that they do (mean score of 5.4).

The above findings corroborate with earlier research by Jurkiewicz (2000) and Tulgan's (2004), noting that baby boomers place a high value on having a clear understanding of roles and responsibilities, and leveraging those skills and abilities as they look to advance to their highest possible career position before they retire. This desire to advance may align with the desire to be fairly compensated as they advance to their highest career position before retirement. Additionally, baby boomers enjoy sharing

their expertise and knowledge with others, aligning with a desire to contribute to increased quality within the workplace (Barnes & Harris, 2006)

Research Question 3. *What are the engagement practices that the generation X generation of IT workers perceive as most important to retention?*

The data collected from the generation X IT workers revealed the desire for the ability to leverage their skills abilities to the fullest (mean score of 5.5), having the resources (tools, equipment, materials) to do work well (mean score of 5.3), and working with people who value quality (mean score of 5.3), as the most highly sought-after workplace practice leading to engagement and retention in the workplace. They also noted the desire to be fairly compensated for their work (mean score of 5.2) and being given challenging work (mean score of 5.2), as important practices leading to their increased engagement within the workplace.

Having the ability to leverage skills and being fairly compensated for the work that they do, may be directly aligned with their tarnished view of the workplace, as they watched their parents live through the uncertainties of layoff and downsizing in the 1980s (Erickson, 2010). This generation is by nature self-reliant and prepared with survival skills that enable them to weather anything (Becton et al., 2014). This is likely why having the proper resources (tools, equipment, materials) to do the work well, and which would support the application of their skills, was found to be important for the generation X IT worker.

Research Question 4. *What is the difference between the engagement practices considered most important to retention by the millennial IT worker compared to the engagement practices considered most important by the baby boomer IT worker?*

An independent *t*-test was used to determine whether a difference existed between the engagement practices considered important to retention by the millennial IT worker and baby boomer IT worker. The researcher used an 18 statement survey instrument with a 6-point Likert type scale that ranged from "1" (least important) to "6" (most important). The mean and standard deviations were calculated for each of the 18 statements.

Table 7 compares the mean scores of all 18 engagement statements of millennial IT workers to baby boomer IT workers. Millennials scored the highest rating (mean=6.0) on statement 17, "Working for an organization that values professional growth and continuous learning." The same statement was found to be rated significantly lower as compared to the baby boomers t (15) = 2.96, and p = .01 reflecting a significant difference between the millennial and baby boomer responses for this statement.

Millennials also rated statement 9, "Having a colleague support my professional growth", and statement 18, "Having opportunities to work with a mentor", much higher than their baby boomer counterparts. Statement 9 was found to be rated significantly lower by the baby boomers t (12) = 3.0, and p=.01, reflecting a significant difference between the millennial and baby boomer responses for this statement. Statement 18 was found to be rated significantly lower by the baby boomers t (8) = 3.60, and p=.01, reflecting a significant difference between the millennial and baby boomer responses for

this statement as well. Lastly, both millennials and baby boomers rated statement 16, "Receiving constructive and timely feedback" the same, with a mean of 5.2.

The second highest rating (mean score of 5.8) was expressed by the baby boomers in statement 1, "Having a clear understanding of my roles and responsibilities." The millennials' reflected a slightly lower rating of 5.4, with no significant difference in their perception of this practice as it related to engagement and retention in the workplace. There was no significant difference found between the ratings of the remaining statements between the millennial and baby boomer IT workers.

Table 7

Differences Between Engagement Practices of Millennials and Baby Boomer IT Workers

Engagement Statement	Millennials N=5		Baby Boomers N=16		t-score	df	*p*
	Mean	SD	Mean	SD			
S1. Having a clear understanding of my roles and responsibilities	5.4	.89	5.8	.54	-.95	4	.39
S2. Having the resources (tools, equipment, materials) to do work well	5.6	.55	5.5	.63	.34	7	.74
S3. Being given appropriate decision-making authority	5.4	.55	5.2	.91	.60	11	.56
S4. Having the ability to leverage my skills and abilities	5.0	.71	5.6	.62	-1.70	6	.14
S5. Receiving regular acknowledgement for positive contributions	4.8	.48	5.1	.96	-.93	14	.37
S6. Being fairly compensated for the work that I do	5.6	.55	5.5	.52	.36	6	.73
S7. Knowing my company cares about customer satisfaction	5.2	.84	5.3	.60	-.25	5	.81
S8. Knowing my welfare is important to someone at work	5.4	.58	5.1	.85	.89	9	.39
S9. Having a colleague support my professional growth	5.6	.58	4.5	1.03	3.0	12	.01

