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# Exploring Strategies for Retaining Information Technology Professionals: A Case Study

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# Walden University

College of Management and Technology

This is to certify that the doctoral study by

Shannon Thomas

has been found to be complete and satisfactory in all respects,  
and that any and all revisions required by  
the review committee have been made.

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Walden University  
2015

Abstract

Exploring Strategies for Retaining Information Technology Professionals: A Case Study

by

Shannon J. Thomas

MS, Troy University, 2006

BS, Albany State University, 1999

Doctoral Study Submitted in Partial Fulfillment  
of the Requirements for the Degree of  
Doctor of Business Administration

Walden University

January 2015

## Abstract

In the 21st century, retaining information technology (IT) professionals is critical to a company's productivity and overall success. Senior IT leaders need effective strategies to retain skilled IT professionals. Guided by the general systems theory and the transformational leadership theory, the purpose of this qualitative exploratory case study was to explore the retention strategies used by 2 senior IT leaders in Atlanta, Georgia to retain IT professionals. Semistructured interviews were employed to elicit detailed narratives from these IT leaders on their experiences in retaining IT professionals. A review of company documents, as well as member-checking of initial interview transcripts, helped to bolster the trustworthiness of final interpretations. Those final interpretations included 4 main themes: (a) job-related benefits and compensation; (b) people-related approaches such as promotion, rewards, and recognition; (c) management, organizational, and leadership essentials that include recruiting, hiring, and retaining employees; and (d) barriers, critical factors, and ineffective strategies affecting the retention of IT professionals. By implementing supportive management practice and encouraging employees to embrace the organization culture, company leaders can succeed in retaining key IT staff. These findings may influence social change by uncovering strategies to retain IT professionals within the company and help IT professionals understand leaders' retention strategies.

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## Dedication

To my Lord and Savior and the only Son of God, Jesus Christ, this is for your glory. I dedicate this research project to Larry, Victoria, and Caleb. We believe, and we can achieve greater things than ever before.

## Acknowledgments

The completion of this doctoral study would not be possible without the support of so many people. I would first like to thank my Lord and Savior Jesus Christ for the strength, determination, and desire to be all that he has created me to be. I would like to offer a special thanks to my husband and children for their continued support and sacrifice during this journey. To Willie and Beverly Metts, only you know all the sacrifices you made to help me achieve such a goal, today is for you. To Shirley Gooden, no words can express my gratitude for your love, encouragement, and support. I hope that this achievement compensates for the trouble you endured because of me.

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## Section 1: Foundation of the Study

The ability to retain experienced professionals in the workforce is one measurement of success for companies (Chew & Entrekin, 2011). If companies are not efficient in retaining skilled talent in Information Technology (IT), it is unlikely that the organization will prosper in business operations (Davidson, Timo, & Wang, 2010). Voluntary turnover negatively affects companies due to the high cost of retaining, training, and developing new professionals (Ballinger, Lehman, & Schoorman, 2010; Sanchez, 2010). When professionals leave, companies often experience a decrease in the quality of products and services (Abii, Ogula, & Rose, 2013). Employee turnover is costly (Kim, 2012) and companies cannot afford to lose skilled professionals with significant knowledge (Dinger, Thatcher, Stepina, & Craig, 2012; McKnight, Phillips, & Hardgrave, 2009). Therefore, businesses are under pressure to create retention strategies to retain experienced professionals (Mohlala, Goldman, & Goosen, 2012).

The focus of this study was to explore the strategies and perceptions of senior IT leaders who have successfully retained IT professionals to understand what retention strategies company leaders need. A qualitative exploratory case study allowed the researcher to study the need for retention strategies in a real-life setting (Gibbert & Ruigrok, 2010). As a result, the experiences of senior IT leaders with supervisory and hiring responsibilities are vital in understanding what strategies are useful in retaining IT professionals. The implications of this research project may include the determination of effective and ineffective strategies for retaining skilled IT professionals. In addition,

company leaders desiring to sustain profitability, competitiveness, and organizational knowledge by retaining skilled IT professionals can receive information that will assist in achieving that goal.

### **Background of the Problem**

Sustainability is one of the most important management objectives for all business leaders and is integral to competitive success (Galbreath, 2011). From a global perspective, technical innovations are a key factor driving corporate competitive advantage and sustainability (Poonpool, Limsuwan, & Satchawatee, 2013). In 2011, companies spent 3.7 trillion dollars in IT products and services and IT is a critical function within 21st century corporations (Wang, Laing, Zhong, Xue, & Xiao, 2012). Within the past 30 years, computer technology incorporated 50% of the world's top 20 innovations (Taylor, 2010).

Due to these technological advances, 21st century businesses rely upon IT and IT professionals to sustain a competitive advantage (Coombs, 2009; Kaminski & Reilly, 2004). Information technology will contribute to the drive of the recovery of the global economy by creating 5.8 million new IT jobs and 75,000 new businesses by 2014 (Microsoft, 2009). As a result, IT professionals are an important factor in the U.S. economy (Brooks, Reimenschnieder, Hargrave, & O'Leary-Kelly, 2011). Information technology professionals are also essential to organizational success and can influence the success or failure of IT implementations (Kappelman, McLean, Luftman, & Johnson, 2013). Technology workers are vital resources to business organizations (Brooks et al.,

2011).

In the U.S. workforce, there is a high demand for skilled IT professionals and the need for IT professionals is on the rise (Bureau of Labor Statistic, 2014). Due to the retirement of baby boomers and advances in technology, there is an increasing demand for more skilled IT professionals (Luftman, Kempainh, & Rigoni, 2009). Retaining the right IT talent is critical to business operations and sustainability because these factors influence profitability (Galbreath, 2011; Mohlala et al., 2012).

Retention of the IT workforce within the United States is problematic for business organizations (Allen, Armstrong, Reid, & Riemenschneider, 2008; Ford, Swayze, & Burley, 2013; Meszaros, Creamer, & Lee, 2009) because of the cost to turnover (Ezulike, 2012). Retaining skilled IT professionals with the competencies to support IT functions continues to challenge organization leaders (Abii et al., 2013; Von Hagel & Miller, 2011). Since early computing, turnover among IT professionals continues to plague companies (Sumner & Neideman, 2004). American companies are still experiencing high turnover among IT professionals in the workforce (Berrios-Ortiz, 2012; Bureau of Labor Statistics, 2014). Information technology professionals are exiting the IT workforce (Armstrong, Nelms, Reimenschnieder, & Reid, 2012; Caputo & Kohun, 2011). Turnover of IT professionals negatively affects the competitive advantage, profitability and productivity of business organizations because technology workers often have advanced expertise (Mastracci, 2009; Sanchez, 2010).

The cost to replace an IT professional is expensive (Sanchez, 2010). The turnover

among IT professionals cost businesses up to three times the job's salary (Bairi, Manohar & Kundu, 2011). Cost associated with turnover may be a direct cost including recruiting, training, and developing a new professional or an indirect cost such as the loss of corporate knowledge and experience (Quan & Cha, 2010), a decrease in employee morale, and reduces performance and production (Berrios-Ortiz, 2012).

Corporate sustainability depends on the commitment and actions of several stakeholders including the employees (Galbreath, 2011) and retaining a team of experienced and productive IT employees is essential for maintaining corporate advantage (Coombs, 2009). Retaining IT professionals is a major concern for business leaders (Luftman & Ben-Zvi, 2010; Luftman & Derksen, 2012; Luftman et al., 2009). Companies can take steps to address employee turnover in IT and design retention strategies to better address the issue (Qua & Cha, 2010). The development of strategies to retain IT professionals can be difficult (Coombs, 2009), and researchers studying turnover among IT professionals often concentrate on the factors regarding employees leaving, and does not provide a clear method for developing effective retention strategies.

### **Problem Statement**

Business leaders must retain skilled IT professionals to maintain a competitive advantage (Ford & Harding, 2011). Von Hagel and Miller (2011) noted that employee turnover cost IT organizations \$80,000 to \$800,000 per employee. Moreover, turnover of IT professionals increased by 25% between 2012 and 2013 (Kappelman et al., 2013). The general business problem is that IT professionals voluntarily leave companies creating a



loss in organizational profitability and productivity. The specific business problem is that some company leaders lack strategies to retain IT professionals.

### **Purpose Statement**

The purpose of this qualitative exploratory single case study was to explore what strategies company leaders need to retain IT professionals. The population for this study included two senior IT leaders with supervision and hiring responsibilities from a mid-sized utility company in metropolitan Atlanta, Georgia. Senior IT leaders participated in semistructured interviews because these leaders were most suited to identify the strategies leaders need to retain professionals. I also reviewed company documents to explore information regarding retention strategies to triangulate the data (Walshe, 2011). The implications for positive social change included the potential to impact business practices by contributing new knowledge for use by business leaders looking to retain skilled IT professionals by developing creative strategies to retain these professionals.

### **Nature of the Study**

The qualitative methodology was the research method for the proposed study. A qualitative method allows the researcher to see phenomena from the perspective of the participants and to explore themes based on what participants have experienced (Toloie-Eshlaghy, Chitsaz, Karimian, & Charkhchi, 2011). A major focus of the study was to explore strategies from the perspective of the senior IT leaders, thus, making the qualitative method appropriate for this study. A quantitative method is not appropriate because the study is not testing a theory or hypothesis and not collecting numerical data

for inferential statistical testing (Hoare & Hoe, 2013).

A single exploratory case study design was the most appropriate design for this study. A qualitative case study design is an in-depth exploration strategy enabling researchers to explore a specific and complex phenomenon within its real-world context (Yin, 2013). An investigation through an exploratory case study also allows the investigator to conduct exploratory or explanatory research and ask how or what questions to comprehend the characteristics of real-life events (Yin, 2011b). These types of studies identify working links between events over time (Andrade, 2010; Baxter & Jack, 2008; Yin, 2009). I considered the following qualitative designs for this study: grounded theory, phenomenology, and ethnography. Grounded theory focuses on systemically discovering theories within the data (Walker, 2012; Wilson, 2012), which was not the primary goal of this study. The primary goal of phenomenology is to study the human experience from the view of those living the phenomenon (Wilson & Washington, 2007), which was not the intent of this study because the goal of this study was to explore strategies companies need to retain IT professionals. An ethnographic study was not appropriate because the researcher focuses on studying an entire culture of people to gain perspectives from those who live in that culture (Hanson, Balmer, & Giardino, 2011; Yin, 2009).

### **Research Question**

The overarching research question for this study was: What strategies do company leaders need to retain IT professionals?

**Demographic Questions**

1. How many years have you served in senior IT leadership?
2. What is the total number of employees in your company?
3. In the last two years, how many IT professionals have voluntarily resigned from your department?
4. What was your area of service?
5. How many direct and indirect (reports) employees are you responsible for leading?
6. What is the average tenure of IT professionals in your organization/department?

**Interview Questions**

1. What strategies do you use to retain IT professionals?
2. What are the critical factors you use to retain IT professionals?
3. What retention strategies do you use to retain IT professionals in your IT organization?
4. What strategies do you use that are least effective in retaining IT professionals in the IT organizations?
5. What strategies do you use that are most effective in retaining IT professionals?
6. What other strategies and leadership characteristics do you use that are beneficial in retaining IT professionals?

7. In your experience, what barriers prohibit retention strategies from being successful?
8. What other information would you like to provide that we have not addressed already?

### **Theoretical or Conceptual Framework**

The objective of this study was to explore the strategies that senior IT leaders are practicing to retain IT professionals. Two conceptual frameworks informed this study and assisted me in exploring and explaining the strategies senior IT leaders may be using to retain IT professionals. Bertalanffy's (1972) general systems theory serves as a lens to understanding strategies senior IT leaders need to retain IT professionals. In addition, Researchers can use Bass' (1985) transformational leadership theory to address issues that provide basis for the dynamics of retention strategies. I will apply these theories in order to gain an understanding of the strategies senior IT leaders are practicing to successfully retain IT professionals.

#### **von Bertalanffy's General Systems Theory**

von Bertalanffy's (1972) general systems theory is a conceptual framework that I used in this study. von Bertalanffy originally introduced the conceptualization for general systems theory in 1937, but further developed the theory in 1949 and again in 1972 (Drack & Schwarz, 2010). The driving idea behind system theory is the concept of system wholeness (Drack, 2009; Drack & Schwarz, 2010). Therefore, von Bertalanffy's theory focuses on complete organizational systems with human beings, sociality, and

technology working in sync to ensure organizational goals are met (Wilson, 2012). Viewing retention through this theory offered an explanation for retention strategies (Shannon, 2013) upon the foundation that IT leaders view retention strategies as a subset of a whole system to retain IT professionals and maintain productivity and profitability. As applied to this study, the general systems theory allowed me to explore perceptions of interactive strategies of senior IT leaders pertaining to the whole concept of retaining critical IT professionals.

General systems theory continues to evolve (Troncale, 2009). One evolution of general systems theory is the general systems logical theory (GSLT), which focuses on an input–output model by means of class theory concepts (Drack & Schwarz, 2010). General systems logical theory is said to be complementary to and has the same aim as the more problem-solving oriented general systems problem solver (GSPS), which is also an extension of general systems theory and is usable for management problem solving activities (Drack & Schwarz, 2010). Furthermore, human system therapy (HST) also evolves from general systems (Paritsis, 2010). Human systems theory allows researchers to examine human intelligence through interventions, which may also include activities such as retention strategies (Paritsis, 2010).

### **Bass's Transformational Leadership Theory**

Transformational leadership was also a conceptual framework that I used in this study to explore retention strategies. J. M. Burns developed the transformational leadership framework (Warrick, 2011). Bass (1985) later extended the work of Burns.

King (2012) and Vinkenbug, van Engen, Eagly, and Johannesen-Schmidt (2011) utilized transformational leadership to offer an explanation for leadership based upon the premise that leaders are able to inspire followers to change expectation, perceptions, and motivations to work toward commons goals. Key propositions underlying the theory are: (a) individual consideration, (b) intellectual stimulation, (c) inspirational motivation, and (d) idealized influences (Vinkenbug et al., 2011). As applied to this study, using transformational leadership theory allowed me to explore perceptions and a leader's transformational characteristics as they pertain to retention strategies senior IT leaders need.

Over the years, transformational leadership theory has continued to evolve (Epitropaki & Martin, 2013). For example, leader-member exchange (LMX) theory derives from transformational and transactional leadership theory (Harris, Wheeler, & Kacmar, 2011). Grant (2012) noted that although transformational leadership increases followers' performance by motivating them to achieve company goals, rhetoric alone might not be enough to make transformational leadership an effective leadership strategy, which may serve as a limitation of transformational leadership. Transformational leadership is most effective in encouraging employees when the rhetoric connects to the individual recipients of their work. This highlights how vision has important significance for other people (Grant, 2012).

### **Definition of Terms**

*Information technology:* Information technology is using hardware, software,

support services, and computer infrastructure to manage and supply information via voice, data, and video (North Dakota Information Technology Department, 2013, para 1).

*Information technology professional:* Information technology professionals are computer programmers, system analysts, computer technicians, application developers, and project leaders who support and maintain computer systems (Bennett, 2009).

*Leadership:* Leadership is a person's use of interpersonal skills to influence and motivate others to follow or commit to the goals of a group (Kaiser, McGinnes, & Overfield, 2012).

*Retention:* Retention is actions that an organization takes to encourage professionals to maintain employment with the organization for the maximum period of time (James & Mathew, 2012; Ratna & Chawla, 2012).

*Senior IT Leader:* A senior IT leader is a person serving in a IT position such as chief executive officer (CEO), chief operating officer (COO), executive vice president, vice president, director, senior application developer, and senior project manager (Alimo-Metcalfe, 2010).

*Strategies:* A strategy is the creation, implementation, and evaluation of decisions within an organization that enable the organizational leaders to achieve their long-term objectives (Buchanan, 2013; Pretorius & Maritz, 2011).

*Turnover:* Turnover is when an employee totally separates from an organization and includes cessations, resignations, layoffs, and discharges (Bureau of Labor Statistics, 2014; Hom, Mitchell, Lee & Griffith, 2012).

## **Assumptions, Limitations, and Delimitations**

### **Assumptions**

As the researcher, I assumed at least two suitable participants would be available to participate in interviews. I also assumed that participants of the study would give truthful responses with an understanding that their responses are confidential. The final assumption was that interviews would offer an opportunity to explore common themes involving the retention strategies senior IT leaders practice and the effectiveness of these strategies.

### **Limitations**

One key limitation of the study was that my professional background as a director in IT could have potentially influenced the research approach and analysis of the data. In order to mitigate bias, a researcher can identify the bias and engage in bracketing or the process of exposing bias that cannot readily be eliminated (Wilson & Washington, 2007). I had opinions about what strategies senior IT leaders are practicing to retain IT professionals. However, to minimize bias, I bracketed my own views and followed the research protocol closely, asking questions and not injecting my own observations, to address this limitation. As suggested by Loiselle, Profetto-McGrath, Polit, and Beck (2010), I emailed the transcribed interview data back to the participant for verification and included only data verified by the participant.

### **Delimitations**

The first delimitation was that IT professionals not in senior leadership were not



included in the study. Interviewing only senior IT leaders represented delimitation because I could have interviewed professionals who are in not in IT leadership positions; however, these professionals may not have known what retention strategies senior IT leaders are practicing to retain IT professionals. Identifying IT professionals with previous desires to leave but the company was able to retain may have presented a challenge because these IT professionals do not have a unique identifier. I could easily identify senior IT leaders by a position title. For this reason, both Mohlala et al. (2012) and Tay (2010) interviewed senior IT leaders when studying retention strategies to retain IT professionals, which justified using senior IT leaders as research participants in this study. The second delimitation was the relatively small sample size; a larger sample would have added more time and cost. The third delimitation was that the geographical location of the population was restricted to the metropolitan Atlanta, Georgia area for convenience. The fourth delimitation was that I selected participants through purposive sampling, which is nontransferable to a larger population.