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Table 7 *(continued)*

Engagement Statement	Millennials N=5		Baby Boomers N=16		t-score	df	*p*
	Mean	SD	Mean	SD			
S10. Being given challenging work	5.0	0	5.2	.91	-.88	15	.39
S11. Knowing my opinion is valued	5.2	.48	5.4	.73	-.71	10	.49
S12. Working for an organization whose mission and values place importance on my work	4.8	.48	5.4	.81	-2.03	11	.06
S13. Working with people who value quality	5.4	.55	5.6	.81	-.63	10	.54
S14. Being part of an organization where employees work well in teams	5.2	.48	5.0	.89	.65	13	.53
S15. Having a confidant in the workplace	4.4	1.34	4.1	.96	.46	5	.66
S16. Receiving constructive and timely feedback	5.2	.45	5.2	.93	0.00	14	1.0
S17. Working for an organization that values professional growth and continuous learning	6.0	0	5.4	.81	2.96	15	.01
S18. Having opportunities to work with a mentor	5.6	.55	4.5	.73	3.60	8	.01

Note. *p*<.05

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Research Question 5. *What is the difference between the engagement practices considered most important to retention by the millennial IT worker compared to the engagement practices considered most important by the generation X IT worker?*

An independent *t*-test was used to determine whether a difference existed between the engagement practices considered important to retention by the millennial IT worker and generation X IT worker. The researcher used an 18 statement survey instrument with a 6-point Likert type scale that ranged from "1" (least important) to "6" (most important). The mean and standard deviations were calculated for each of the 18 statements.

Table 8 compares the mean scores of all 18 engagement statements of millennial IT workers to generation X IT workers. Millennial IT workers scored the highest on statement 17 (mean score of 6.0), "Working for an organization that values professional growth and continuous learning." The same statement was found to be rated significantly lower by generation X t (22) = 4.26, and p = .0003 reflecting a significant difference between the millennial and generation X IT worker responses for this statement.

Four additional statements were rated significantly higher by millennials when compared to statements provided by generation X IT workers. Statement 8, "Knowing my welfare is important to someone at work", was rated by millennial IT workers with a mean of 5.4, compared to the generation X IT worker mean response of 4.3. The same statement was found to be rated significantly lower by generation X t (9) = 3.34, and p = .01 reflecting a significant difference between the millennial and generation X IT worker responses for this statement.

Millennial IT workers rated statement 9, "Having a colleague support my professional growth" higher than generation X IT workers. Millennial IT workers reflected a mean score of 5.6, whereas generation X IT workers produced a mean score of 4.2. The same statement was found to be rated significantly lower by generation X t (12) = 3.96, and p = .002 reflecting a significant difference between the millennial and generation X IT worker responses for this statement.

Statement 16, "Receiving constructive and timely feedback" was rated significantly higher by the millennial IT worker, reflecting a mean score of 5.2, compared to the mean score of the generation X IT worker, at 4.5. The same statement was found to be rated significantly lower by generation X t (14) = 2.43, and p = .03 reflecting a significant difference between the millennial and generation X IT worker responses for this statement.

Lastly, millennials rated statement 18, "Having opportunities to work with a mentor" higher with a mean score of 5.6. Generation X IT worker responses resulted in a mean score of 4.3. The same statement was found to be rated significantly lower by generation X t (17) = 3.38, and p = .004 reflecting a significant difference between the millennial and generation X IT worker responses for this statement.   There was no significant difference found between the ratings of the remaining statements between the millennial and generation X IT workers.

Table 8

Differences Between Engagement Practices of Millennials and Generation X IT Workers

Engagement Statement	Millennials N=5		Generation X N=23		t-score	df	*p*
	Mean	SD	Mean	SD			
S1. Having a clear understanding of my roles and responsibilities	5.4	.89	5.13	.87	.62	5	.56
S2. Having the resources (tools, equipment, materials) to do work well	5.6	.55	5.3	.70	1.05	7	.33
S3. Being given appropriate decision-making authority	5.4	.55	5.04	.88	1.17	9	.27
S4. Having the ability to leverage my skills and abilities	5.0	.71	5.5	.66	-1.44	5	.21
S5. Receiving regular acknowledgement for positive contributions	4.8	.48	4.4	1.24	1.20	17	.25
S6. Being fairly compensated for the work that I do	5.6	.55	5.2	.85	1.32	8	.22
S7. Knowing my company cares about customer satisfaction	5.2	.84	5.1	.95	.23	6	.82
S8. Knowing my welfare is important to someone at work	5.4	.58	4.3	.97	3.34	9	.01

Table 8 *(continued)*

Engagement Statement	Millennials N=5		Generation X N=23		t-score	df	*p*
	Mean	SD	Mean	SD			
S9. Having a colleague support my professional growth	5.6	.58	4.2	1.15	3.96	12	.002
S10. Being given challenging work	5.0	0	5.2	.78	-1.23	22	.23
S11. Knowing my opinion is valued	5.2	.48	5.2	.8	0.00	9	1.0
S12. Working for an organization whose mission and values place importance on my work	4.8	.48	5.1	1.06	-.97	14	.35
S13. Working with people who value quality	5.4	.55	5.3	.77	.34	7	.74
S14. Being part of an organization where employees work well in teams	5.2	.48	4.7	1.01	1.66	13	.12
S15. Having a confidant in the workplace	4.4	1.34	3.6	1.20	1.23	5	.27
S16. Receiving constructive and timely feedback	5.2	.45	4.5	1.0	2.43	14	.03
S17. Working for an organization that values professional growth and continuous learning	6.0	0	5.2	.90	4.26	22	.0003
S18. Having opportunities to work with a mentor	5.6	.55	4.3	1.42	3.38	17	.004

Note. *p*<.05

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Unexpected Findings

The results of this study were supported by the findings in previous research that aligned workplace practices to engagement and retention in the workplace. While the data aligned with research findings for each of the generations, one particular piece of data emerged that was surprising. For statement number 15 - "Having a confidant in the workplace", all of the generations rated this workplace practice as *least important* to engagement, leading to retention in the workplace. The generation X IT workers rated this practice the lowest with a mean score of 3.6; baby boomers with a mean score of 4.1; and lastly, millennials with a mean score of 4.4. This statement was developed from research conducted by Gallup. Gallup's research uses slightly different wording for their survey instrument, replacing "Having a confidant in the workplace" with "I have a best friend at work" (Consulting, 2010). It is possible that this slight modification of wording may change the context and meaning of the statement for the participants. However, there may be other factors leading to this phenomenon. In today's workplace it is not uncommon to connect with a number of colleagues via Facebook or LinkedIn, creating a virtual "digital tribe" and providing a sense of workplace community not seen in previous generations. Technology workers may also feel the need to protect themselves in a competitive industry where colleagues are vying for advancement into similar positions within the organization or externally, knowing that a current colleague could eventually contribute to a direct competitor. Lastly, it may be the increased desire for workers to keep their work and private lives separate. Nevertheless, having a confidant or a trusted friend to talk with about personal and private things is not regarded as an important

practice leading to engagement and retention in the workplace for any of the generations of IT workers.

Another surprise worth noting is that in general, the millennial IT workers rated all of the designated workplace engagement practices slightly higher than their baby boomer and generation X counterparts. In fact, statement number 17 – "Working for an organization that values professional growth and continuous learning", received the highest rating from millennials with a mean score of 6.0. This rating was found to be significantly higher (p-value <.05) from the baby boomers' mean score of 5.4 (p=.01), and the gen Xers' mean score of 5.2 (p=.0003). These findings may have been slightly different had the study resulted in a higher response rate from the millennial generation. As mentioned in Chapter IV, under Limitations, the response rate for this group was low, with only 5 respondents.