### **Significance of the Study**

#### **Contribution to Business Practice**

This study could fill a gap in the literature and contribute to business practice by providing knowledge for organizational leaders looking to retain IT professionals by developing creative retention strategies to retain professionals. Understanding strategies that senior IT leaders are practicing could provide insight on successful and ineffective methods to retain skilled IT professionals, reduce cost associated with employee

turnover, safeguard operational efficiency and sustain competitiveness. Business leaders may also use the findings from this study to evaluate the effectiveness of the current strategies organizations are practicing in an effort to retain skilled professions. Skilled professionals are essential in producing better business results (Herring, 2009). It is critical for organization leaders to understand the issues surrounding turnover factors that influence retention so that they can control turnover in the organization (Ghapanchi & Aurum, 2011). Identifying and understanding effective strategies senior IT leaders are practicing can assist in sustaining profitability, retaining corporate knowledge, and increase employee morale.

### **Implications for Social Change**

According to the Bureau of Labor Statistics (2014), the demand for IT professionals is rising and will grow higher than other industries. Therefore, understanding what strategies senior IT leaders are practicing to retain professionals was essential in ensuring that companies retain IT professionals. From a social change perspective, the proposed research may be valuable to IT organization leaders because IT professionals provide support for business operations in their efforts to provide quality services and products. Information technology professionals can gain an understanding of the efforts of organization leaders, which may result in higher job satisfaction and employee retention in the IT workforce.

### **A Review of the Professional and Academic Literature**

The intent of the qualitative study is to identify what strategies company leaders

need to retain IT professionals. I will investigate the retention strategies influencing productivity and performance through a qualitative exploratory case study qualitative research method by studying senior IT leaders in a mid-size company in metropolitan Atlanta, Georgia. Effective leadership is important in retaining experienced employees and may influence productivity (Harris et al., 2011). The research design includes a mid-sized company that provides utility services. The company consists of approximately eight IT professionals with two senior IT leaders. The following research question underpin this study: What strategies do company leaders need to retain IT professionals?

I conducted a review of literature on retention strategies, which includes peer-reviewed articles and journals, books, dissertations, websites, and corporate and government reports. The specific focus areas included professional in IT, the IT workforce, turnover in IT, cost of turnover, retention in IT, retention strategies, compensation and reward, training and development, work-life balance, organizational culture, qualitative research methods, quantitative research methods, case study research, transformational and transactional leadership, and general systems theory. Primary research libraries and databases included the Walden University Library, Clayton State University Library, ProQuest, Google Scholar, Thoreau, SAGE, and EBSCO Primary. The total number of all references used in each category is: (a) 8 books, (b) 266 journals and articles, (c) 12 dissertations, (d) 2 government and corporate reports, and (e) 2 websites. Of the 290 references, 266 (91.72%) were published within the last five years, and 256 (including the dissertations) were peer-reviewed and were published in the last

five years (88.27%). The literature review contains 126 peer-reviewed journal articles (including the dissertations), of which 118 (93.4%) were published within the last five years.

### **The IT Workforce**

Information technology enables business organizations to become more effective and efficient in business operations (Lin, Ku & Huang, 2013). The emphasis on business transformation creates a demand for skilled IT professionals (Hawk et al., 2012). In addition, Hawk et al. (2012) noted that an increase in globalization and companies seeking a competitive advantage drives the growth of the IT workforce. Therefore, IT professionals are essential to the organization's performance (Mohlala et al., 2012).

Information technology professionals are individuals with the responsibility of managing the latest technology, developing technology systems to solve business problems, and provide technical support to end users (Rutner, Reimenscheider, O'Leary-Kelly & Hargrave, 2011). Hawk et al. (2012) further discussed ideas describing IT professionals as employees whom companies employ to provide IT services, support, and products to clients. Furthermore, the U.S. Bureau of Labor Statistics (2014) listed IT professionals as computer network architects, computer programmers, computer support specialist, computer system analyst, database administrators, and web and software developers.

Many of the IT jobs are complex and require higher levels of education for IT professionals (Brooks et al., 2011). Allen et al. (2008) posited that IT professionals

demonstrate characteristics that are unique from professionals in other industries.

Information technology professionals provide an essential resource to organizations as the demand of IT services continues to increase.

The demand for IT professionals is strong (McKnight et al., 2009). The private and public sector are competing for skilled IT professionals (Coombs, 2009). As the IT industry continues to grow (Harris, Cushman, Kruck & Anderson 2009), the number of companies requiring IT jobs will increase. Stockholders benefit from a strong IT workforce (Hawk et al., 2012). For companies with the primarily business function of providing technical support to other businesses, IT professionals are an essential resource for business profitability (Hawk et al., 2012). However, retaining IT professional creates a challenge for many business leaders (Mohlala et al., 2012; Von Hagel & Miller, 2011).

### **Turnover in IT**

Turnover in IT is problematic for organization leaders (Armstrong et al., 2009; Ladelsky & Catana, 2013, Ratna & Chawla, 2012). Several industries including business (Abii et al., 2013; Dailey, 2011; Von Hagel & Miller, 2012), education (Holmes, 2006) and government (Kim, 2012; Sanchez, 2010) are experiencing high turnover among IT professionals. Turnover among IT professionals is a global problem, and researchers in Brazil (Ramos & Joia, 2013), South Africa (Mohlala et al., 2012), and India (James & Mathew, 2012) have investigated the turnover of IT professionals. Turnover among IT professionals in the United States and abroad, negativity affects business organizations (Ghapanchi & Aurum, 2011).

According to Sanchez (2010) turnover among IT professionals has a critical impact on a companies' productivity and performance. McKnight et al. (2009) contend IT professionals often have specialized skills, which is difficult to replace and creates turnover. McKnight et al. and Ghapanchi and Aurum (2011) posited the demand for IT professionals creates turnover because skilled IT professionals can easily find new jobs.

In contrast, Hancock, Allen, Bosco, McDaniel and Pierce (2013) purported that turnover is not always detrimental to organizations performance and profitability. According to Hancock et al. (2013), there are some benefits associated with turnover that may prevail over the cost. Ghapanchi and Aurum (2011) also suggested that there are benefits of turnover such as lower paid replacements workers, opportunities to promote professionals who stay with the company. In addition, the emergence of new ideas, and the experiences and knowledge brought to the company that may come with a new IT professional (Ghapanchi & Aurum, 2011). Ratna and Chawla (2012) suggested that turnover among low performing IT professionals does not constitute voluntary turnover. However, the cost of voluntary turnover plays a role in the success of the company.

### **Cost of Turnover**

In general, employee turnover happens in every industry (Jain, 2013). Employee turnover is costly and can cost up to 100% of the annual salary of the position (Bryant & Allen, 2013; Jain, 2013). Hom, Mitchell, Lee and Griffith (2012) further suggested that turnover costs organizations between 90% and 200% of the annual salary for that position. In addition to the financial cost, turnover is also disruptive to company

operations. Through a cost analysis, Jain (2013) noted that there is high price associated with turnover. The cost of turnovers expands beyond the cost associated with hiring procedures (Milman & Dickson, 2013). In addition, the cost of employee replacement is increasing (Frey, Bayon, & Totzek, 2013).

A business experience several costs when an employee voluntary leaves the company (Jain, 2013). Administrative cost, advertising cost, psychological exams expenses, interview and screening expenses, cost of training the new employee, public relations cost, and increases in employment insurance expenses are all costs a company may experience due to the voluntary turnover of staff (Jain, 2013). Companies have concerns with employee turnover because it influences the bottom line (Wallace & Gaylor, 2012). Organizations should be mindful of the cost of employee turnover (Wallace & Gaylor, 2012). Within IT, turnover can cost organizations up to \$800,000 per employee (Von Hagel & Miller, 2011).

James and Mathew (2012) studied turnover in India and contended that turnover not only creates loss for organizational production, but also is expensive due to the cost the companies must pay to replace an IT professional. Ghapanchi and Aurum (2011) also purported that IT turnover is costly to organizations and losing essential laborers can negatively impact the business organization effectiveness due to skilled professionals leaving the organization. The turnover cost in IT may result in projects failure or unsuccessful implementations of projects, which is costly to the organization (Kappelman et al., 2013). Coombs (2009) who studies the retention of IT professionals in the UK,

argued departing IT professionals take with them important knowledge and experience when leaving the company. Luftman and Ben-Zvi (2011) found senior IT leaders concern themselves with the direct and indirect cost of the IT functions.

The cost organizations incur when losing a professional is high, in addition, turnover of key professional negativity affects the organization's success and effectiveness (George & Alex, 2011). The cost of turnover among IT staff impacts the ability to function as an organization business unit. Dinger et al. (2012) and Kim (2012) studied IT turnover among government IT professionals and contended that the cost of turnover of IT professionals warrants the attention of senior IT leaders and exploration.

From a different view, Vijayakumar (2012) suggested that in addition to the cost of employee turnover there are both tangible and intangible losses for the company. The intangible cost of employee turnover includes the loss of production, an increase in supervision of a new employee, a decrease in profitability, a decrease in a leaving employee's productivity prior to their departure and the hiring cost of a new employee (Inabinett & Ballaro, 2014).

### **Research on Retention**

Research on retention of employees covers both small business (Gialuisi & Coetzer, 2013) and large corporations (Samson, 2013). No matter what size a company is, retention is a key factor to its success (Shore, 2013). Therefore, retention continues to be a growing concern for many business leaders (Shore, 2013). In many companies, the human resources are more important than the physical assets the company owns (Shore,



2013). Shore (2013) noted that retention is the result of influence stemming from additional job opportunities and the culture of the workplace. Shore also noted that retention is a global problem.

The retention of employees depends on the satisfaction of the employee (Dinger, Thatcher, & Stephina 2010; Milman & Dickson, 2014; Mobley, Griffeth, Hand, & Meglino; 1979). Therefore, as companies continue to pull through the recent difficult economic times, maintaining a good relationship with employees and understanding why they stay with a company is useful as retention continues to be an area of major concern (Milman & Dickson, 2014). In every industry, retention continues to plague companies (Self & Self, 2014). Even with amusement companies such as Six Flags or Disney World, an employee can take three months to become fully acclimated enough to the business procedures to be beneficial to the company (Milman & Dickson, 2014). Therefore, retaining these employees is critical. Likewise, in professional services employee turnover continues to be detrimental to success of companies (Frey et al., 2013).

According to Shore (2013), retention is critical in protecting a company's human resources. However, from a different perspective, retaining employees may not always be in the best interest for the company (Self & Self, 2014). When companies retain employees who are not benefitting the company, these businesses participate in negligent retention (Self & Self, 2014). Therefore, Self and Self (2014) posited that companies should identify those counterproductive employees and work to terminate their employment. Shore (2013) posited retention in the IT industry might be more severe

because IT requires skills that are more specialized.

Within IT literature, researchers continue to explore IT staffing concerns from various angles (Dinger et al., 2010). The majority of research on IT turnover explores the phenomenon from the individual level and not from an organization level. Prior research on turnover in IT focuses on themes such as job satisfaction (Milman & Dickson, 2014), and barriers women face in IT (Appelbaum, Asham, & Argheyd, 2011a, 2011b). Researchers continue to study the factors influencing turnover among IT professionals including the employee's perception of the work environment (McKnight et al., 2009). The majority of the research focusing on IT professionals' turnover explores the IT professional's personal feeling regarding the IT organization or job (Dinger et al., 2010). Literature regarding IT professionals explores the turnover of IT professionals from an individual perspective (Dinger et al., 2010) instead of the strategy IT organizations are using to retain IT professionals. Research that explores retention strategies IT organizations are utilizing are essential, and because many organization leaders lack effective strategies to retain IT professionals (Mohlala et al., 2012) investigation of retention strategies is critical for business and organization leaders.

In contrast, Von Hagel and Miller (2012) investigated turnover among IT professionals from a corporate view and found 20% of participants indicated that a fight with direct managers as a factor in leaving the company. In addition, 30% of participants felt that the company did not value the professional or respects how the IT professional contributes to the team. When asked to state what organizations can do differently, if

anything to prevent IT professionals from leaving their jobs, 70% of the participants felt that the organization's leaders should improve the quality of corporate politics and corporate management relations. Von Hagel and Miller (2012) also found 35% of participants believed that valuing employees and better relationship with direct supervisors would prevent IT professionals from leaving their jobs. The research finding confirms that the behavior of IT leaders in business organizations is an important factor in retaining IT professionals.

Mohlala et al. (2012) studied retention among IT professionals in a South African bank and found that IT leaders are finding it difficult to retain IT professionals due to the lack of retention strategies. Coombs (2009) contended that retaining a skilled and committed IT team is critical for maintaining a competitive advantage. According to Dinger et al. (2012), to understand the phenomenon of turnover among IT professionals and strategies that companies use, it is critical to explore the practices of the organization.

### **Retention of IT Professionals**

Retention involves organizations taking strategic action to encourage professionals to stay employed with the company for an extended period of time (Ratna & Chawla, 2012). Retaining IT professionals is a critical problem for both technology-based and non-technology based organizations (Coombs, 2009; Mourmant, Gallivan, & Kilika, 2009) and the inability to retain key IT professionals continue to increase (McKeen, Smith, & Jin, 2009; Ratna & Chawla, 2012). Trauth, Quesberry, and Huang (2009) stated that the demand for IT professionals will not be met because of the

imminent retirement of the baby boomers and the decline of students enrolled in IT degree programs, this would require organizational leaders to focus on factors that influence the retention of IT professionals. Ratna and Chawla (2012) studied retention in Indian telecom workforce and posited that retaining professionals is more important than hiring a professional. Quan and Cha (2010) argued that there is an expectation for turnover among IT professionals to increase as the economy rebounds.

Dinger et al., 2012 purported the retention of IT professionals among their top five concerns in the IT industry. McKnight et al. (2009) also indicated that the retention of IT professionals is vital to organizations because these professionals have knowledge regarding how IT systems interact with business processes. In a study of IT professionals in Karala, George and Alex (2011A) found that retention is a critical concern for organizations. However, a study by Mohlala et al. (2012) found that some organizations do not have retention strategies in place to retain IT staff.

For business organizations, creating effective strategies for IT professionals is challenging. Despite incorporating flextime and increasing salaries, many organizations including state governments are reporting a turnover rate of 11% among IT professionals (Coombs, 2009). The finding from Kim (2012) suggested that senior IT leaders replace traditional personnel management strategies with strategic retention practices effectively to retain IT professionals in state government. This idea may also benefit IT organizations in the private sector.

From a different perspective, The IT environment is stressful and employees put

in long hours to meet goals. Some businesses expect high turnover (Zhao & Rashid, 2010). Information technology employees often deal with frequent technological and organizational changes, which often result in voluntary turnover. Therefore, companies need retention strategies in place to ensure that IT professionals stay within the IT workforce.

### **Retention Strategies**

Retaining employees contributes to the success of businesses (Frey et al., 2013) and retention strategies relate to the organization strategy for competitive advantage (Allen, Bryant, & Vardaman, 2010). Retention strategies require companies to invest time and resources, and every professional is of equal value to the company (Allen et al., 2010). Retaining those employees who are critically important to the company may be essential to the success of the company (Allen et al., 2010). However, investing resources into a retention strategy may not be successful without understanding the underlying cause of turnover (Allen et al., 2010). Gialuiss and Coetzer (2013) found that individuals leave companies because of several reasons including their relationship with management and peers, lack of advancement opportunities, lack of work-life balance, and job related stress. Despite the research on attrition, there is little information on retention efforts (Allen et al., 2010).

The development of a retention strategy is a critical task because of today's labor markets (Ortlieb & Sieben, 2012). Allen et al. (2010) described several strategies for retaining professional, including proper recruitment, proper selection of employee,

training and development, compensation and reward, engaging the employee, and strong managerial relationships. Employees having fun in the work environment is also a strategy managers can use to retain employees (Milman & Dickson, 2013).

There are best practices that all managers can use to retain important staff (Allen et al., 2010). However, one misconception regarding retention strategies is that one-size-fits-all retention strategies are most effective for business (Allen et al., 2010). Allen et al. (2010) posited that there are two distinct types of retention strategies, systemic and targeted (Allen et al., 2010). Systemic strategies are general retention strategies a manager can use to reduce turnover (Allen et al., 2010). Target strategies are more specific retention strategies that an organizational can use to retain a specific group of employees (Allen et al., 2010).

According to James and Mathew (2012) organizational leaders can work to mitigate turnover among IT professionals through the implementation of retention strategies. The high turnover among IT professionals is a key indicator of why IT organizations need retention strategies (Mohlala et al., 2012). Kim (2012) found that IT leaders must commit to considering and implementing strategies to retain IT professionals.

Holmes (2006) who studied retention strategies among IT professionals in higher education noted that retention drives a mix of intangible and nonmonetary benefits. Holmes also noted that some companies have a catalog of strategies to keep IT professionals. Holmes found that IT professionals in higher education stay with the

organizations for several reasons including: flexibility, working relationship with teammates, how challenging the job is, and limited opportunities elsewhere. Although Holmes study focused on the educational environment, the findings parallel research results from the corporate sector (Riemenschneider, Armstrong, & Moore, 2009).

According to DeMers (2002), there is not a magical solution to the retention challenges senior IT leaders and businesses face. DeMers studied retention strategies in the public sector and noted employee's recognition, training and education, and flexibility as retention strategies that senior IT leaders can utilize to retain staff. Ezulike (2012) stated that while organizations as a best practice have effective policies in place to address staff development and recognition and compensation for key professionals, the demand for critical IT professionals makes having an effective retention strategy in place more of a need than a desire for businesses. Agarwal and Ferratta (2002) noted performance management, recognition and compensation, lifestyle accommodation, job security, opportunities for development and training, and quality of leaders as strategies business organizations utilize to retain IT professionals.