Lastly, it is interesting to note that the similarity between the millennial and baby boomer generation responses. While these two generations are separated by the generation Xers, the millennial and baby boomer IT worker responses were closely aligned on a number of workplace practices leading to retention in the workplace. In fact, both generations rated statement number 16 – "Receiving constructive and timely feedback" the same, with a mean score of 5.2. Additionally, they rated the desire to "have the resources (tools, equipment, materials) to do the work well similarly, with mean scores of 5.6 for millennials and 5.5 for baby boomers (p=.74). Finally, both generations noted the importance of knowing that their "company cares about customer satisfaction" with a mean score of 5.2 for the millennials and 5.3 for the baby boomers (p=.81).

Implications for Action

Findings from this research noted that workplace engagement preferences varied by generation. However, there were a number of practices that emerged as noteworthy for implementation in the workplace. The following paragraphs provide a list of workplace practices that are recommended for implementation to increase engagement and retention within the workplace.

The highest rated engagement practice for millennials was "working for an organization that values professional growth and continuous learning". Recommendation is made that organizations provide opportunities for professional growth and continuous learning for the IT worker. This might be accomplished through tuition reimbursement, reimbursement of technology certification costs, or through other continuous learning opportunities, such as internal training, workshops, or external conference attendance. Additionally, IT management should provide defined career paths that include both technical and management advancement tracks. These career paths should be clearly defined and the steps necessary to advance, clearly communicated.

Providing "a clear understanding of … roles and responsibilities" can be accomplished through a variety of ways. Clarity-of-role should be woven throughout the employment lifecycle – throughout the recruiting, hiring, onboarding, socialization, and development process. It is recommended that recruiters and hiring managers provide realistic job previews; clearly outlining the roles, responsibilities, and expectations for the new hire. Once the employee accepts the job offer, and begins working, it is recommended that the manager or front-line supervisor provide a copy of the roles and responsibilities to the new hire, and schedule a time to review the expectations with the

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new employee, removing any ambiguity the new employee may have about their new role or responsibilities. This activity is not a one-time event, but should occur with each new job assignment to ensure clarity of roles and responsibilities throughout the employment life cycle.

"Having the resources (tools, equipment, materials) to do work well" is important for the IT worker. Recommendation is made that IT workers have access to and are provided with technology that is state-of-the-art and in good working condition and that these tools be periodically evolved in light of ongoing technological advances. Information technology workers have high expectations that the equipment and tools provided to them are of the highest quality – the "latest and greatest". Therefore, CIOs and IT management should budget accordingly to ensure these workers are continuously provided with the tools and equipment needed to do their job well.

While technology expenses tend to be costly, there are a number of ways that organizations with limited budgetary resources can reduce technology-related expenses while providing state-of-the-art technology and development opportunities that can contribute positively to employee engagement and retention Companies such as Dell provide discounts on products purchased in bulk, as well as reduced-rate services to small businesses that would otherwise be unable to offer these resources to their workers. Additionally, national software training companies such as New Horizons provide Microsoft, Cisco, and VMware certifications at reduced or coupon-packaged rates, with some certifications being fully covered as part of an agreement with Microsoft when a designated number of Windows licenses are purchased. Lastly, companies can offer

employee discount programs through Dell, Apple, and Microsoft, thereby expanding the opportunity to purchase the "newest" technology for personal use as well.

"Being fairly compensated for the work that [they] do" is also important for the information technology worker. In a highly competitive and rapidly changing environment, it is not only important to provide opportunities for professional growth and learning, but that a fair wage be paid to these workers. It is not uncommon for IT workers to move from job to job frequently, as higher pay and professional growth opportunities are provided by competitors. It is recommended that human resource professionals, CEOs, and IT management annually conduct salary and compensation analyses to better understand industry trends, and budget accordingly to compensate IT workers in alignment with these trends.

Lastly, "having opportunities to work with a mentor" is particularly advantageous for the millennial IT worker. While mentoring program implementation can be time consuming for human resource professionals and the management team, the rewards can lead to increased engagement from IT professionals, lower avoidable turnover, and can provide the framework for succession planning. It may also lead to increased engagement of baby boomer IT workers, as they are provided with opportunities to groom the next generation of IT workers, in order to enable them to step into leadership roles within the organization. It is recommended that mentoring programs be considered as part of the overall plan to increase engagement for all IT workers, particularly as the baby boomers look to retire, and generation X and millennial workers transition into more responsible roles.

Recommendations for Further Research

The literature and survey data support the importance of establishing workplace practices leading to engagement. Subsequent research studies are recommended, and could provide additional information to benefit human resources leaders, Boards of Directors, and company CEOs in the implementation of new policies that ensure the creation of programs and practices that increase engagement and retention. Additionally, further research may be useful for Universities in the design and development of management curriculum that address the importance of engagement and the contributing practices leading to increased retention in the workplace. Therefore, the following additional studies are recommended:

1. Conduct future studies that also include a qualitative aspect (e.g. interviews). The mixed-methods approach could provide further corroborations between statistical results and qualitative data, and provide themes and patterns related to engagement practices that may lead to retention in the workplace.

2. Conduct future studies using a larger sample size.

3. Conduct the same study nation-wide through the Association of Information Technology Professionals (AITP), and include additional demographic comparisons by gender, job title/position, length of employment, and industry. It might also be beneficial to determine what difference, if any, may exist between employees and contractual workers.

4. Conduct the study with soon-to-be University and College information technology graduates. The information found could be used to design and develop pre-graduate programs that prepare the graduate for engagement within the workplace. This

information could also be used by human resources leaders to develop programs that engage the newly-graduated employee, entering the workplace on their first work assignment.

5. Replicate this study in the future, as the next generation of IT workers enters the workplace, to determine if the findings for this generation are similar or different from their counterparts.

6. Replicate this study with other populations outside of information technology; for example, engineers, formal scientists, and mathematicians.

Concluding Remarks and Reflections

This study provides information for future research and addresses the current workplace engagement practices identified by the baby boomer, generation X, and millennial IT workers. The findings provide insight into the engagement practices that IT workers perceive as important in leading to retention. As the need for qualified, skilled, and fully-engaged IT workers increases, it will be imperative for human resources leaders, Boards of Directors, and company CEOs to implement policies that ensure the implementation of programs and practices that increase engagement and retention. Equally important is the need for Universities to design and develop management curriculum that addresses the importance of engagement, and the contributing practices leading to increased retention in the workplace.

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APPENDICES

APPENDIX A

SURVEY

Participant's Bill of Rights

Any person who is requested to consent to participate as a subject in an experiment, or who is requested to consent on behalf of another, has the following rights:

1. To be told what the study is attempting to discover.

2. To be told what will happen in the study and whether any of the procedures, drugs or devices are different from what would be used in standard practice

3. To be told about the risks, side effects or discomforts of the things that may happen to him/her

4. To be told if he/she can expect any benefit from participating and, if so, what the benefits might be

5. To be told what other choices he/she has and how they may be better or worse than being in the study

6. To be allowed to ask any questions concerning the study both before agreeing to be involved and during the course of the study

7. To be told what sort of medical treatment is available if any complications arise

8. To refuse to participate at all before or after the study is started without any adverse effects

9. To receive a copy of the signed and dated consent form

10. To be free of pressures when considering whether he/she wishes to agree to be in the study

If at any time you have questions regarding a research study, you should ask the researchers to answer them. You also may contact the Brandman University Institutional Review Board, which is concerned with the protection of volunteers in research projects.

The Brandman University Institutional Review Board may be contacted either by telephoning the Office of Academic Affairs at (949) 341-9937 or by writing to the Vice Chancellor of Academic Affairs, Brandman University, 16355 Laguna Canyon Road, Irvine, CA, 92618.

Incentive Participation (Voluntary)

As incentive to participate in this research, a drawing will be conducted on a weekly basis. *Your participation in the drawing is voluntary*, and information collected will in no

way be associated with participant data.

If you choose to participate, please provide your Name, preferred method of contact (email <u>or</u> phone number) should your name be drawn, and note your Gift Card preference (Fry's Electronics or Best Buy).