As previously noted, employee recognition and reward, compensation, work life balance, training and development, and opportunity for promotion are common threads among previous studies relating to retaining IT professionals. Holmes (2006) argued better manager-employee relationships, valuing staff, higher compensation, and better communication as strategies IT professionals recommends for retaining IT professionals. Opportunity for advancement and promotions, training and development, pay and reward,

supervisory communities, satisfaction, and family friendly policies are some strategies to retain IT professionals as well (Kim, 2012). According to Ezulike (2012), different factors motivate different people; therefore, it is not only about business organizations offering IT professionals good compensation, promotion opportunity motivate some professionals (Ezulike, 2012). In addition, job security and a challenging work environment also motivate IT professionals (Ezulike, 2012).

**Compensation.** Compensation is one of the most important factors influencing the effectiveness of staff (Gupta & Shaw, 2013). In addition, compensation decisions are among the most important decision a company can make (Barnes, Reb, & Ang, 2012). Most companies in the United States have a pay-for-performance strategy to retain professionals (Gerhart & Fang, 2013). Compensation influences the retention of employees (Gupta & Shaw, 2013). Compensation is a powerful incentive and can influence the effectiveness of business.

From an organizational leader's perspective, it is critical that companies structure the compensation systems correctly (Gupta & Shaw, 2014). Compensation is among one of the highest recommended strategies for retaining staff (Kennedy & Daim, 2010). Compensation decisions have important implications to the retention of staff (Barnes et al., 2012). Therefore, compensation acts as a strategy for retaining IT professionals. Anis et al. (2010) posited compensation is a valuable tool leaders can use to retain staff. Compensation is monetary and nonmonetary remuneration that an employer gives to an employee in exchange for services the employee renders. Employers give merit increases



based on job performance (Gerhart & Fern, 2013). Aris et al. (2010) also stated that it is beneficial for employees to receive compensation based on the accomplishment of a desired goal.

According to Barnes et al. (2012), undercompensating staff can lead to employee turnover. Luftman and Ben-Zvi (2011) noted that the retention of IT professionals is an issue IT leaders should consider. Compensation research shows that companies develop compensation strategies to align with the business strategy (Torres & Alder, 2012). Companies with high compensation systems have higher employee retention rates than companies with lower compensation systems (Arit et al., 2010).

To influence employee retention, managers who develop compensation can consider the employee contributions to the organization and the competitiveness of the salary (Torres & Alder, 2012). Competitive compensation involves a company determining the amount of salary based on what other companies are paying (Torres & Alder, 2012).

Holmes (2006) also found that higher compensation was the second most listed recommendations for retaining IT professionals. Compensation is not the most important factor in retaining IT professionals (DeMers, 2002). Abii et al. (2013) also argued compensation is not the only factor in retaining IT professionals.

Some may view compensation differently (Anis et al., 2010). Holmes (2006) noted that salary is seldom the only factor when a professional voluntarily leaving the company. DeMers (2002) posited that there are retention strategies that are not based on

salary compensation. Furthermore, Holmes found that higher compensation was the second most important recommended strategies for retaining IT professionals. According to Ezulika (2012), IT professionals are willing to take a decrease in pay for flexible working hours. Although, benefits and compensation is a major factor in employee retention, strategies such as recognition is just as important according to retain IT professionals (Chew & Entrek, 2011).

**Reward and recognition.** Extrinsic rewards drive employee motivation that leads to retention (Stumpf, Favonto, & Smith, 2013). Reward and recognition are motivators that each employee seeks on a consistent basis (Wiley & Kowski, 2012). Employee recognition positively influences performance by 15% (Wiley & Kowski, 2012). According to Wiley and Kowski (2012), employee's best enjoy recognition that comes from their immediate supervisor. Johnson (2014) revealed how companies treat employees have an impact of voluntary turnover. However, many employees stated that companies only recognize the most productive employees (Wiley & Kowski, 2012).

Chew and Entrekin (2011) studied retention strategies in Australia argued that professionals stay employed with a company if the company recognizes and appreciates the performance, work effort and capability of the individual employee. Reward and recognition are nonmonetary rewards IT professionals receive from senior management, which indicates a job well done according to Erturk (2014), who studies retention of IT professionals in Turkey. This sense of accomplishment serves as a motivating factor for employees (Chew & Entrek, 2011). Chew and Entrekin (2011) also found employees

ranked valuing employees as the top four of five strategies that are effective for retaining staff. Crew and Entekin (2011) also noted the companies with valuing employees ranked as number four out of five as the most important strategy have a turnover rate up to 10%. Findings from this study may indicate a greater need for senior IT leaders to prioritize rewarding and recognizing employees due to its impact on retention. Crew and Entekin (2011) indicated that a reward and recognition program is important. Their findings are especially true with the ever-changing demands that IT professionals must endure.

Employees often view that employee-employer relationship as an exchange of interactive reciprocal activity (McGrath, 2012). The employees must determine if the level of reward and recognition the company gives is an acceptable exchange for the effort the employee gives (Allen, Armstrong, Reid & Riemenschneider, 2008). One important factor in retaining professionals is the retention system a business organization has in place (Ladelsky & Catana, 2013). Recognizing and rewarding IT professionals positively influence IT professionals (Ladelsky & Catana, 2013;Mastracci, 2009). Erturk (2014) found that managers must focus on IT professional's needs and recognize their efforts to retain these professionals. Erturk (2014) also noted that there is a strong correlation between recognition and turnover intention of the retention of staff. In addition to recognizing and rewarding IT professionals, work life balance may also help senior IT leaders retain IT professionals.

**Work life balance.** Work-life balance is challenging in several industries including IT, causing professionals to make career decisions based on how well the

organization works to help the employee facilitate this balance (Ghazzawi, 2010). A career in IT often requires completing work beyond the traditional nine-to-five workday or even 24-hour-a-day availability (Ashcraft & Blithe, 2009). Many IT professionals experience an ongoing conflict between family responsibilities and the demands of a career in IT (Ashcraft & Blithe, 2009).

Work life balance is among several strategies some companies are using to retain key professionals. De Cieri, Holmes, Abbott and Pettit (2005) noted from the view of an employee, work life balance is the maintaining a balance between work and home responsibilities. Laddha, Singh, Gabbab and Gidwani (2012) noted three levels of retention strategies ranging from low-level employees retention strategies to high-level employee retention strategies and promoted work life balance as a primary strategy for retaining IT employees. By developing flexible schedule offering, extended leaves of absences and developing services such as on campus daycares, companies can assist in fostering a stronger work life balance for employee (Laddha et. al, 2012).

Many business organizations offer more flexible work arrangements and continue to adopt policies to encourage greater work life balance (Shockley & Allen, 2010), which is an important factor for IT professionals. McNamara, Pitt-Catsouphers, Matz-Cost, Brown and Valcon (2012) studies work life balance found participants negativity associated the number of hour worked with work life balance. For this reason, Darcy et al. (2012) posited incorporating work life balance activities as a strategy for reducing turnover and retaining professionals.

In contrast, Darcy et al. (2012) noted that there is a lack of consensus regarding the effectiveness of the work life balance. McCarthy, Darcy and Grady (2010) posited the implementation of the strategy may be different among different organization units, departmental managers, and senior level executives and its effectiveness often depend on the practices of the line managers. Since work life balance include strategies such as part-time work schedules, some mid-level and senior level managers find it challenging to maintain productivity while incorporating strategies that promote flexible work schedules, which is the foundational ideas of work life balance (McCarthy et al., 2010). However, the business organizational ability to develop and implement work life balance strategies produce more satisfied employees and impacts the organizational ability to retain key professionals (McCarthy et al., 2010). Kim (2012) argued IT leaders should acknowledge practices such as work life balance activities to address retention issues. Chou and Pearson (2012) found that IT professionals might not have the high levels of stress that previous research incident.

**Development and training.** To remain successful companies can make an investment into the training and the development of its employee (Gogel, 2011). Research shows that companies that invest into training efforts for their employee experience higher employee productivity and higher financials perforations well (Cogel, 2011). U.S. companies spend up to 6% a tier payroll on training employee (Cogel, 2011). Training and development not only influence the company productivity and profitability, but also helps to create a winning attitude for employee (Latif, 2012). Employee

development is an important human resource function of the organization (Sawitri & Muis, 2014).

In general, training employee produce companies that a valuable to the employee company and other companies as well (Koster, DeGrip, & Fouarge, 2011). Training and development opportunities are a factor in enhancing retention of staff (Govaert, Kyndt, Dochy & Baert, 2011). Govaerts et al. (2011) noted that employee with significant training and development is not as motivated to leave the company. According to Kosler et al. (2011) companies work to reduce turnover by provide supporting the personal development of an employee, which may lead to a greater commitment to the company. However, an employer's investment in training may increase the valuable for other companies, which they company may not intend so (Haines, Jalette, & Larose, 2010).

Wierschem, Guoying Zhang, and Johnston (2010) argued that managers use training and development to retain IT professionals within government businesses. Brooks et al. (2011) found that IT professionals required unique training as compared to professionals in other sectors. Training is an important factor in the company's profitability (Ameeq-ui-Ameeq & Harif, 2013). The main purpose in training employee is to ensure more profitability for the company (Ameeq-ui-Ameeq & Harif, 2013). Kenneth (2013) noted that some employers utilize training and development for equipping employees. Training can include on the job or off-site training (Ameeq-ui-Ameeq & Harif, 2013). Ameeq-ui-Ameeq and Harif (2013) also noted that employer who engages in training and development will likely have a considerable amount of job satisfaction,

motivation, and job commitment. Furthermore, Kenneth (2013) posited that when determining to stay or leave a company an employee often consider the amount of training he will receive.

To retain qualified workers a company should have more consideration for the relationship between employee turnover and training (Kenneth, 2013). To increase employee's retention, it is common for companies to offer company learning opportunities, training and development, and tuition reimbursement (Laddha et al., 2012). Garavan and Carbery (2012) defined training and development as formal learning and support initiatives to develop employees. According to Salas, Tannenbaum, Kraiger, and Smith-Jentsch (2012), U.S. Companies spend billions on training and development each year. Many companies focus on training because training employees gives the company a competitive advantage (Salas et al., 2012). Training often produces innovation and helps companies reach its goal.

In contrast, Smith, Stokes and Wilson (2013) found that job satisfaction levels in long-term employees does not relate to training and development of employees. In additional, some employers have a different view of training and development as it relates to employee turnover and retention (Kenneth, 2013). Many employers feel that if given the opportunity for training and development, an employee feel that if given the opportunity for training and development, an employee will leave the company (Kenneth, 2013).

**Leadership.** Holmes (2006) studied retention of IT professionals in higher

education found that 42% of participants identified IT management as the greatest factor in retaining IT staff. Participants in Holmes study felt that IT management influences the voluntary turnover of IT professionals. Participants in the study also felt that management can work better to understand and value IT professionals. One participant stated that senior IT leaders should examine their leadership philosophy and determine if that philosophy aligns with the actions of that leader. According to Ghapanchi and Aurum (2011) some factors influencing the turnover of IT professionals are within the control of IT senior leaders, therefore, understanding and disabling these factors might be significant for IT leaders in retaining IT professionals. Therefore, transformational leadership may be a strategy that helps senior IT leaders retain IT professionals.

### **Transformational Leadership**

Literature regarding transformational leadership theory is foundational in leadership studies. Many scholars (Kuppusamy, Ganesan, & Rosada, 2010; Phipps, Prieto, & Verma, 2012) have approached leadership through this lens. Bass (1985) described transformational leaders as goal setters and encouragers who are supportive and passionate. Moreover, Bass believed leaders with these traits show the ability to change an organization and its employees. Furthermore, Bass also believed leaders express leadership traits through four dimensions.

Transformational leadership has four dimensions: (a) idealized influence, which refers to charisma or the ability to provide a clear vision, instill pride, and earn the respect of followers; (b) inspirational motivation, the ability to communicate expectations and



significant undertakings through symbols and to motivate people; (c) intellectual stimulation, the ability to foster creativity, promote understanding, and solve problems; and (d) individual consideration, or taking a personal interest in people (Warrick, 2011). Transformational leadership characteristics tend to be present when a leader displays creativity, open-mindedness, courage, resilience, social intelligence, and fairness (Sosik & Cameron, 2010).

**Idealized influence.** Idealized influence uses leadership characteristics such as charisma, and models high ethical and moral behaviors when leading subordinates (Sosik, Chun, Blair, & Fitzgerald, 2014). Idealized influence draws people and appeals to the values and belief systems of followers; this process helps followers to honor leadership (Kuppusamy et al., 2010). Idealized leadership causes the employee to connect with, trust, and respect the leader (Syrek, Apostel, & Antoni, 2013). According to Tse, Haung, and Lam (2013), idealized influences such as impersonal trust and support between the employee and employers may lead to the employee staying with the company.

**Inspirational motivation.** Inspirational motivation includes leadership traits that inspire peers and subordinates to envision a desirable future and to create a better tomorrow (Harper, 2012; Sosik & Cameron, 2010). Furthermore, leadership characteristics of inspirational motivation encourage personal sacrifice for the greater good of the team and impart expectations of excellence from followers (Sosik & Cameron, 2010). Motivating leaders direct and engage their followers in such a way as to

inspire them (Resick, Whitman, Weingarden, & Hiller, 2009). Employees are inspired to work hard because of inspirational motivation (Syrek et al., 2013). Through inspirational motivation, transformational leaders can foster an alignment between the employee's personal interest and organizational interest, which facilitates a stronger employer-employee relationship, which is beneficial in retaining key professionals (Wright, Moynihan, & Pandey, 2012).

**Intellectual stimulation.** Leadership characteristics of intellectual stimulation include encouraging employees to think creatively and solve problems (Syrek et al., 2013). Decision making and creative reasoning are paramount leadership characteristics associated with intellectual stimulation (Sosik et al., 2004). Through intellectual stimulation, transformational leaders challenge assumptions and integrate viewpoints from all employees prior to decision making (Sosik & Cameron, 2010). Intellectual stimulation is a characteristic employers use when encouraging employees to push beyond mediocrity and use creative, and is known to foster employee retention (Tse et al., 2013; Tse & Mitchell, 2010).

**Individual consideration.** Coaching and mentorship are significant leadership characteristics within individual consideration (Sosik & Cameron, 2010). By appreciating diversity and serving employees selflessly, leaders encourage their followers (Sosik & Cameron, 2010). Providing employees with personal attention is an essential leadership characteristic in this category (Syrek et al., 2013). According to Hughes, Avery and Nixon (2012), by ensuring personal consideration, leaders can influence the retention of

staff and build a strong relationship with the employee.

The leadership of an organization helps to shape an employee's perception of the organization (Aaron, 2006). Transformational leaders motivate, create a vision, and influence the attitudes of followers (Fitzgerald & Schutte, 2010; Mohammed, Othman, & Silva, 2012). Some researchers believe that transformational leadership increases intrinsic motivation among staff (Aaron, 2006) and can reduce voluntary turnover (Peachey & Burton, 2011). A study conducted across several industries concluded that transformational leadership positively relates to subordinates' job satisfaction (Peachey & Burton, 2011). Raja (2012) confirmed transformational leadership correlates with career satisfaction, which influences retention.

The presence of transformational leadership may increase an employee's desire to maintain employment as an IT professional. Leadership style is relevant because leaders give direction and encourages employees to overcome barriers so as to accomplish goals (Peachey & Burton, 2011) and can influence the retention of professionals. Because leadership is connected to employee performance, work attitudes, and workplace perceptions (Aaron, 2006), transformational leaders may provide a more stimulating environment that stimulates retention.

Bass (1985) described transformational leaders as encouraging and supportive, which thereby produces passionate followers. IT leaders may use transformational leadership to create a more nurturing environment for IT professionals (Syrek et al., 2013). Tse, Huang, and Lam (2013) studied transformational leadership and employee

turnover and explained that senior leaders influence voluntary turnover in the organization.

Aaron (2006) and Wells and Peachey (2011) applied the concept of transformational leadership in exploring employee turnover and retention strategies. Syrek, Apostel, and Antoni (2013) who studied factors that influence retention such as stress among IT professionals in Germany applied transformational leadership theory as a lens to understand the phenomenon. Bennett (2009) also applied transformational leadership in exploring factor leading to voluntary turnover such as employee burnout. Raja (2012) explored whether transformational leadership influenced career satisfaction. Abouelenein and Diala (2012) considered whether the use of a transformational leadership style is a factor in retaining employees in IT professions in higher education.

In contrast, transformational leadership is different from transactional leadership. Hargis, Watt, and Piotrowski (2011) stated transactional leaders identify what their followers need and work to meet those needs, contingent upon certain objectives being met. Transactional leaders have several leadership traits: (a) assisting followers in establishing goals, (b) rewarding followers based on work efforts, and (c) responding to followers only when it is mutually beneficial (Groves & LaRocca, 2011). Zhu, Sosik, Riggio, and Yang (2012) argued that transactional leaders are less effective leaders than their transformational counterparts are. Transactional leaders are more likely to be controlling, inflexible, and detached from staff than transformational leaders (Groves & LaRocca, 2011). The relationship between a transactional leader and the follower is

similar to an economic transaction (Harper, 2012). The transactional leader conveys an all-about-business approach to leadership (Hargis et al., 2011). Followers of a transactional leader are not motivated to engage beyond clearly predefined goals (Bryant, 2003). Hamstra, Van Yperen, Wisse, and Sassenberg (2011) indicated transactional leadership places more emphasis on setting and accomplishing goals and less emphasis on the needs, values, and perceptions of the follower than transactional leadership. Therefore, transactional leadership may not be the best strategy to retaining IT professionals.

Although some view transformational leadership as more effective than transactional leadership, leaders use characteristics found in transactional leadership in managing employees (Piccolo et al., 2012). In many organizations, ideal managers have characteristics such as assertiveness and dominance (Kark, Waismel-Manor, & Shamir, 2012). Despite leadership style, Harris et al. (2011) indicated that organizational leaders and leadership are required to retain skilled staff and capabilities and maximize individual contribution to achieve organizational effectiveness and to sustain a competitive advantage. Therefore, transformational leadership is beneficial to retaining IT professional than other leadership styles (Syrek et al., 2013). Organizational culture relates to leadership within an organization, according to Maran and Soro (2010).

Effelsberg, Solga, and Gurt (2014) offered critiques of transformational leadership and believed that employee motivation that stems from transformational leadership may be good for the company but not for greater good of society. Although

transactional leadership can influence retention and work for the good of the company, however, it is unclear whether transformational leadership encourages the well-being of society at large (Effelsberg et al., 2014). What may be good for the company may not be good for the larger community (Effelsberg et al., 2014). According to Effelsberg et al. (2014) employee loyalty, which stems from transformational leadership may, produces practices such as false accounting, corruption although it might help to increase company profits. Therefore, the unethical nature of these activities negatively influences the greater society although the employee was loyal to the company (Effelsberg et al., 2014).

### **Organizational Culture in General Systems**

General systems theory is an interdisciplinary exploration method connecting daily experiences to social systems (Dominici & Levanti, 2011; Drack, 2009; Shannon, 2013). General systems provide a lens for understanding the wholeness of organization systems (Kaine & Cowan, 2011) by emphasizing organized functions, including management and leadership (Drack & Schwarz, 2010; Duek, Brodjonegoro, & Rusli, 2010). The driving idea behind system theory is the concept of system wholeness (Drack, 2009; Drack & Schwarz, 2010).

According to Wilson (2012), general systems theory focuses on whole organizational systems with human beings, sociality, and technology working in sync to ensure that organizations met their goals. A business organization is an integrated set of subsystems, and each unit and function within the system works together to accomplish the business's organizational goals. Achieving organizational goals builds supporting

relationships and enhances the decision-making process (Wilson, 2012). A general system within organizational culture is concerned with understanding the behavior of the organization as a whole rather than on understanding the behaviors of individual components (Kaine & Cowan, 2011).

General systems theory also provides a view of management principles and strategies that apply to all organizations and serves as theoretic foundation for management (Kast & Rosenzweig, 1972). General systems theory applies to leadership and management (Walstrom, 2012). Dominici and Levanti (2011) argued that system theory expands to business practices. Walstrom (2012) believed that organizations leaders can apply system theory to organizational leadership and this theory can be beneficial to understand leadership activities and concepts. Lichtenstein and Plowman (2009) applied general systems to leadership practices by identifying communication and organizational culture as part of the wholeness of business systems. Perry (2012) also applied system theory to explore strategies small business owner implement to sustain success. Previously, Porra, Hirschheim, and Parks (2007) associated this theory with IT functions success factors. Shannon (2013) applied general systems to mitigating turnover among marine recruits, which has some parallel to the retention of IT professionals.

Drack and Schwarz (2010) noted that systems theory provides organization leaders with a valuable tool by expanding the perceptions of how different parts of a system interact with and influences other components within the systems. By utilizing system theory, researchers can explore the subsystem of retaining staff in view of the

whole function of organizational success. von Bertalanffy's (1972) general systems theory provides a theoretical lens for the phenomenon under exploration and is appropriate to underpin the dynamics of retention strategies.

Sturmberg, Martin, & Katerndahl (2014) analyzed the general systems theory. Sturmberg et al.(2014) found that factors such as complexity science, self-organizations, emergence, dynamics in systems, science of network and evolution and adaptation were all a part of systems theory. These factors create a broad perspective of general systems theory, which is practical for developing retention strategies (Drack & Schwarz, 2010). One key factor in general systems theory is evolution, which results in the development of subsystems with new characteristics and dynamics (Sturmberg et al., 2014).

General systems theory is applicable to this study because it offers a theoretical lens to interpret how retention strategies affects the organization as a whole and why retaining skilled professionals interacts and influence organizational profitability and competitiveness. The holistic perspective of general systems may explain organizational activities and factors that affect turnover among IT professionals and suggest strategies senior IT leader can use to retain IT professionals. Organizational culture is a subset of a business organization general system

**Managing organizational culture.** Organizational culture is the means of understanding human systems (Rai, 2011). Employees embrace organizational culture through its values and ideas (Wood, 2009). Tipu, Ryan, and Fantasy (2012) characterized organizational culture by the behaviors, ideas, values, and processes that an organization



utilizes to make decisions and transact business. All members of the group can share characteristics of organizational culture (Kissack & Callahan, 2010). This culture of philosophies, rituals, norms, and rules of the game plays a part in behavior and decision making within organizations (Ghinea & Braionu, 2012). An organization's sense of togetherness derives from its culture (Wood, 2009), and the organization's leaders influence organizational culture and its workforce (McFarland, 2010).

Organizational culture is a factor in the retention of IT professionals, as well as in determining how IT employees perceive their work environment and their fit in the IT field (Guzman & Stanton, 2009). Catanzaro, Moore, and Marshall (2010) and Ghazzawi (2010) believed organizational culture is a key factor in recruiting factors such as the applicant's decision whether to accept a job within an organization, and retaining factors such as the length of time a person stays with the company once hired. A person's alignment with the organizational culture indicates how well that person will fit within the organization (Bishop, 2012). A person's alignment with the business may also be an important explanatory factor of the retention of professionals in the IT (Ladelsky & Catana, 2013).

Furthermore, an emphasis on hierarchical relationships is more prominent in competitive than in supportive organizational cultures. Most U.S. corporations have a competitive organizational culture, and the IT industry specifically is a driven environment (Catanzaro et al., 2010). Leaders of organizations with a competitive culture often display characteristics such as competitiveness, dominance, and aggression.

Although many organizations have competitive organizational cultures, many organizations are working to identify strategies to balance the professional and personal needs of IT professionals in the field (Laddha et al., 2012). This strategy may be useful in retaining IT professionals.

The relationship between organizational culture and stress is complex, according to Gladies and Kennedy (2011) whose study of organizational culture and its impact on IT professionals found a relationship between the IT work environment and stress. McKnight et al. (2009) found that workplace factors play a critical role in retaining IT professionals. McKnight et al. (2009) study also suggests that IT leaders may influence workplace factors. Furthermore, a study by Chou and Person (2012) revealed that IT professionals might cope with the stress associated by the IT work environment by involuntary leaving IT organizations.

### **Transition and Summary**

IT professionals continue to make a significant impact on business organization's productivity and profitability (Coombs, 2009; Kim, 2012). Bennett (2009) defined IT professionals as computer programmers, computer analyst, network engineers, and developers. Due to the global dependence on technology, there is an increasing demand for IT professional (U.S Bureau of Labor Statistics, 2014). The U.S Bureau of Labor Statistics (2014) noted that the IT demand for IT professionals is growing faster than all other sectors. In fact, by 2018, the United States will need to fill 1.4 million IT positions to maintain competitiveness (Ashcraft & Blithe, 2009). The impending retirement of

baby boomers further escalates the need for business organizations to retain critical IT professionals (Trauth, Quesberry, & Huang, 2009).

Despite the demand for IT professionals, senior IT leaders continue to face challenges in retaining IT professionals, which hinders the profitability, productivity, and the competitiveness of U.S. business organizations. Previous research provides clues to the nature of these challenges including job dissatisfaction in the work environment and the constantly changing environment of IT, which warrants the need for senior IT leaders to use retention strategies to retain IT professionals. Retention strategies uncovered by this literature review includes a compensation, reward and recognition, work life balance, opportunities for development and training, quality of leaders, and organizational culture.

Having an understanding of these strategies may contribute toward the development of effective strategies for retaining critical IT professionals. Several researchers (Kim, 2012; Von Hagel & Miller, 2011) studied retention strategies for retaining IT professionals to understand the phenomenon. These researchers confirmed the need for retention strategies for retaining IT professionals.

Senior IT leaders may explore retention strategies through the viewpoints of transformational leadership and general systems theory. For the proposed exploratory qualitative case study, Bass' transformational leadership theory and von Bertalanffy's general systems theory will provide a theoretical framework. Both frameworks offer insights as to the strategies contributing to retaining IT professionals and the leadership characteristics of senior IT leaders, and may influence the retention of IT professionals.

Retaining IT professionals in an organization often depends upon the culture of that organization. Transformational leadership may be a way to build an organizational culture more amenable to IT professionals and thus encouraging more IT professionals to stay in the IT workforce. Transformational leadership, as well as von Bertalanffy general systems theory, helps researchers understand the most effective strategies senior IT leaders are using to retain IT professionals. von Bertalanffy's general systems theory elucidates how retentions strategies are a subcomponent of a whole system that interacts to retain skill IT professionals in the workforce and maintain competitive advantage, profitability and organizational success. Both von Bertalanffy's and Bass's theories are useful in understanding the strategies senior IT leaders using to retain IT professionals.

## Section 2: The Project

The focus of this exploratory qualitative case study is to understand the strategies senior IT leaders need to retain IT professionals. I collected data from IT professionals currently serving in senior level IT leadership positions using semistructured interviews. I also collected data through the review of corporate documents such as exit interviews, and the company's human resource policies. Understanding the retention strategies senior IT leaders demonstrate may assist in retaining IT professionals, resulting in more IT professionals deciding to continue employment in IT organizations. Section two of this study covers (a) the restatement of the purpose, (b) the role of the researcher, (c) research participants, (d) research method and design, (e) population and sampling, (f) ethical research, (g) data collection instruments, (h) data collection techniques, (i) data organization techniques, and (j) reliability and validity of the study. Section three will present the findings of the study.

### **Purpose Statement**

The purpose of this qualitative exploratory single case study was to explore what strategies do some company leaders need to retain IT professionals. The population for this study included two or more senior IT leaders with hiring supervising responsibility from a mid-sized utility company in metropolitan Atlanta, Georgia. Senior IT leaders participated in semistructured interviews because these leaders are most suited to identify the strategies leaders need to retain professionals. I also reviewed company documents to discover information regarding retention strategies to triangulate the data (Walshe, 2011).

The implications for positive social change include the potential to impact business practices by contributing new knowledge for use by business leaders looking to retain skilled IT professionals by developing creative strategies to retain skilled IT professionals.

### **Role of the Researcher**

I served the primary data collection instrument. I collected data in a trustworthy manner and mitigate bias (Chenail, 2011; Smit, 2012). I am familiar with the topic of this study because I am an executive leader in IT with experience in retaining IT professionals. I conducted the doctoral study in the metropolitan area where I live, but not in my own backyard, which is conducting research at my own place of employment. Avoiding backyard research is critical to the integrity of data collected (Coupal, 2005).

In order to mitigate bias, a researcher should identify the bias and engage in bracketing or the process of exposing bias that cannot readily be eliminated (Wilson & Washington, 2007). Oftentimes it is difficult for researchers to understand the vantage point of other individuals (Richardson & Adams St. Pierre, 2008). However, as researchers identifies their personal viewpoint and accepts their personal bias they can better understand the viewpoint of others (Fields & Kafai, 2009; Marshall & Rossman, 2011). To enhance each interview session, I used an appropriate interview procedure that applied to all the research participants (Turner, 2010). I preserved all ethical standards throughout the study by adhering to the protocols set forth in the Belmont Report (Bird, 2010; Ross et al., 2010).

## **Participants**

A researcher may conduct a qualitative study using a single unit with multiple participants within the same setting (Yin, 2011a). Therefore, I conducted research on a single mid- size utility company in metropolitan Atlanta, Georgia. Prior to commencing the study, I obtained written permission from the research site. The IT department of the utility company included two senior IT leaders and eight IT professionals. This study included a purposeful sample of senior IT leaders. I selected participants who have experiences of serving as senior IT leaders with hiring responsibilities using leadership qualities who are successful in retaining IT professional staff. The criteria for senior IT leadership with retention success are that these senior IT leaders have supervisory responsibility for at least two IT professionals, without any voluntary turnover within one year of the commencing of the interview. Senior IT leaders who met these criteria are eligible to participate in the study. Chief information officer (CIO), chief technology officer (CTO), vice president, senior vice president, directors and assistant directors or the equivalent meetings these requirements will be eligible to participate in the study.

Prospective participants received an invitation to participate via e-mail. Participants then signed an informed consent forms that I will retrieved in person indicating their agreement to participate. A sample consent form is located in Appendix A. All documents are securely stored for five years on a password-protected flash drive in a locked storage cabinet. Once IRB approved the research proposal, I commenced the study.

I selected participants through purposeful sampling. A desirable sample size is smaller in qualitative research than in quantitative research regarding five to 50 participants as an adequate sample size in qualitative study (Dworkin, 2012). A sample size of one is within the adequate range for a qualitative case study (Sandelowski, 1995). To ensure there is enough data to analyze, I interviewed all senior IT leaders within the research company so that I could receive data saturation (Guest, Bunce, & Johnson, 2006).

I gained access to participants from the recommendations of the human resources coordinator of the company. I obtained the contact information of potential participants from the HR coordinator and reviewed the company's website to obtain contact information. I employed professional networking by accessing the company's contacts on LinkedIn and or through Google if I cannot retrieve that information from the company's officials.

Adequate ethical research involves obtaining the permission of a research ethics board (REB) and ensuring compliance with principles such as confidentiality, autonomy, and respect for participants (Aluwihare-Samaranayake, 2012). Through the requirements outlined by the Walden University Institutional Review Board (IRB), I followed a process designed to ensure adequate ethical protection of participants. Research participants had a full understanding of the research process and their rights as a participant. This was achieved by informing all participants of their rights through the informed consent form (Aluwihare-Samaranayake, 2012; see Appendix A), which details



the scope of research to participants and asked them to provide their signature as evidence of their willingness to participate in the study. I assigned the participants alphanumeric codes from P1 to P5 to conceal participant identities. In addition, I assigned the company a fictional name to mask the organization's identity. In addition, I stored signed informed consent forms, interview recordings and transcriptions, and company documents in a locked storage cabinet on a password-protected flash drive for five years to ensure that no one except me have access to confidential data. After five years of retaining the data I collected and analyzed, I will destroy the password protected flash drive.

Building a working relationship with participants is essential to successful qualitative research (Swauger, 2011). I was clear about my intentions, principles, and position when establishing a working relationship with participants (Swauger, 2011), I did not use power to control the participants and worked to ensure that the participant felt comfortable withdrawing from the research study at any point in the research process. I also employed an ethic-of-care approach as described by Swauger (2011), which involves intentionally connecting with participants through consistent communication and maintaining principles of the researcher's responsibility to the participants. I established a working relationship with the participants through consistent communication by phone and email once a subject has agreed to participate in the study.

### **Research Method and Design**

When selecting a research method, the investigator can identify the most effective

method for achieving the goals of the study and answering research questions (Hayes, Bonner, & Douglas, 2013). The focus of this study was to explore, from the perspective of senior IT leaders, the strategies that IT leaders need to retain IT professionals. There is a need for retention strategies in IT organizations (Cha & Quan, 2011; Chauhan & Patel, 2013; Demaiter & Adams, 2009; Ford et al., 2013); however, research regarding effective retention strategies that senior IT leaders need to be successful is not widely available. To understand the experiences of those currently in senior IT leadership positions, I utilized a qualitative exploratory single case study.

### **Method**

Qualitative research aligns with an examination of the dynamics relating to retaining skilled IT professionals, because it allows participants to express their perceptions of the phenomenon in their own words (Coenen, Stamm, Stucki, & Cieza, 2012). Qualitative researchers explore a person's behavior in a descriptive way. Providing insight into what the person has experienced is the essence of this research method (Kramer-Kile, 2012). Qualitative exploration focuses on the meaning of the participants' perspectives and collects data through participant dialogue (Wisdom, Cavaleri, Onwuegbuzie, & Green, 2012). Qualitative research is ideal for asking *how* instead of *how many*, which is the focus of quantitative research (Pratt, 2009). Von Hagel and Miller, (2011) who studied retention of IT professionals used the qualitative method, which justifies the use of a qualitative research method for this study. Through qualitative research, researchers can collect data from the viewpoint of the participant (Brod, Tesler,

& Christenson, 2009) in the form of interviews, conversations, or observations (Borrego, Douglas, & Amelink, 2009). For this reason, a qualitative research method was best for this study.

Qualitative research was most appropriate for the study because of the differences between qualitative and quantitative research methods. The goals of the two research methods are not the same (Barnham, 2012). Quantitative research uses numerical data to prove or disapprove a hypothesis (Hoare & Hoe, 2012, 2013). The quantitative research method is suitable for testing hypotheses through measurement of specific variables (Borrego et al., 2009).

I considered a mixed-method approach for this study. Mixed-methods researchers use a combination of both qualitative and quantitative methods (Hayes et al., 2013). This is an appropriate approach when neither a quantitative nor a qualitative approach is sufficient by itself to comprehend the research topic, or when research requires one method to inform or clarify another (Wisdom et al., 2012). A mixed-method study includes using quantitative data (Wisdom et al., 2012). My intent, however, was to understand what strategies senior IT leaders need to retain IT professionals. Thus, neither a solely quantitative nor a mixed-method approach was appropriate for this study because the qualitative research method alone was a sufficient data collection method to complete the purpose of this study.

### **Research Design**

The research questions drive the research design (Borrego et al., 2009), which

aims to answer questions of *what* or *how* in qualitative research. The nature of a case study inquiry is specifically suited for addressing research questions that require an exhaustive understanding of social or organizational processes (Moll, 2012). Case study researchers also explore events and programs over a prolonged period. Furthermore, case study research is most suitable when one is conducting evaluations, studying the phenomenon in a natural setting, or determining what happened or why it happened (Yin, 2011a; 2013). A case study approach provides an opportunity for exploration of the issues with context of work, which was the intent of this proposal study (Moll, 2012). The benefit of a case study is the opportunity investigators have to get close to the individuals and interactions in a day-to-day practice (Moll, 2012). Therefore, case studies are common for research design in business (Yin, 2009). For this reason, I selected a case study inquiry for the study. A few researchers (Mohlala et al., 2012; Tay, 2010) used this approach to examine retention strategies or human resources practices. Qualitative researchers conduct research through other research designs (Wilson, 2012).