- Name
- Contact Information
- Gift Card Preference

Introduction and Purpose of Study

The purpose of this survey is to determine how important workplace practices are in *influencing your decision to remain employed with an organization*. With the increased demand for technology services worldwide, the information technology sector is projected to grow by 22% between 2010 and 2020 (Lockard & Wolf, 2012). With an increased focus on the importance of information technology, coupled with the impending mass exodus of baby boomers, organizations will be required to implement practices that *increase engagement* to ensure retention of both the Gen X and, increasingly, the millennial information technology worker to fill the knowledge and skills gap as they move into leadership roles and significantly impact organizational practices. One of the most prominent challenges that leaders will face during this change, will be to create and sustain cultures that *attract, reward,* and *retain* the most qualified information technology workers.

This survey will provide leaders, information technology decision-makers, boards of directors, and company CIOs, with valuable information needed to develop and implement new policies that ensure the implementation of programs and practices that increase engagement and retention. This information may also be useful for Universities in the design and development of management curriculum that address the importance of engagement and the contributing practices leading to increased retention in the workplace.

You have been selected to participate because you are an information technology professional, belonging to Region 1 of the Association of Information Technology Professionals (AITP). This survey should take no longer than *10 minutes* to complete.

Thank you for your time.
Sharon Floyd
floyd@brandman.edu
(858) 472-1811

Survey Questions
Please rate the following 18 Questions, using a 6-point scale, where "1" is *Least Important* and "6" is *Most Important*
1. Having a clear understanding of my roles and responsibilities
2. Having the resources (tools, equipment, materials) to do work well

3. Being given appropriate decision-making authority
4. Having the ability to leverage my skills and abilities
5. Receiving regular acknowledgement for positive contributions
6. Being fairly compensated for the work that I do
7. Knowing my company cares about customer satisfaction
8. Knowing my welfare is important to someone at work
9. Having a colleague support my professional growth
10. Being given challenging work
11. Knowing my opinion is valued
12. Working for an organization whose mission and values place importance on my work
13. Working with people who value quality
14. Being part of an organization where employees work well in teams
15. Having a confidant in the workplace
16. Receiving constructive and timely feedback
17. Working for an organization that values professional growth and continuous learning
18. Having opportunities to work with a mentor

Generation (choose one)
- Baby Boomer (born between 1943 and 1960)
  Between 53 and 71 years of age
- Generation X (born between 1961 and 1981)
  Between 32 and 53 years of age
- Millennial (born between 1982 and 2004)
  Between 10 and 32 years of age

End of Survey ~

APPENDIX B

EMAIL COMMUNICATION TO AITP MEMBER PARTICIPANTS

Email Subject Line: Invitation for Region 1 AITP Members to Participate in Research to Benefit Information Technology Professionals

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The Association of Information Technology Professionals partners with educational institutions and others in order to provide information that advances the knowledge of all IT Professionals. As an AITP Member you are invited to participate in a research study conducted by Sharon Floyd, AITP Member, and Doctoral Candidate in Brandman University's Doctoral Program in Organizational Leadership. Your participation will provide valuable insight into the workplace practices that *you* perceive as *leading to engagement* and in particular, those practices that *lead to your decision to remain in your workplace.*

This research is being conducted in partial fulfillment of the requirements for a doctoral degree, under the guidance of Dr. Sam Bresler, Committee Chair, Brandman University. Should you decide to participate, you will be asked to respond to an online survey that should take no longer than *10 minutes* to complete, and can easily be accessed from a smart phone, tablet, or laptop device. The survey will ask you to rate your perceptions of 18 engagement practices that may influence your decision to stay with your organization. The survey will also ask you to identify the generation to which you belong.

All information gathered for this survey is *confidential* and *completely anonymous*. Only the researcher, Sharon Floyd, from Brandman University, and her dissertation committee members, will have access to the data.

You *do not* have to take part in this study, and it will *not* affect your relationship with your current employer. Your employer will not have access to the data collected in this survey, nor will your employer know if you responded to the survey. It is estimated that approximately 185 participants will be surveyed. If you have concerns or problems about your participation in the study, or your rights as a research subject, please contact Dr. Alan Enomoto, Institutional Review Board, Brandman University, at enomoto@brandman.edu.