Qualitative researchers can also conduct research through a phenomenological approach, grounded theory, and ethnographic design. I considered each qualitative design's appropriateness and found the case study inquiry the most appropriate for this study because this study sought out to explore the retention program for IT professionals. I considered a phenomenological research method for this research study because through phenomenological research the researcher can capture the experiences of individuals from their perspectives and uncover themes that challenge structural or normative

assumptions (Tirgari, 2012). Although using phenomenology is suitable when the purpose is to understand an lived experience (Hanson et al., 2011), the phenomenology design was not the most appropriate method to explore an program such as a retention strategy program in its nature environment, which was the intent of this study. Grounded theory was not an appropriate research design as well because the primary goal of a grounded theory design is to develop a theory from data collection (Zarif, 2012).

Grounded theory allows researchers to develop theory based on interactions with a large number of people (Zarif, 2012). In this approach, data that the researcher collects grounds a developing theory by exploring the actions and social interactions of participants (Zarif, 2012). The primary goal of the present study was not to systemically develop theory, but rather to explore the experiences of senior IT leaders (Moll, 2012). Researchers should use grounded theory design when developing a theory (Hanson et al., 2011). For this reason, the grounded theory approach was not the most appropriate for this study.

Ethnographic researchers study cultural groups in a natural environment over a prolonged time frame (Wilson, 2012). This research design requires researchers to become a part of the cultural group in order to study people of that culture (Boddy, 2011). Boddy (2011) also described ethnographic research as the comprehensive evaluation of individuals in a routine manner, which requires ongoing participant observation for data collection. Ethnographic research can be time-consuming and expensive (Boddy, 2011). The focus of ethnographic research is not to understand the phenomenon from the

viewpoint of the participants, but to understand the behaviors of a culture. For this reason, ethnography was not the most appropriate method for this study.

### **Population and Sampling**

The population for the study was senior IT leaders within a mid-sized utility company in metropolitan Atlanta, Georgia. An exploratory single-case study is an appropriate design if participants are representatives within the same setting (Yin, 2009). A researcher can utilize purposeful snowball sampling for case study interviews (Suri, 2011). Sample sizes for qualitative explorations are much smaller than those used in quantitative studies (Mason, 2010), furthermore, data for a case study may come from various sources including documents, interviews, direct observations, and participant observations (Yin, 2009), which deters the need for a large sample size.

I selected a sample of senior leaders in IT for this study, due to their success of implementing retention strategies in IT organizations. Senior leaders in IT include the positions of CIO, CTO, vice president, senior vice president, directors, assistant directors, senior application developer, and senior project manager (Alimo-Metcalfe, 2010). The participants from a mid-sized utility company in metropolitan Atlanta, Georgia will include an IT director and an IT supervisor. Senior IT leaders could also oversee departments, subordinates, and budgets.

Eligible participants must meet the following criteria for inclusion in the study: they must currently hold a senior IT leadership position in the mid-sized utility company in metropolitan Atlanta, Georgia with supervisory responsible for a least two IT

professionals. A senior IT leader is successful in retraining staff if that leader does not have a voluntary turnover in the past year of the date that the study will commence. Leaders who did not meet all of these parameters were not eligible to participate in the study. Through the signed consent form, I ensured that all participants meet these requirements.

I selected participants through purposeful sampling. Richardson (2009) described purposeful snowball or typical case sampling as a nonprobability sampling technique that is most effective when researchers need to understand participants' perspectives. Purposeful sampling allows researchers to intentionally sample a group of people who have the best information about the problem under investigation (Walker, 2012). Purposeful sampling is appropriate for qualitative research such as case studies, which justified a purposeful sample for this study (Draper & Swift, 2011).

Moreover, saturation determines the purposeful sample size (Walker, 2012). An appropriate sample size is one that is adequate to address the research question but not too big that the amount of data disallows in-depth analyses (Sandelowski, 1995). In addition, the number of participants required to achieve saturation in a qualitative study could range from five to 50 (Dworkin, 2012). Guest et al. (2006) demonstrated that saturation may be achieved within the first six interviews. A researcher's work attains data saturation when no new data is collected, no new themes emerge, and there is enough information to replicate the study (Guest et al., 2006). Overall, the research justified a small sample size of participants for this study. I collected data by interviewing

the participants in an appropriate interview setting.

The interview setting offered a comfortable and nonthreatening environment, enabling participants to be open and honest about their personal experiences (Wilson & Washington, 2007). I held interviews at the participants' convenience (Javalgi, Granot, & Alejandro, 2011). I conducted face-to-face interviews at public places such as public libraries or other comfortable locations the participant and I agrees upon. I could have also conduct face to face interviews are the research site's headquarters, which eliminates the requirement for the researcher or participant to travel (Knox & Burkard, 2009) and enables the participant to be wherever he or she feels most comfortable. I asked participants to select a setting that minimizes interruptions. I will schedule interviews for a period of 60 minutes.

### **Ethical Research**

For ethical protection of research participants, I sought the permission of the Walden University IRB prior to commencing research. Upon selecting a prospective research site and participants, I obtained the permission of the study site to complete the study with that company. Once the business granted me permission to complete the study, and after the IRB granted me the permission to commence the study, I sent a participation inquiry to those who meet the criteria for participation in the study. I presented in person an informed consent form to those who agree to participate. I also noted the assurance of confidentiality and detailed the intent of the study in the consent form. I asked participants to sign the form to indicate their voluntary willingness to



participate in the study (see Appendix A). I informed participants in person of their right to withdraw from the study at any point in the research process. As I stated in the consent form, participants could withdraw from the study verbally or in writing without penalty. I did not offer any incentive for participation in the study to avoid coercion. As a researcher, I worked to ensure the confidentiality of participants as a fundamental guide in ethical research (Fein & Kulik, 2011).

To guarantee confidentiality and privacy, I masked the names of participants and the research organizations to maintain confidentiality. I used a unique fictional company name to conceal the identity of the mid-sized utility company. I labeled that company name as XYZ Company and *Participant 1* and *Participant 2* to ensure confidentiality and privacy. I stored signed informed consent forms and interview recordings in a locked storage cabinet on a password-protected flash drive. I will store the password protected flash drive for five years. After the five years, I will destroy all consent forms, interviews recording, and transcribed data by wiping and burning the password protected flash drive.

### **Data Collection**

Qualitative case study researchers often use interviews to collect data interviews (Yin, 2009). I augmented data collected from interviewing with company documents and or archival records to ensure methodological triangulation (Yin, 2009). Prior to data collection, I obtained IRB approval and a signed informed consent from each participant and permission from a mid-sized utility business in metropolitan Atlanta, Georgia to obtain data. I analyzed data from interviews according to Yin (2011b).

## **Instruments**

As the researcher, I was the primary data collection instrument. I used a semistructured interview instrument for data collection. Each interview consisted of nine open-ended interview questions covering the participant's experience and perception of strategies senior IT leaders need to retain IT professionals (see Appendix B). I adopted several interview questions with permission from Shannon (2013) who sought to uncover the perceptions and lived experiences of successful Marine Corps recruiters in mitigating attrition at 15 different recruiting substations across Georgia (p. 5). Interview questions 1-6 and 8 related to von Bertalanffy (1972) general systems theory and interview questions 7 and 9 related to Bass' transformational leadership theory. In addition, company's documents, archival records data and other external sources such as business magazines, sector sources and internet web site will compliment semistructured interviews for data collection. Both Pettinao (2010) and Yin (2009) recommended triangulating interview data with other data sources.

The goal of this instrument was to measure perceptions and ideas about the retention strategies needed in order to retain IT professionals in IT organizations. The central research question directed the interview questions of the study and by answering the interview questions; participants described their experience of implementing and practicing retention strategies. I ensured the research instrument was reliable before implementing a full study.

Prior to commencing the study and after IRB approval, I encouraged potential

participants to become part of the study by emailing them a consent form describing the study (see Appendix A). I scheduled face-to-face interviews. Each interview lasted 30-60 minutes. Those who agreed to participate signed an informed consent form that I collected in person from each participant. Once I answered any questions or concerns the participants signed and returned the informed consent form,

To ensure the reliability of the instrument, I utilized the expert validation strategy, which is presenting the interview questions to experts for their views on the instrument as recommended by Ekekwe (2013). I selected expert researchers with previous research experience on retention in IT, including Berrios-Ortiz (2012). To further address reliability of the instrument, I used strategies mentioned in the section regarding validity. See the Appendix for transcribed interview data.

### **Data Collection Technique**

Qualitative researchers collect data through transcribed interviews (Machtmes et al., 2009; Nicholls, 2009). I conducted semistructured interviews in this study following an interview protocol. I scheduled semistructured interviews for a time, date, and location that both the participant and I can agree upon. I used public meeting spaces such as private rooms in libraries as locations for semistructured interviews. I arranged semistructured face-to-face interviews at specific dates and times convenient to the participant. Each interview lasted 30-60 minutes.

In addition to in-depth interviews, I augmented data collected from the interview with other company data. Document and archival records data were useful as I studied

company's documents and other external sources such as business magazines, sector sources and internet web site as recommended by Pettinao (2010). Case study research allows for collecting data from several data sources such including interviews (Yin, 2009).

I took notes on the nonverbal expressions and key comments during each interview in addition to audiotaping. For successful data collection and an interview protocol, I employed the following techniques suggested by Turner (2010), as well as testing the instrument prior to the interview. Turner (2010) noted that reviewing the recorder occasionally to ensure that the device is working, asking the participant only one question at a time, maintaining neutral expressions during interviewing, avoiding expressing emotions during note taking so as not to influence answers, informing the interviewee when it is time to move to another question, and maintaining control of the interview to avoid running out of time as a method to ensure a successful interview.

Upon receiving approval from the Walden University IRB, I used the following process to conduct the proposed study. I requested and received permission to conduct research study from Walden University IRB. I gathered contact information of potential participants. I made initial contact with potential study participants and introduced the informed consent form. I followed-up with potential study participants and clarified any questions about the informed consent form. I retrieved in person a signed informed consent form indicating the study participants' voluntary agreement to participate in the study. I scheduled interviews with the study participants. At the beginning of each

interview, I reiterated the study participant rights from the informed consent. I collected data face-to-face or by telephone and import data into Nvivo 10. Prior to importing textual transcripts into a Microsoft Word and commencing the process of data analysis, I sent the interview data back to the participants to verify the accuracy of the data through a process of member checking as suggested by Loiselle et al. (2010). If the participant wanted to make changes to the transcript, I kept the transcript as originally written and I made notes regarding how the participant changed the response. I analyzed data according to Yin (2011b), who recommended compiling the data, disassembling the data, reassembling the data, interpreting the meaning of the data, and concluding the meaning of the data (Yin, 2011b).

### **Data Organization Techniques**

A researcher can achieve confidentiality and anonymity of each participant by assigning generic codes to each participant (Gibson, Benson, & Brand, 2013). For this study, I used alphanumeric codes to mask the participant's identities. I gained permission to audio record the interview through the signed content form. I assigned each participant an identifying number ranging from 1 to 2 or greater if needed, preceded by the letter P (for participant). I audiotaped the interviews with the content of the participant. Furthermore, I inserted the transcribed audiotaped interviews verbatim into a Microsoft Word document. I kept folders containing the transcribed interview and written records for each study participant (Jacob & Furgerson, 2012). I used the NVivo 10 software to input and store data for coding and exploration of themes while maintaining the

confidentiality of research participants.

I stored confidential data to ensure participants' protection as recommended by Fein and Kulik (2011). Therefore, I stored data on a password-protected flash drive in a locked storage cabinet, and I will keep data for a period of 5 years. After that time, I will shred paper notes and destroy the flash drive.

### **Data Analysis Technique**

Qualitative researchers can to ask open-ended interview questions to collect data and explore meanings within the study (Wilson, 2012). Through the establishment of an interview protocol, I asked each participant the interview questions listed in Appendix B and below.

### **Demographic Questions**

1. How many years have you served in senior IT leadership?
2. What is the total number of employees in your company?
3. In the last two years, how many IT professionals have voluntarily resigned from your department?
4. What was your area of service?
5. How many direct and indirect (reports) employees are you responsible for leading?
6. What is the average tenure of IT professionals in your organization/department?

### **Interview Questions**

1. What strategies do you use to retain IT professionals?
2. What are the critical factors you use to retain IT professionals?
3. What retention strategies do you use to retain IT professionals in your IT organization?
4. What strategies do you use that are least effective in retaining IT professionals in the IT organizations?
5. What strategies do you use that are most effective in retaining IT professionals?
6. What other strategies and leadership characteristics do you use that are beneficial in retaining IT professionals?
7. In your experience, what barriers prohibit retention strategies from being successful?
8. What other information would you like to provide that we have not addressed already?

In addition to data collected from face to face interviews methodological triangulation of other data sources such as data collected from company documents, achieve record augmented interview data (Walshe, 2011). The purpose of my data analysis was to uncover themes that answered the central research question. The most significant step in qualitative research is the process of data analysis (Onwuegbuzie & Leech, 2006). In this case, data analysis provided a framework to understand the retention

strategies that senior IT leaders need to retain IT professionals in IT organizations.

After I collected data, I analyzed the data. Data analysis involves working through data to discover meaningful themes, patterns, and descriptions that answer the central research questions of the study (Yin, 2011a). Initially, I organized the collected data in a category, relating to retention strategies. I selected the initial categories deriving from the findings from the literature review. For strategies, I used categories such as the compensation and benefits, opportunities for promotion, training and development, work-family balance and flexible schedules, management relationships, and managing organizational culture. For leadership qualities, I used motivation, creativity, relational, consideration for others, supportiveness, coaching, encouraging, inspirational, charisma, visionary, self-confidence, and decision-making. Although these classifications were an idea of what categories was; however, data collected was the true dictator the categories. Other categories may emerge as I analyze the data. If new information did not fit the initial categories but emerged during subsequent interviews, I established additional categories and reviewed previous interviews for information that I should have included in the new category. This approach identified and highlighted the strategies that senior IT leader need to retain IT professionals, which may reduce turnover. I analyzed data using the Yin's data analysis method (Yin, 2011b). This process included the following five steps: (a) compiling the data; (b) disassembling the data; (c) reassembling the data; (d) interpreting the meaning of the data, and (e) concluding the data (Yin, 2011b). Buchanan (2013) used this method for data analysis for qualitative single-case studies and



confirmed its appropriateness.

I imported textual transcripts into NVivo 10 from Microsoft Word. After this process, I compiled the data. Compiling is the process of organizing the data (Yin, 2011b). After compiling the data, I began disassembling the data. Disassembling the data involves a formal procedure of coding data (Yin, 2011b). Coding is the process of tagging segmented data with category names or descriptive words and then grouping the data (Wilson, 2012). Coding of data is essential in identifying patterns and themes (Smit, 2012). I used the auto-coding feature in the NVivo 10 software to identify similarities in data and prevalent themes, thereby observing consistencies among the perspectives of participants.

Once I dissembled the data, I began the process of reassembling the data. Reassembling is the data analysis process involving considering the data under several arrangements until emerging themes are satisfactory (Yin, 2011b). Successful reassembling is evident in the emergence of themes in data analysis (Yin, 2011b). The next step of data analyzing was interpreting the meaning of the data (Yin, 2011b). Interpreting the meaning of the data is the process of making sense of the data (Turner, 2010). Interpreting the data involves the researcher giving their own meaning to the data (Yin, 2011b). The researcher's ability to understand and describe the data is critical during data interpreting (Carcary, 2011). The final step in the data analysis was concluding the data (Yin, 2011b). Concluding is the development of a sequence of statements noting the findings of a study from the viewpoint of a larger set of ideas

(Buchanan, 2013; Yin, 2011b). Concluding themes and patterns deriving from the central research question was fundamental in understanding the findings of a qualitative research study (Yin, 2011b).

Researchers can use data analysis software for creating themes (Garrett-Howard, 2012). NVivo 10 software allowed me to input, storage, code, and explore themes and patterns. The Nvivo 10 software was suitable for identifying themes (Garrett-Howard, 2012). Advantages of using NVivo 10 included the ability to keep data in a single location with easy access to information and the ability to use a continuous coding scheme (Bergin, 2011). Utilizing NVivo increased the rigor in qualitative research (Leech & Onwuegbuzie, 2011). The NVivo software helped me in aligning the collected data with previous literature (Garrett-Howard, 2012).

The conceptual framework is the connection between the literature, methodology, and results of the study (Borrego, Foster, & Froyd, 2014). I analyzed data in view of Bass' transformational leadership theory and von Bertalanffy's general systems theory. I used these frameworks to help me in interpreting the meaning of data collected. By examining retention strategies through the lens of von Bertalanffy's theory and Bass' theory, I compared the data collected with established theories relevant to the phenomenon. I also used member checking to verify data. I measured data by the frequency of recurring themes found in the data and compared my findings to previous studies such as those of Von Hagel and Miller (2011) to validate the findings.

## **Reliability and Validity**

### **Reliability**

In qualitative research, validity refers to the credibility of the findings (Yildirim, 2010). A researcher achieves credibility when research data provides a rich, thick description, or is the in-depth, detailed articulation of the meanings of data in order to understand the phenomenon under investigation (Tracy, 2010). Demonstrating reliability and validity confirms that a study has suitable rigor (Morse, Barrett, Mayan, Olson, & Spiers, 2002). A qualitative researcher uses various strategies to achieve reliability and validity.

Reliability is the ability and the assurance for a researcher to replicate a previous study and get similar results given that the research settings are similar (Ali & Yusof, 2011; Grossoehme, 2014). One way a researcher can demonstrate reliability is to document research procedures during the process in a research journal (Grossoehme, 2014). To ensure reliability, I documented the sequences of the process through the stages of data collection, analysis and interpretation (Ali & Yusof, 2011). In addition, by explaining the procedural structure and strategies used in the study, unfolding the basis for participant selection, understanding the researcher roles in the study and the relationship the researcher has with the participants, the researcher ensured reliability (Ali & Yusof, 2011). Furthermore, the researcher documented the analysis process and procedural approach for producing the data as suggested by Ali and Yusof (2011).

**Validity**

Validity in research is dependent upon the trustworthiness and the experience of the researcher (Thomas & Magilvy, 2011). In qualitative research, credibility is the corresponding term to validity in quantitative research (Charleston, 2012; Hodges, 2011). Validity relates to the accuracy of the findings (Thomas & Magilvy, 2011). To achieve internal validity, an investigator should review data for similarities among participants (Thomas & Magilvy, 2011). Qualitative researchers can use validation procedures for documentation of accuracy (Hanson et al., 2011). Thomas and Magilvy (2011) suggested that researchers use various strategies in achieving both internal and external validity.

Since the case study research design has a foundation in collecting data from multiple sources, methodological triangulation of data sources was a principle strategy supporting the principles of case study research (Baxter & Jack, 2008) and validity. Methodological triangulation improves the validity of a case study (Yin, 2013). Therefore, strategies to establish validity for a case study included using several sources of evidence, maintaining a link between evidence, and by member checking (Amerson, 2011).

I employed the following strategies to achieve internal and external validity (Thomas & Magilvy, 2011). I used member checking, or presenting the preliminary findings and interpretations to participants to check for accuracy and ensured that I have captured the meaning of what the participant said. Member checking is the most valuable way to confirm the credibility of the study (Loiselle et al., 2010). Furthermore, I also

used peer debriefing, or an external evaluation of the research process by advisors or peers, ensuring honest analysis of the method and data interpretation (Morse et al., 2002). To achieve an honest examination for achieving validity, I submitted the proposed study for review by a doctoral study committee including a professional methodologist to ensure a proper peer evaluation and debriefing. In addition, I also used detailed description to document the research process in detail with transparency, allowing other researchers to replicate it (Roulston, 2010). Furthermore, interview techniques such as utilizing detailed and organized interview questions, enabled me to probe interviewees for comprehensive responses (Hanson et al., 2011). Methodological triangulation provided confirmation of similarities found in different data collection sources (Houghton, Casey, Shaw, & Murphy, 2013; Walshe, 2011).

### **Transition and Summary**

The purpose of this qualitative exploratory case study using Yin's (2011b) analysis process was to understand retention strategies that senior IT leaders need to retain IT professionals. I utilized semistructured, audiotaped interviews to collect data and explored the strategies and personal perceptions of the participants. In addition, I triangulated the data I collect with a review of company documents. I used a purposeful snowball sampling technique to select IT professionals serving in senior IT leadership positions in a mid-size utility company in metropolitan Atlanta, Georgia. Prior to data collection, I obtained permission from the Walden University IRB to commence the study. I also collected data using face-to-face interviews, recorded, and transcribed the

data verbatim. Once transcribed, I loaded the data into NVivo 10 qualitative software to identify emerging themes and patterns within the study.

In section two, I discussed the research methodology, purpose statement, role of the researcher, participants and sample size, research method and design, data collection and analysis, and testing the reliability and validity of the data collected. In section three, I will include (a) the presentation of findings, (b) applications to professional practice, (c) implications for social change, (d) recommendations for action, and (e) future study.

Finally, I will end section 3 with a summary and conclusions.

### Section 3: Application to Professional Practice and Implications for Change

Section 3 provides the finding of the research study. In addition, section three includes an (a) overview of the study, (b) presentation of the findings, (c) application to professional practice, (d) implication for social change, (e) recommendation for actions, (f) recommendations for further study, (g) reflections, and (h) summary and study conclusion. I presented the findings of the study by main themes.

#### **Overview of Study**

The purpose of this qualitative exploratory case study was to investigate the strategies senior IT leaders need to retain IT professionals. I conducted semistructured interviews with senior IT leaders in a mid-sized utility company in metropolitan Atlanta, Georgia to obtain data and to answer the following research question: What strategies do company leaders need to retain IT professionals. I qualified each participant based on their experience of retaining IT professionals. Interviews took place in an environment where participants could feel comfortable with providing detailed responses to answer each semistructured interview question. Participants responded to six demographic questions and eight semistructured interview questions (see Appendix B) that indicated the strategies used by some managers to retain IT professionals. The results from interview questions showed comprehensive responses from each participant (Marshall, Cardon, Poddar, & Fonenot, 2013; Marshall & Rossman, 2011). A review of company documents correlated with data obtained from interviews.

As I described in Section 2, the Yin 5-step approach (Yin, 2011b) formed the

basis for data analysis of collected data. After transcribing the two interviews and gathering company records. I imported data collected from semistructured interviews and the review of company documents into NVivo 10 qualitative analysis software for coding. I analyzed all the data and identified 16 core emergent themes. The emergent themes showed the strategies noted in company documents such as the employee handbook and meeting minutes and the participants' views, experience, and perceptions regarding retention strategies to answer the central research question.

Based on the main research question, data analysis of interview responses, and a data analysis of company documents, I identified 16 core emergent themes, which I grouped into four main themes. The four main themes encompassed (a) the essential strategies for business leaders to retain IT professionals, (b) most effective strategies, (c) management, organizational, and leadership essentials; and (d) barriers, critical factors, and ineffective strategies affecting the retention of IT professionals. The essential strategies for all leaders were: (a) compensation and benefits, (b) opportunities for promotion, (c) reward and recognition, (d) training and development, and (e) work life balance and flexible schedules. The most effective strategies were: (a) hiring employees that fit the culture, (b) most effective strategies, and (c) self-management, creative ownership, and value. Management, organizational, and leadership essentials were: (a) leadership characteristics, (b) leadership relationships, (c) organizational culture, and (d) staff performance evaluations. The barriers, critical factors, and ineffective strategies affecting the retention of IT professionals were (a) barriers to retention strategies, (b)



critical factors, (c) ineffective retention strategies, and (d) retention policies.

### **Presentation of the Findings**

I used semistructured interviews to gain an understanding of strategies the participants used to retain IT professionals. In addition to semistructured interviews, I also reviewed XYZ Company's employee handbook, meeting minutes, and other business records regarding retention strategies to triangulate and confirm interview data. I scheduled both semistructured interviews on an offsite location near the XYZ Company in a private meeting room. Interviews did not last more than sixty minutes.

Following the collection and analysis of data collected through semistructured interviews and a review of company documents, sixteen themes emerged, which I grouped into four main themes. The first main theme related to essential strategies for business leaders to retain IT professionals. The second main theme related to most effective strategies in retaining IT professionals. The third main theme related to management, organizational, and leadership essentials for retaining IT professionals. The fourth main theme referred to barriers, critical factors, and ineffective strategies affecting the retention of IT professionals.

The conceptual frameworks for this research project were general systems theory and transformational leadership theory. Many of the responses made by the participants supported transformational leadership theory and general systems theory. General systems theory applies to management practices when multiple strategies and factors work together as a whole system to achieve the organization's goal of retaining IT

professionals (Montgomery & Oladapo, 2014; Shannon, 2013). From another view, the transformational leadership theory identifies the leadership characteristics leaders use that influence retention (Tebeian, 2012; Tonvongval, 2013). Within this study, I viewed both frameworks as it relates to their correlation with the findings in order to gain a better understanding of the effectiveness and ineffectiveness of strategies, barriers, and other critical factors that influence the retention of IT professionals. Ertürk and Vurgun (2014) noted the growth of information technology creates a demand for organizations to retain skilled IT professionals, which requires the use of retention strategies. Developing retention strategies have challenged some organizations because of the characteristics of the IT labor market (Ertürk & Vurgun, 2014). A case study approach served as an effective way to explore a phenomenon in a real-life setting (Cronin, 2014).

### **Demographic Characteristics of the Participants**

The first six questions revealed the participants' demographics. Demographic questions indicated the number of years each participant served in senior IT leadership, total number of employees in the company, number of voluntary resignations in the IT department within the last two years, and the participants' area of service. Demographics responses also showed the number of direct and indirect reports under the participants' leadership and the average tenure of IT professionals in XYZ Company's IT department. Participant P1 has served 2.5 years in senior IT leadership while P2 has served 20 years leading IT professionals. Both P1 and P2 reported no voluntary resignations in the IT department within the last two years. The area of service for P1 is operations. P2 has

responsibility for all IT areas including applications, infrastructure, and strategy. P1 has seven direct reports and P2 has 13 direct reports. Both participants expressed that many of XYZ Company's IT professionals have at least ten years of service in the IT department.

**Emergent Theme: Essential Strategies for Company Leaders to Retain IT Professionals.**

Essential strategies for business leaders to retain IT professional is the first main theme. Participant responses to interview questions number one, three, and six indicated the basic strategies leaders used to retain IT professionals. Some themes emerged from the findings as being essential strategies for company leaders to retain workers. Literature was supportive, and in some cases, conflicting with the data collected regarding the emergent themes. Within the first main theme, there are several themes as identified through P1 and P2 responses, within company records, and then confirmed by current research. Participants' responses and company records such as the employee handbook showed the importance of having primary retention strategies. These essential strategies are appropriate compensation and benefits, opportunities for promotion, rewarding and recognizing IT professionals, providing training and development, as well as encouraging work-life balance activities. Van Dyk and Coetzee (2011) noted that compensation, job characteristics, opportunities for training and development, supervisor support, career opportunities, and work-life balance are strategies that organizations can consider to retain staff.

Findings of this study indicated that having these basic strategies in place is necessary for company leaders to retain IT professionals. Therefore, having the fiscal budget to compensate IT professionals is a key factor in retaining the professionals (Ezulike, 2012). Company leaders should establish a reward and recognition strategy to acknowledge IT professionals for their work and to demonstrate their value to the company, which promotes retention (Kim, 2012). Company leaders also need to ensure that IT professionals have opportunities for training and development (Rutner et al., 2011). Findings indicated that company leaders should offer opportunity for promotion to IT professionals, which may require the need for leaders to conduct staff development planning for IT professionals to prepare these professionals for when opportunities became available. The findings of this study were consistent with the research of Vispute (2013), who noted that more pay, opportunities for training and career advancement helps organization retain staff.

My analysis of company documents and participants' answers showed that essential retention strategies (see Table 1) play a crucial supportive role in influencing IT employees to remain employed with a company. Building on the conceptual frameworks of this study, which were the general systems theory and the transformational leadership theory, the research findings of the first main theme indicated persuasive strategies and leadership practices of company leaders and undergirded the need for a system of retention strategies to retain IT professionals. This suggests that one strategy alone is not sufficient for retention efforts, which aligns with general systems theory, because general

systems theory requires multiple factors working together as a whole to ensure success (Drack & Schwarz, 2010). Therefore, compensation and benefits, opportunity for promotion, reward and recognition, training and development, and work-life balance and flexible schedules all work together as a system to retain IT professionals.

Furthermore, transformational leadership characteristics also related to strategies found in the first main theme. Participants demonstrated transformational leadership behaviors by giving employees individual consideration in work-life balance activities, which is a foundational principle in the transformational leadership theory (Vinkenburg et al., 2011). Transformational leadership consists of behaviors leaders can use to motivate, inspire, and encourage employees is effective in retaining employees (Abouelenein & Diala, 2012).

Table 1 shows the core themes that emerged from the data analysis regarding the essential strategies for business leaders to retain IT professionals. The retention strategies that emerged from the data analysis were (a) compensation and benefits, (b) opportunity for promotion, (c) reward and recognition, (d) training and development, and (e) work-life balance and flexible schedules.

As Table 1 indicates, the frequency of occurrence of core themes affirmed that essential strategies are useful in retaining IT professionals. Through the employee handbook, meeting minutes, and participant responses, the findings of the study indicated that essential strategies are fundamental in retaining IT professionals. These findings confirmed previous research by Mastracci (2009).

Table 1

*Frequency of Themes for Essential Strategies for Business Leaders to Retain IT professionals.*

<i>Theme</i>	<i>n</i>	% of frequency of occurrence
Compensation and Benefits	31	29.25 %
Opportunities for promotion	13	12.26 %
Reward and Recognition	34	32.08 %
Training and Development	24	22.64 %
Work-family balance and flexible schedules	4	3.77 %

*Note: n= frequency*

**Training.** Participant responses and company documents showed XYZ Company leaders used training as a retention strategy. P1 noted that the company provides training opportunities for IT professionals through online methods and for traveling to seminars and trainings abroad. P2 discussed having people who belong to professional associations, and that the company encourages that; the company pays for their dues. P1's response confirmed P2's statement by mentioning training opportunities and conference attendance as a strategy to retain IT professionals. Naqvi and Bashir (2012) denoted a similar finding, and emphasized that an IT professional's training, development, and compensation relate to organizational commitment, which influence retention. Training and learning new tools and skills may prevent employee burnout and foster continued engagement and job satisfaction (Liao & Teng, 2010).

P2 indicated that all IT staff members have training opportunities. Both P1 and

P2 responses aligned with information listed in company employee handbook. XYZ Company offers a financial incentive for attaining industry certifications. The company's meeting minutes of June 2011 also showed IT and other professionals participated in team building training, which confirms training as a retention strategy used by business leaders. As related to training as a retention strategy, P1 stated, while referring to IT professionals, "we want them to learn" (personal communication, September 30, 2014). Both participants and company records showed that training and compensation are essential factors in retaining IT professionals, which Ramall (2012) also noted. P1 and P2 confirmed the thoughts of Anis et al (2010) who mentioned that the compensation was not a strong suit for the company, but detailed other benefits such as training opportunities as key strategies. The findings indicated that business leaders should create training opportunities and competitive compensation and benefits in developing retention strategies. XYZ Company's employee handbook and meeting minutes of July 2013 that leadership development, competency assessments, development planning, assessing current job performance, and establishing executive talent development committees are all factors in preparing employees for opportunities for promotion.

**Compensation and benefits.** As it relates to compensation and benefits, responses from participants and the company's employee handbook confirmed the findings of previous research. Toress and Adler (2012) found that compensation is essential to retention and compensation influences retention. Findings of this research project confirmed Toress and Adler (2012), as P1 revealed that XYZ Company is a mid-

sized firm and the pay scale is not commensurate with corporate salaries. However, P1 also disclosed that XYZ Company compensates for pay through the company's retirement package, which is, a defined retirement income payout package. P2 echoed P1's statement and stated that compensation, in the past few years, was not as much as before.

Both P1 and P2 mentioned that compensation was not as competitive as other companies were, but detailed other benefits such as training opportunity and the retirement benefit as essential complimentary strategies. Barnes et al. (2012) suggested that a lack of adequate compensation would increase employee turnover, as supported by the findings of this study. Kavitha, Geetha, and Arunachalam (2011) found that compensation attracts employees, but that benefits increase retention. Some turnover is due to lack of benefits (Anis et al., 2011). Kavitha, Geetha, and Arunachalam (2011) and DeMers (2002) indicated that compensation is not always the most important factor. Other benefits such as healthcare and life insurance, retirement plans, bonuses, and annual leave may supplement for lower than market pay structures and may positively influence retention ("Employee benefits provision," 2010), as revealed by P1 and P2. However, Idris (2014) disagreed with the statements of P1 and P1 and further noted that financial benefits are not a sustainable retention strategy.

**Reward and recognition.** Reward and recognition of employees showed the greatest frequency among essential retention strategies (see Table 1). Both P1 and P2 responses correlated with company records and validated previous research findings.



Davis (2013) found that workers like rewards, as also noted by P1, P2. XYZ Company reports indicated at the beginning of every board of directors meeting business leaders recognized IT and other employees for a job well done. Meeting minutes of February 2011, March 2011, and July 2012 also specified reward and recognition for 15, 20, 25, and 30 years of service, safety awards, excellence awards, customer service award, low hazards awards, and other employee incentive programs designed to recognize and reward company staff. Chen et al. (2010) found that acknowledging employees for doing a good job influenced retention, which also supports the findings of P2, who expressed recognizing IT workers when they took the lead on a project involving IT, indicating that they did not have to go beyond what the job requires.

**Opportunity for promotion.** The participants spoke to the importance of the opportunity for promotions. P1 also noted that XYZ Company started a succession-planning program wherein once management has identified a skilled person, the company can mentor that professional to advance. P1 allowed IT professionals to work with different technology to train, develop and prepare staff for another position or promotion. Latif, Jan, and Shaheen (2013) shared the views of P1 and noted that training is a means for development and is an important factor in fostering a sense of advancement.

A review of XYZ Company's employee handbook validated P1 remarks by uncovering that managers can fill all company vacancies by several options, including promoting an employee to a vacant position. Previous research (Jain, 2013; Mohamed, Singh, Irani, & Darwish, 2012) aligns with the approach of XYZ Company. Webster and

Beehr (2013) expressed that it is more important that organizations consider current employees when hiring employees for higher-level positions. Company reports of July 2013 further noted the succession planning strategy mentioned by P1. P2 told a different perspective about retention strategies; that sometimes a manager has to prepare for an employee leaving the company. This might result in hiring someone from the outside if an internal employee cannot move into that new position or if the company requires a unique IT skill set.

**Work-life balance.** For XYZ Company, work life balance was both a recruiting tool and retention strategy. P1 indicated that work-life balance was the reason for choosing to work for XYZ Company rather than a corporation and further explained that work-life balance plays a significant role in the entire team choice to work for XYZ Company, because IT employees valued spending time with their family and children. P2 noted that IT employees in XYZ Company do not work much overtime, unlike many some IT departments in other companies, because the company desires for IT staff to have work-life balance. XYZ Company's employee handbook supported the responses of both P1 and P2 responses and revealed that IT professionals earned annual leave. Moreover, the company allows flexibility for employees by allowing employees to take off with needed and work flexible schedules. Similar to the findings of this study, Dinger et al., (2010) confirmed that organizations might choose to offer flexible working hours or telecommuting to aid in work life balance. Buys, Matthews, and Randall (2010) posited that IT jobs are often very stressful and require 24-hour availability. Policies that

foster work-life balance is critical to both the employee's well-being and IT staff retention (Bairi, Manohar, & Kundu, 2011).