Incentive to Participate

The survey will remain open for three weeks. As incentive to participate in this research, a drawing will be conducted weekly, using the following graduated payout schedule:
- Week 1 Completion (0-7 days) $125 Gift Card to Fry's Electronics or Best Buy
- Week 2 Completion (8-15 days) $75 Gift Card to Fry's Electronics or Best Buy
- Week 3 Completion (16-21 days) $50 Gift Card to Fry's Electronics or Best Buy

Participation in the drawing is voluntary, and participant information collected will in no way be associated with participant data.

If you have questions about the study itself, please contact Sharon Floyd at (858) 472-1811 or at floyd@brandman.edu. Or you may contact Dr. Sam Bresler, Dissertation Chair at bresler@brandman.edu.

Informed Consent

By clicking the *"I agree to participate"* link below, you indicate that you have read and understand the above information and agree to take part in the study. Please note that when you click the link, you will first be presented with the *Research Participant's Bill of Rights*. The survey will begin immediately following, on the next page. Please understand that you may withdraw your consent at any time without penalty, and that, by agreeing, you are not waiving any legal claims, right or remedies. If you do not want to participate, please *exit this email message*.

I have read and understand the Agreement to Participate in Research.
Yes, I Agree to Participate
No, I Decline to Participate (Exit email message)

APPENDIX C

BRANDMAN IRB APPROVAL LETTER

BRANDMAN UNIVERSITY INSTITUTIONAL REVIEW BOARD
IRB APPLICATION ACTION – APPROVAL
COMPLETED BY BUIRB

IRB ACTION/APPROVAL

Name of Investigator/Researcher: Sharon Floyd

☐ Returned without review. Insufficient detail to adequately assess risks, protections and benefits.

☐ Approved/Certified as Exempt form IRB Review.

☐ Approved as submitted.

☑ Approved, contingent on minor revisions (see attached)

☐ Requires significant modifications of the protocol before approval. Research must resubmit with modifications (see attached)

☐ Researcher must contact IRB member and discuss revisions to research proposal and protocol.

Level of Risk: ☐ No Risk ☑ Minimal Risk ☐ More than Minimal Risk

IRB Comments:

The BUIRB approved this application contingent upon the submission of the following documentation:
1) A copy of the participants Bill of Rights
2) Agreement of participation from AITP
3) A final copy of the survey instrument that will be administered to the participants

IRB Contact

Name: Dr.Alan Enomoto

Telephone: (925) 930-2020 **Email:** enomoto@brandman.edu

IRB Certification Number: 1282352 **Date:** September 18, 2014

Revised IRB Application ☑ Approved ☐ Returned

Name: Keith Larick

Digitally signed by Keith Larick
DN: cn=Keith Larick, o=BUICR, ou=BUCR,
email=larick@brandman.edu, c=US
Date: 2014.11.22 13:46:15 -08'00'

Telephone: 916-421-2430 **Email:** larick@brandman.edu **Date:** 11/22/14

Brandman University IRB Rev. 3.20.14 Adopted November 2013

APPENDIX D

APPROVAL LETTER FROM AITP ASSOCIATION PRESIDENT

November 14, 2014

Dear Ms. Floyd,

On behalf of the Executive Committee of the Association of Information Technology Professionals (AITP), I am pleased to announce your request to survey members located in Region 1 has been approved. Your payment of $300 has also been received by AITP headquarters.

As outlined in your proposal, AITP headquarters will send your email verbiage to all members in Region 1. Follow up emails will also be sent 8 and 16 days after the first email is sent.

In addition, you will offer incentives (as outlined in your proposal) to those AITP members in Region 1 who complete your survey. You will also provide the results of your survey to AITP for posting on the website (www.aitp.org) and the following educational services to the membership:

- Presentations at local chapter meetings – San Diego and Southland
- Presentations at regional or national conferences
- Webinar offerings
- White papers

AITP is glad to assist you in your doctoral degree fulfillment. **Please contact me at president@aitp.org if you have any questions.**

Sincerely,

Michael Welch
2014 Association President

APPENDIX E

FINAL APPROVAL FROM BRANDMAN UNIVERSITY IRB

BRANDMAN UNIVERSITY INSTITUTIONAL REVIEW BOARD
IRB APPLICATION ACTION – APPROVAL
COMPLETED BY BUIRB

IRB ACTION/APPROVAL

Name of Investigator/Researcher: Sharon Floyd

☐ Returned without review. Insufficient detail to adequately assess risks, protections and benefits.

☐ Approved/Certified as Exempt form IRB Review.

☐ Approved as submitted.

☑ Approved, contingent on minor revisions (see attached)

☐ Requires significant modifications of the protocol before approval. Research must resubmit with modifications (see attached)

☐ Researcher must contact IRB member and discuss revisions to research proposal and protocol.

Level of Risk: ☐ No Risk ☑ Minimal Risk ☐ More than Minimal Risk

IRB Comments:

The BUIRB approved this application contingent upon the submission of the following documentation:
1) A copy of the participants Bill of Rights
2) Agreement of participation from AITP
3) A final copy of the survey instrument that will be administered to the participants

IRB Contact

Name: Dr.Alan Enomoto

Telephone: (925) 930-2020   Email: enomoto@brandman.edu

IRB Certification Number: 1282352   Date: September 18, 2014

Revised IRB Application   ☑ Approved   ☐ Returned

Name: Keith Larick

Telephone: 916-421-2430   Email: larick@brandman.edu   Date: 11/22/14

APPENDIX F

SUPPORTING EMAILS FROM AITP

Phoenix Chapter Members:

Monday, you should have received a reminder about the survey "Invitation for Region 1 AITP Members to Participate in Research to Benefit Information Technology Professionals"

Sharon Floyd, doctoral candidate, is a dual member of the San Diego and Southland chapters. Her survey targets the members of Region 1 only. It is important that Sharon receives enough input to statistically validate the survey. The results of her survey, along with her doctoral dissertation, will be of interest to all of us!

Please take a few minutes to read the intro, take the survey, and (if you want) sign up for the early-bird prizes.

Regards,
Chuck Brown, CCP, MPA
Association of Information Technology Professionals
Chair, Region Presidents' Council
President, Region 1
Emeritus Board Member, San Diego Chapter
Lifetime Achievement Award Recipient

Cathy Margolin <inventor00@netsurfernews.com>

Thu 12/4/2014 1:30 PM

Invitation to Survey

To: ☐ inventor00@pobox.com;

• To help protect your privacy, some content in this message has been blocked. To re-enable the blocked features, click here.

• To always show content from this sender, click here.

• You replied on 12/4/2014 1:33 PM.

Hi All,

If you recently (Dec. 1ˢᵗ) got an email survey from AITP Headquarters labeled:

"Invitation for Region 1 AITP Members to Participate in Research to Benefit Information Technology Professionals"

Please take a few minutes (it actually takes less than 5 minutes) to fill it out as it is for one of OUR LOACL AITP members, Sharon Floyd, in her doctoral studies.
I know her well and ask that you help her in her study.

She is offering several gift cards to Frys and Best Buy also. More money if you submit this week…..

Thank you for your assistance.
(also a reminder that the Holiday party is Saturday at my house, email for details if interested)

Regards,
Cathy Margolin
California Southland AITP
Assoc. of Information Technology Professionals (AITP)
inventor00@pobox.com
www.aitpcalsouthland.org

AITP San Diego Members
Support Fellow Member Sharon (Cheri) Floyd

AITP San Diego Chapter Members,

Fellow chapter member Sharon (Cheri) Floyd is a Doctoral Candidate in Organizational Leadership at Brandman University. Please support her by completing the survey discussed below.

Marc Clark, Chairman - Nominating Committee, would like to remind everyone that the nominating committee is gathering nominations for AITP San Diego 2015 Officers and Board members. Voting will take place via email ballot on December 28th. If you choose not to vote please let us know which current board member has your proxy.

Thank you - *AITP San Diego Board*

Invitation for Region 1 AITP Members to Participate in Research to Benefit Information Technology Professionals

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