Therefore, in addressing the central research question, data indicated that company leaders need reward and recognition, compensation and benefits, training and development, opportunity for promotion, and work-life balance as primary strategies to retain IT professionals. As shown from the analysis of data, these findings lend support to the argument that, while compensation is important in retention and influence retention significantly (Torres & Adler, 2012), compensation and benefits coupled with other factors play a crucial role in the company's ability to retain employees (Gupta & Shaw, 2013). Furthermore, the variation in the frequencies of occurrence of core themes (see Table 1) might suggest that, among these essential strategies, company leaders should consider prioritizing the development of reward and recognition, compensation and benefits, as well as training and development when developing retention strategies.

#### **Emergent Theme: Most Effective Strategies for Retaining IT Professionals**

The second main theme identifies the most effective strategies for retaining IT professionals and I asked interview question five to identify the most effective retention strategies. Within this theme, there were several strategies mentioned by P1, P2, in company documents, and confirmed by previous research. I found that hiring IT professionals that fit the organization culture, having robust retirement benefits, valuing IT professionals, engaging technology employees, encouraging work-life balance, providing training opportunities, allowing decision-making autonomy, and allowing

creative ownership and self-management are among the most effective strategies for retaining IT professionals.

The findings indicated that during the hiring process, business leaders should evaluate the applicant on factors critical to maintaining the desired organization culture along with their skill set and experience. The findings also indicated senior IT leaders need to correct any issues preventing the utilization of annual leave time and allow flexible working schedules to assist in preventing stress. The high frequency of the core theme of reward and retention (see Table 1), indicated that a reward and retention program is paramount to retention success as found in the study; therefore business leaders should have both departmental and company-wide reward programs. Incentives listed in XYZ Company's employee handbook and meeting minutes of September 2013 and a personal email (personal communication, September 24, 2014) revealed XYZ Company leadership could use promotions, quarterly incentives, and financial incentives as a representation of a few strategies in the company's greater retention efforts.

Given the emergent themes from the most effective strategies (see Table 2), there was clear evidence for alignment with general systems theory and the transformational leadership theory, specifically by using a system of retention strategies. General systems theory requires systems of factors working together to achieve organizations goals (Drack, 2009). Within the second main theme, a system of strategies included hiring IT professionals that fit the organization culture, robust retirement benefits, valuing IT professionals, engaging technology, encouraging work-life balance, training, decision-

making autonomy, and allowing creative ownership and self-management. The findings of this study indicated that these strategies are among the most effective ways for retaining IT professionals. XYZ Company leaders implemented these strategies as a whole retention system to retain IT professionals, which aligns with general systems theory (Shannon, 2012).

The findings of main theme two indicated an application of transformational leadership theory. Company leaders applied transformational leadership factors of encouraging ownership and engaging followers. XYZ Company meeting minutes of September 2013 and April 2014 showed the use of transformational practices by P1 and P1 and listed in meeting minutes of April 2014 and August 2014 such as valuing IT professionals and company leaders encouraging ownership of projects and task. These practices are essential components of transformational leadership theory (Tebeian, 2012).

Table 2 shows the core themes that emerged from the data analysis regarding the most effective strategies to retain IT professionals. Retention strategies that emerged from the data analysis includes (a) hiring employees that fit the culture, (b) most effective strategies, and (c) self-management, creative ownership, and valuing IT professionals.

As table 2 indicates, the frequency of occurrence of core themes revealed the most effective strategies in retaining IT professionals. The highest frequency of occurrence ranged from 1-5. Previous research supports these findings.

Table 2

*Frequency of Themes for Most Effective Strategies for Retaining IT Professionals*

<i>Theme</i>	<i>n</i>	% of frequency of occurrence
Hiring employees that fit the culture	1	14.29 %
Most effective strategies	1	14.29 %
Self-management, creative ownership, and valuing IT staff	5	71.43 %

*Note: n= frequency*

**Most effective strategies.** Interview question five related to the most effective strategies for retaining IT professionals. Participant responses spoke to the effectiveness of retention strategies. Findings from this study indicated that the most effective strategies are communication, which aligned with research by Iyer and Israel (2012), reward and recognition as argued by Chew and Entrekin (2011), valuing employees as mentioned by Hewitt (2012), and training opportunities and engaging employees as found by Johnson (2014). As revealed, the findings from this study aligned with the results of previous research. For example, P2 noted chatting with IT workers on a regular basis to understand what are experiencing personally and professionally. In addition, within XYZ Company's meeting minutes of April 2014, August 2014, and October 2013, I found several instances in which company leaders communicated with employees, particularly relating to decision making.

P2 also noted that employee recognition was the most effective retention strategies, which aligns with Iyer and Isreal (2012). P2 referenced XYZ Company's

rewards program, and noted that the rewards program provides management with an opportunity to recognize IT professionals who have done an excellent job. I confirmed P2 assertion by a review of company records, including the employee handbook and meeting minutes of February 2011, November 2011, and December 2011. Within the recognition program, managers give employees an acknowledgement card, in which that the IT professional enters into a larger drawing to win a monetary gift card. The employee handbook and meeting minutes of February 2012, March 2011, and July 2012 and a personal email (personal communication, September 24, 2014) showed that XYZ Company leaders used reward efforts such as a reward programs on a departmental and company wide basis including in the IT department. Ramlall (2012) also noted the success of reward programs such as the one that XYZ Company used.

P1 restated training and allowing IT professionals to work on projects that these workers are not typically responsible for as an effective retention strategy because IT employees can learn a new skill. Mohamed et al. (2012) found that training and development are important factors for retaining skilled professionals, which confirmed P1 responses. In addition, P1 responses aligned with research by Igarria and Siegel (1992), who found that allowing staff to work on organizationally significant projects influences retention. P2 responses aligned with P1's; P2 also allows staff to work on a project or some technology that is not a part of their usual job. P1 and P2 regarded training as an effective for retention, so when job opportunities become available, trained IT workers are ready for promotion or advancement. Chang, Jiang, Klein, and Chen

(2012) supported P1 and P2's arguments.

**Hiring employees that fit the culture.** The theme emerged as being critical to the ability of company leaders in retaining IT professionals. P1 noted that, when hiring an employee, managers avoid hiring people who are task-oriented because the IT culture in XYZ Company is more creative and self-managing. Ladelsky and Catană (2013) endorsed P1's statement by finding that leaders should include recognition, inclusion, and having the right employee for the right job. Johnson (2014) confirmed that many organizations recruit talent for organizational fit. These findings indicated company leaders need to hire the right person with the right organizational culture fit to aid in retention.

**Self-management, creative ownership and valuing.** P1 also noted that valuing employees and making staff feel good about what they are doing was an effective strategy in retaining IT professionals. P1 also argued that people want to feel valued, as supported by Bass (1985) as well as Bessick and Naicker (2013). P2 expressed that IT management recognized workers when taking the lead on a project involving IT, because employees did not have to go beyond the requirements of the job responsibility. The findings from meeting minutes of September 2013 and April 2014 and the XYZ Company's employee handbook indicated how the company values its employees, as leaders gave individual and group awards, recognition, and opportunities for promotion to employees. P1 concluded that retention strategies used by XYZ Company includes engaging, valuing and evaluating IT professionals, which are strategies that positively



influence retention (Mendes & Stander, 2011). From the responses of P1 and P2, I deduced that these management practices are an effective strategy because P1 and P2 confirmed the findings of several researchers including Ezulike (2012) and Kim (2012).

**Emergent Theme: Management, Organizational, and Leadership Essentials for Retaining IT Professionals.**

The third main theme related to management, organizational, and leadership essentials for retaining IT professionals. Interview question six addressed other strategies and leadership characteristics beneficial in retaining IT professionals. Themes that emerged as being important in retaining IT professionals are performance staff performance evaluations, transformational leadership qualities, open management relationships, and having an organizational culture that professionals desire to embrace are foundational in the ability to retain IT professionals. The findings indicated that companies that implement these retention strategies foster a greater environment for retention success.

Given the emergent themes from management, organizational, and leadership essentials it seems that there was clear alignment with transformational leadership theory, specifically, including IT professionals in IT projects, by building solid supportive relationships, and aiding in the process of an employee embracing the organization's culture. In addition to these factors, XYZ Company leaders demonstrate transformational leadership behaviors collectively so that the company can effectively use these strategies to retain IT professionals. Specifically, the organizations addressed transformational

leadership (Bass, 1985) as XYZ Company's senior IT leaders motivated staff, give individual consideration to IT employees, and fostered encouraging relationships with followers through communication. These strategies are consistent with activities demonstrated in transformational leadership theory.

Concepts of general systems theory were also evident in the findings of the third main theme. I found that evaluations, management relationship and communication, and leadership qualities implemented in XYZ Company worked as a system of retention strategies to retain IT professionals. The foundation of general systems theory relates to several units working together to retain professionals (Shannon, 2012).

Table 3 shows the core themes that emerged from the data analysis regarding management, organizational, and leadership essentials to retain IT professionals. Retention strategies that emerged from the data analysis include (a) leadership qualities, (b) leadership relationships, (c) organizational culture, and (d) staff evaluations.

As table 3 indicates, the frequency of occurrence of core themes demonstrated the management, organizational, and leadership essentials in retaining IT professionals. Through company documents and participant responses, the findings of the study showed the leadership practices needed for successful retention efforts. These findings align with previous research.

Table 3

*Frequency of themes for Management, Organizational, and Leadership Essentials for Retaining IT Professionals*

<i>Theme</i>	<i>n</i>	% of frequency of occurrence
Leadership qualities	3	9.09 %
Leadership relationships	12	36.36 %
Organizational culture	13	39.39 %
Staff performance evaluations	3	9.09 %

*Note: n= frequency*

**Staff performance evaluations.** P2 expressed that staff evaluations equate to likely pay increases. Therefore, P2 noted frequently checking on IT staff to see how they are doing and providing feedback on how they are performing. A review of the XYZ Company's employee handbook confirmed P2 comments; within the compensation program, employees receive salary increases based on performance evaluations. P2 concluded that evaluating IT employees is essential, which is a strategy that positively influences retention. Mendes and Stander (2011) aligned with P2's conclusion. Da Silva & Shinyashiki (2014) explained that annual evaluations are critical to and a key factor in retention.

**Leadership relationship and communication.** Participant's comments and company documents indicated the importance of leadership relationship and communication. P1 provided a simple response and stated, "I always try to make sure I include logic, and I can explain that logic... so that they can see why the decision was

made” (personal communication, September 30, 2014). P2 said communicating with staff regularly was effective with retention because it keeps workers engaged in the affairs of the company. Findings from XYZ Company’s meeting minutes of October 2013, April 2014, and August 2014, showed that company leaders consistently communicated with IT professionals on projects and engaged IT professionals in conversations leading to IT professionals input in decision-making.

P2 focused on several employee retention factors including reiterating the need for people to feel valued, maintaining constant communication, and taking their ideas and implementing them within the company as strategies and leadership characteristics P2 affirmed an approach also discussed by P1, who suggested IT professionals should understand where they fit in the bigger picture within IT and the company. Recent research (Ertürk & Vurgun, 2011) aligned with the practices of P1 and P2 and found that greater autonomy and participation in decision-making significantly decreases the turnover intentions of IT professionals. P2 also expressed the importance of communication with staff; P2 discussed taking the time to explain to employees what s/he is doing, and why s/he is doing it, and why it is important. Several researchers (Iyer & Isreal, 2012; James, 2012) have indicated communication as an effective strategy.

**Leadership qualities.** There are opportunities for leaders to demonstrate leadership qualities to retain IT professionals. P2 considered recognizing the concerns of IT professionals, and sharing with professionals what management can do to address the issue. P1 shared that s/he explained decisions that s/he makes and the logic that went

behind it. P2 expressed trying to keep IT staff involved in the affairs of the IT department and the company and wanting to make sure that they are thoroughly engaged in what they are doing. Vincent-Höper, Muser, and Janneck (2012) found engagement relates to transformational leadership quality, which leads to retention and aligns the findings of this study.

The findings indicated transformation leadership exchanges shown by P1 and P2 through sensitivity to employee issues, engaging employees, and communicating, which are leadership characteristics found to positively influence the ability to retain employees (Liu, Cai, Li, Shi, & Fang, 2012). Company board meeting of July 2013 revealed company leaders developed a leadership competency model as a success benchmark for the XYZ Company leaders.

**Organizational culture.** Company documents and participants' responses contained information regarding the organizational culture. XYZ Company's board of director meeting minutes of February 2011 noted that the organization's success could not be possible without the significant contributions of the entire staff. XYZ Company's board of directors meeting minutes of October 2013 further revealed the consistent use of IT employees in decision-making. Business leaders conduct employee development through regular review sessions using a standard format as explained by XYZ Company's employee handbook. P1 indicated that the company encourages an environment that allows for self-management and ownership of processes. Strategies found through the data analysis aligned with Ladelsky and Catană (2013), who encouraged team leaders to

develop an organizational culture that fits with IT employees.

### **Emergent Theme: Barriers, Critical Factors, and Ineffective Strategies Affecting the Retention of IT Professionals**

The fourth main theme related to barriers, critical factors, and ineffective strategies affecting the retention of IT professionals. Interview question seven revealed that barriers prohibited retention strategies from being successful. As the findings indicated, there are strategies that are most effective in retaining IT professionals, and then there are ineffective strategies, barriers, and other factors that prevent successful implementation of strategies.

The findings of this study indicated business leaders should understand the factors that prevent retention strategies from being effective. The inability to compensate IT employees fairly is a significant barrier in a company's ability to retain professionals. Therefore, company leaders should ensure the availability of sufficient financial resources available before commencing retention activities. In addition, operating in a leadership style opposite of what technology employees needs influences the effectiveness the retention strategy. Therefore, business leaders should be aware of the IT professionals in their company with a significant skill set. Skillful professionals are hard to replace and could create challenges in production if the company fails to retain the employee. The third main theme denoted critical factors that business leaders must consider when implementing strategies to retain the IT staff.

General systems theory and transformational leadership theory are both

significant in the findings of main theme four. The research findings presented in this main theme showed ineffective strategies, critical factors, retention policies, and barriers that prevented effective retention. These critical factors such as the value of an IT professional (P1, P2), barriers such as compensation (P1, P2), retention policies (XYZ Company's employees handbook), and ineffective strategies (P1, P2) affects retention, and therefore plays a part in the general system of retention. As noted previously, general systems theory requires various elements working collectively as a whole to achieve organizational goals (Drack & Schwarz, 2010). Therefore, the findings listed in main theme four align with general systems theory.

Furthermore, transformational leadership behaviors also related to strategies found in the main theme four. Participants demonstrated transformational leadership behaviors by giving individual consideration to identify IT professionals with a particular skill (P2), as noted within the critical factor theme. Transformational leadership involves considering employees individually, and encouraging ownership, which both aids in retention efforts (Abouelenein & Diala, 2012). Also by extending the flexibility to be creative and allowing employees to take ownership, P1 demonstrated transformational leadership.

Table 4 shows the core themes that emerged from the data analysis regarding the barriers, critical factors, and ineffective strategies. The retention strategies that emerged from the data analysis were (a) barriers to retention strategies, (b) critical factors, (c) ineffectiveness retention strategies, and (d) retention policies.

As table 4 indicates the frequency of occurrence of core themes revealed barriers, critical factors, and ineffective strategies as affecting the retention of IT. Therefore, through company documents and participant responses, the findings of the study revealed the barriers to retention strategies. Previous research supported these findings (Chang, 2010; Mabuza & Gerwel Proches, 2014).

Table 4

*Frequency of Themes for Barriers, Critical Factors, and Ineffective Strategies Affecting the Retention of IT Professionals*

<i>Theme</i>	<i>n</i>	<i>% of frequency of occurrence</i>
Barriers to retention strategies	1	14.29 %
Critical factors	3	42.86 %
Ineffective retention strategies	2	28.57 %
Retention policies	1	14.29 %

*Note: n= frequency*

**Ineffective strategies.** Responses from interview question four revealed strategies that are least effective in retaining IT professionals. P1 expressed that giving too much leeway to IT professionals is not an effective strategy. From P1's perspective, managing creative self-managed people and task-oriented people as well are not effective. P1 specified that somebody who is more task-oriented might feel alienated if allowed to complete the process on their own. Therefore, P1 indicated that s/he does not hire people who are task oriented. Hewitt (2012) supported P1's argument and noted every IT professional should feel as if he or she is a natural fit for the organization.



P2 discussed over-communicating as a least effective strategy strategies; he said over-communicating does not help with retaining someone. P2 declared that it comes down to getting the job done and if something is communicated to IT professionals that they are not receptive of, then communication is ineffective regardless of the number of times a leader communicates it. P2 contradicted James (2012) regarding communication as it relates to retaining professionals. James emphasized that communication with staff promotes organizational commitment.

There were some differences in P1 and P2's perspectives of least effective strategies; therefore, a reasonable deduction is that the right amount of communication is useful; however over-communicating is not effective in retaining IT professionals. In addition, while providing a self-managing environment for creative staff is good, that strategy may not be as efficient with IT professionals who are more task oriented.

**Barriers.** Participants' responses revealed their perceptions of the barriers in retaining skilled IT professionals. P1 and P2 voiced that the compensation is a barrier. P1 noted that XYZ Company is a quasi-government company and that pay scale is not as high as in the private sector. P1 noted there is a budgetary wall and XYZ Company cannot offer the salaries that the private sector can. Therefore, compensation is always a barrier. P2 confirmed P1's conclusion and detailed that compensation, especially in the past several years, was not as much as before and that compensation is a significant barrier. P2 claimed the pay structure is difficult to address, and felt that to get people on the open market with the same skills is difficult, because XYZ Company compensation is

less than what other companies pay. However, P2 did feel that the benefits package offered by the company compensates for the compensation challenges. From a different view, the employee handbook showed that company leaders conduct annual salary reviews to determine if the pay structures are competitive in the market. For many IT professionals, compensation is not the main reason to leave the company (Chandrasekar, 2011). Aside from compensation, P2 explained that IT professionals get tired of doing the same tasks repeatedly; he mentioned the need to keep IT professionals engaged in new things.

**Critical factors.** Participants' comments revealed their perceptions of the critical factors influencing the retention of skilled IT professionals. Participant P1 discussed the value of an IT professional and how critical that employee is to the company, and noted the need to retain a person with a significant skill set. P2 explained why a professional's value to the organization is a key factor because "there are certain skills that I know based on experience that are harder to replace than others (personal communications, October 6, 2014)." Chang (2010) confirmed the participant's response and noted, due to the particular technical expertise of IT professionals, that turnover creates productivity problems for companies. Therefore, these professionals are different from other employees. P2 also mentioned there are not multiple people that know a particular job; therefore, if a person leaves the company, it creates productivity challenges in the IT department. P1's response aligned with P2's; s/he, too, expressed that the company is working to identify IT professionals with a particular skill or talent that may help them

advance to another level in their role or into management. Therefore, the harmony of both P1's and P2's responses showed that identifying IT professionals with a unique skill is an essential element used in the retention of IT professionals. P1 summarized previous statements and said giving employee leeway to be creative, manage their tasks, and take ownership of their work are critical factors.

**Retention policies.** Participant interview responses detailed information on retention policies. P2 acknowledged that there have not been many turnovers in the IT department but argued the need to prepare for the other side of retention, which is an employee voluntarily leaving the company. P2 noted that, if someone does leave, having a plan in place is important. P2 also insisted on recognizing which positions require a unique skill set and understanding that there may be a need to hire from the outside. P1 revealed that s/he was unsure if the company has a formal retention policy; however, the company's employee handbook did reveal retention efforts, such as promotions, training, and salary increases. Company records including meeting minutes of April 2014 and the employee handbook policies are consistent with Smith, Oczkowski, and Smith (2011) who found that human resource management policies appeared to reduce turnover.

### **Summary**

Overall, the research findings were consistent with the purpose and significance of the study and related to both general systems theory and transformational leadership theory. All the main themes that emerged, as shown in Tables 1, 2, 3, and 4, played a crucial role in helping to understand the research phenomenon in addition to addressing

the central research question. This study has contributed to the understanding of the strategies company leaders need to retain IT professionals. According to Owens and Khazanchi (2011), company leaders should thoroughly understand the importance of retaining talented IT professionals. Vijayakumar (2012) suggested that employee retention is a systematic effort by employers to foster the atmosphere that encourages workers to remain employed with the company by having policies and practices in place that address each employee's needs. Therefore, when there are no strategies in place to retain IT professionals, business leaders may have a greater challenge in retaining skilled employees and maintaining profitability and sustainability.

### **Applications to Professional Practice**

This research is meaningful to retention practices in numerous ways. The main objective of the study was to explore participants' views about the strategies company leaders need to retain IT professionals. The retention of IT professionals has been an increasing concern for company leaders (James & Mathew, 2012). The findings from this study are relative to general systems theory and indicated that company leaders need an entire system of effective strategies to retain IT professionals (Shannon, 2013; Yamamoto, 2011). The findings are also relative to transformational leadership because company leaders used transformational leadership behaviors, which influence retention (Weberg, 2010). Not only should company leaders understand the strategies companies need, but they should also be able to identify the most effective and ineffective strategies best suited for the company (Laddha et al., 2012).

Leaders can implement strategic human resource practices to achieve a desirable employee outcome (Ananthan & Sudneendra, 2011). Therefore, it is in the best interests of company leaders to implement essential retention strategies as posited by Shore (2013). The implementation of the strategies identified by P1 and P2 in the first main theme, such as fair compensation and benefits, as well as work life balance, are organizational strategies (Idris, 2014) and may assist senior IT leaders in retaining IT professionals and sustain the company's profitability, sustainability, and reduced voluntary turnover. Having retention strategies in place may prevent the need for companies to pay the high cost related to hiring new skilled professionals because leaders can prevent voluntary turnover (Yamamoto, 2011). Thus, the application of retention strategies also presents an opportunity for the company leader to invest in the training and development of IT employees (P1; P2) and retain the knowledge of skilled professionals in the company (Larkin & Burgess, 2013). Yamamoto indicated that benefits packages and rewards systems add value to an IT professional's commitment to the company, which was also identified by P1 as well as supported by this study's findings.

Business leaders can apply factors found within the second and third main theme such as understanding the effectiveness of strategies for retaining IT professionals. Therefore, company leaders may experience greater employee retention success. Senior leaders can implement strategies that are more effective and disregard ineffective strategies (Laddha et al., 2012). P1 confirmed previous research by Bottger and Barsoux (2012) that stated hiring the right person is the most effective strategy. However, not all

strategies are best suited for every IT environment, as confirmed by P1, and the application of most effective strategies may provide greater retention success (Allen et al, 2010). While the essential strategies explained in the first main theme may assist all businesses in retaining IT professionals, understanding the most effective strategies prior to commencing a retention program may assist in overcoming ineffective strategies, barriers, and otherwise critical factors. P2 confirmed research by Potgieter (2012) who posited that self-management is effective for employability.

Applying encouraging leadership characteristics and management practices as noted in the third main theme may lead to strong retention strategies and can foster an environment for greater success for business leaders. P1 noted that having benefits was the most effective strategy in retaining of IT professionals. P2 noted valuing and encouraging IT professionals is an effective strategy, as evident from the results found by Vijayakumar (2012). As company leaders understand these strategies, the result of the study may assist company leaders in developing effective retention plans to retain key professionals within the company.

### **Implications for Social Change**

I found the following retention strategies that included benefits and compensation, training and development, and opportunity for promotion. These strategies might assist company leaders retain skilled professionals including IT professionals as well as support corporate sustainability (Gialuisi & Coetzer, 2013). The adaptation of these strategies may also affect social change by influencing IT professionals to maintain employment

with a company, build a more valuable and sustainable workforce, and induce greater job satisfaction of IT professionals (Allen et al., 2010).

Moreover, retention strategies may have a positive effect on the commitment of IT professionals, company profitability, and strengthen the economy. Implementation of retention strategies may contribute to company leaders developing knowledgeable IT professionals, which may have a positive impact on society (Govaerts et al., 2011). Implications of retention effective strategies include the motivation of IT professionals looking to secure long-term employment, which positively affects the well-being of IT professionals and the workplace culture (Jain, 2011). Researchers could utilize the finding of the study to develop a greater understanding of retention strategies company leaders need to retain IT professionals in all sectors.

### **Recommendations for Action**

Company leaders may consider evaluating their strategies against those listed in the first main theme, which are the essential strategies all companies can use to retain IT professionals. Executives need to begin seeking retentions strategies to maintain profitability, sustainability and reduce turnover (Ford et al., 2013). If strategies do not exist within the company, managers should develop the most effective retention strategies to retain employees in that IT organization. If company leaders decide to implement retention strategies, they should consider evaluating their strategies against commonly known effective retention programs. Senior IT managers should also consider the fiscal budget and then allocate funding to support retention strategies. Company leaders should

work within the human resources guidelines to ensure that retention strategies align with business goals.

Findings from this study are important to company managers, senior IT leaders, and IT professionals. The application of effective retention strategies may allow company leaders to use palpable methods to successfully retain IT professionals and sustain profitability. Moreover, all company stakeholders involved in the retention of professionals may be interested in the findings of this study. Understanding the result of this study may be particularly benefitting to current IT professionals, by exposing the strategies that companies leaders may have in place to retain these employees. I will disseminate the results of the study through conferences, scholarly journals, and business journals. Furthermore, I may circulate the result of this study through training and seminars regarding retention strategies company leaders need for retaining IT professionals.

### **Recommendations for Further Study**

The findings from this study warrant additional exploration of retention strategies for IT professionals because companies need retention strategies to retain IT professionals to maintain profitability, productivity and sustainability (Ghapanchi & Aurum, 2011). Therefore, researchers should conduct further studies to explore problems not covered in the study and to address delimitations. The finding of this study warrant exploration of retention strategies needed from the view of IT workers not those in leadership positions. In addition, since this study focused on the metropolitan Atlanta,



Georgia area, I recommend exploring the need for and impact of retention strategies company leaders need within a different geographic location. I further recommend the exploration of retention that companies need with a larger sample size or larger organization.

I would also suggest conducting a study to compare retention strategies of the private versus non-profit companies. A comparison between these business types could uncover retention strategies best suited for the budgets allocation and operations for each business category. The findings of this study warrant further exploration to examine essential strategies for all businesses to investigate the determining factors for prioritizing retention strategies. In addition, considering the impact of retention strategies on a company's stability and profitability, I further suggest a study to investigate the financial impact of the development of in-depth formal retention programs for IT professionals on the company profitability.

### **Reflections**

During the research process, my prospective and understanding of doctoral level research expanded. The level of detail and alignment that this research required challenged and amazed me. I felt overwhelmed by the data that emerged during the semistructured interviews and from the review of company records. Both participants were passionate about retaining IT professionals in XYZ Company, and expressed the desire to engage the staff. In the future, to facilitate retention, company leaders should ask themselves the following question: how do we offer salaries that are more

competitive for IT professionals?

The finding of this study affects me personally as a senior IT leader. The findings of the study were similar to what I have experienced in trying to retain IT professionals. Although there were some differences with each participant's perspective, I was able to recognize many similarities and challenges that all face as senior IT leaders looking to retain skilled employees. The findings from this study exposed me to additional strategies and practices that I can utilize in my retention efforts.

### **Summary and Study Conclusions**

Technology workers are vital resources to business organizations (Brooks et al., 2011), and retaining IT professionals is critical to a company's productivity and overall success (Luftman, & Johnson, 2013). Senior IT leaders need effective strategies to retain skilled IT professionals (Kim, 2012; Mohlala et al., 2012). Therefore, the specific business problem for this research project was some company leaders lack strategies to retain IT professionals. The purpose of this qualitative exploratory case study was to explore retention strategies company leaders need to retain IT professional and answer the following research question: What strategies do company leaders need to retain IT professionals? Two senior IT leaders from a mid-sized utility company in metropolitan Atlanta, Georgia participated in semistructured interviews and a review of company documents augmented the interview data.

After collecting and analyzing data, four main themes emerged from the data including: (a) essential strategies for business leaders to retain IT professionals, (b) most

effective strategies in retaining IT professionals, (c) management, organizational, and leadership essentials for retaining IT professionals; and (d) barriers, critical factors, and ineffective strategies affecting the retention of IT professionals. The findings indicated that leaders need strategies such as compensation, benefits, opportunities for promotion, rewards and recognition, and providing training opportunities to retain IT professionals. The findings also indicated that company leaders should understand effective retention strategies and address any barriers preventing the success of retention strategies.

There are several conclusions to this research project. It is important to mention that participants of the study answered semistructured interviews questions doing. In addition to participants answering all questions asked during the interview, a review of company documents, including an employee handbook and meeting minutes were also used to collect data. I triangulated data collected through semistructured interviews and company data with current literature to support the findings.

The initial findings of this study are that there are essential strategies that all companies need in order to retain IT professionals. In addition, not all strategies are equal; some strategies are can be most or least effective in retaining IT professionals (Laddha et al., 2012). In addition, management practices, leadership characteristics, and organization culture also influences a leader's ability to retain IT professionals (Ladelsky & Catană, 2013). Therefore, understanding the critical factors, barriers, and ineffective strategies is also important when determining the need for and developing and implementing retention strategies (Kim, 2012).

Business leaders must consider several factors when addressing needed strategies (Laddha et al., 2012). As noted in the constructs of general systems theory, retaining IT professionals requires not just one strategy, but a system of strategies working as a whole to retain IT professionals (Shannon, 2013). While having the best strategies in place is vital for retaining IT professionals, transformational leadership characteristics also play a significant role in the retention process (Syrek et al., 2013). Company leaders who desire to be successful in retaining IT professionals should consistently motivate value, encourage and communicate with IT professionals (Litwin, 2011).

## References

- Aarons, G. A. (2006). Transformational and transactional leadership: Association with attitudes toward evidence-based practice. *Psychiatric Services, 57*, 1162-1169. doi:10.1176/appi.ps.57.8.1162
- Abii, F. E., Ogula, D. C. N., & Rose, J. M. (2013). Effects of individual and organizational factors on the turnover intentions of information technology professionals. *International Journal of Management, 30*, 740-756. Retrieved from <http://www.theijm.com/>
- Abouelenein, M. S., & Diala, I. S. (2012). Cios' transformational leadership behaviors in community colleges in relation to information technology workers. *International Journal of Marketing and Technology, 2*, 127-149. Retrieved from [http://www.ijmra.us/commerce\\_journal.php](http://www.ijmra.us/commerce_journal.php)
- Agarwal, R., & Ferratt, T.W. (2002a). Enduring practices for managing IT professionals. *Communications of the ACM, 45*, 73-79. doi:10.1145/567498.567502
- Ali, A., & Yusof, H. (2011). Quality in qualitative studies: The case of validity, reliability and generalizability. *Issues in Social and Environmental Accounting, 5*, 25-64. Retrieved from <http://www.iiste.org/Journals/index.php/ISEA/index>
- Alimo-Metcalfe, B. (2010). An investigation of female and male constructs of leadership and empowerment. *Gender in Management, 25*, 640-648. doi:10.1108/17542411011092309
- Allen, M. W., Armstrong, D. J., Reid, M. F., & Riemenschneider, C. K. (2008). Factors

- impacting the perceived organizational support of IT employees. *Information & Management*, 45, 556-563. doi:10.1016/j.im.2008.09.003
- Allen, D. G., Bryant, P. C., & Vardaman, J. M. (2010). Retaining talent: replacing misconceptions with evidence-based strategies. *Academy of Management Perspectives*, 24, 48-64. doi:10.5465/AMP.2010.51827775
- Aluwihare-Samaranayake, D. (2012). Ethics in qualitative research: A view of the participants' and researchers' world from a critical standpoint. *International Journal of Qualitative Methods*, 11, 64-81. Retrieved from <https://ejournals.library.ualberta.ca/index.php/IJQM/index>
- Ameeq-ul-Ameeq, A., & Hanif, F. (2013). Impact of training on employee's development and performance in hotel industry of Lahore, Pakistan. *Journal of Business Studies Quarterly*, 4, 68-82. Retrieved from <http://jbsq.org/>
- Amerson, R. (2011). Making a case for the case study method. *Journal of Nursing Education*, 50, 427-428. doi:10.3928/01484834-20110719-01
- Ananthan, B. R., & Sudheendra Rao, L. N. (2011). Dynamics of retention: Practices and strategies. *SCMS Journal of Indian Management*, 8, 120-125. Retrieved <http://www.scmsgroup.org/scmsjim/>
- Andrade, J. (2010). What does doodling do? *Applied Cognitive Psychology*, 24, 100-106. doi:10.1002/acp.1561
- Anis, A., Ijaz-Ur-Rehman, Nasir, A., & Nadeem, S. (2011). Employee retention relationship to training and development: A compensation perspective. *African*

*Journal of Business Management*, 5, 2679-2685. doi:10.5897/AJBM10.1036

Appelbaum, S. H., Asham, N., & Argheyd, K. (2011a). Is the glass ceiling cracked in information technology? A qualitative analysis (part 1). *Industrial and Commercial Training*, 43, 354-361. doi:10.1108/00197851111160487

Appelbaum, S. H., Asham, N., & Argheyd, K. (2011b). Is the glass ceiling cracked in information technology? A qualitative analysis (part 2). *Industrial and Commercial Training*, 43, 451-459. doi:10.1108/00197851111171881

Armstrong, D. J., Nelms, J. E., Riemenschneider, C. K., & Reid, M. F. (2012). Revisiting the barriers facing women in information systems. *The Journal of Computer Information Systems*, 53(2), 65-74. Retrieved from <http://www.iacis.org/jcis/jcis.php>

Ashcraft, C., & Blithe, S. (2009). *Women in IT: The facts*. National Center for Women & Information Technology. Retrieved from [http://www.ncwit.org/sites/default/files/legacy/pdf/NCWIT\\_TheFacts\\_rev2010.pdf](http://www.ncwit.org/sites/default/files/legacy/pdf/NCWIT_TheFacts_rev2010.pdf)

Bairi, J., Manohar, B. M., & Kundu, G. K. (2011). Knowledge retention in the IT service industry. *Journal of Systems and Information Technology*, 13, 43-65. doi:10.1108/13287261111118340

Ballinger, G. A., Lehman, D. W., & Schoorman, F. D. (2010). Leader–member exchange and turnover before and after succession events. *Organizational Behavior and Human Decision Processes*, 113, 25-36. doi:10.1016/j.obhdp.2010.04.003

- Barnes, C. M., Reb, J., & Ang, D. (2012). More than just the mean: Moving to a dynamic view of performance-based compensation. *Journal of Applied Psychology, 97*, 711-718. doi:10.1037/a0026927
- Barnham, C. (2012). Separating methodologies. *International Journal of Market Research, 54*, 736-738. doi:10.2501/IJMR-54-6-736-738
- Bass, B. M. (1985). *Leadership and performance beyond expectations*. New York, NY: Free Press.
- Baxter, P., & Jack, S. (2008) Qualitative case study methodology: Study design and implementation for novice researchers. *The Qualitative Report, 13*, 544-559. Retrieved from <http://www.nova.edu/ssss/QR>
- Bennett, T. M. (2009). A study of the management leadership style preferred by IT subordinates. *Journal of Organizational Culture, Communication and Conflict, 13*(2), 1-25. Retrieved from <http://www.alliedacademies.org/public/journals/JournalDetails.aspx?jid=11>
- Bergin, M. (2011). NVivo 8 and consistency in data analysis: Reflecting on the use of a qualitative data analysis program. *Nurse Researcher, 18*(3), 6-12. doi:10.7748/nr2011.04.18.3.6.c8457
- Berrios-Ortiz, E. J. (2012). *Employee job embeddedness: A quantitative study of information technology personnel in the workplace* (Doctoral dissertation). Retrieved from ProQuest Dissertations and Theses database. (UMI No. 3505710)
- Bessick, J., & Naicker, V. (2013). Barriers to tacit knowledge retention: An



- understanding of the perceptions of the knowledge management of people inside and outside the organisation. *South African Journal of Information Management*, 15(2), 1-8. Retrieved from <http://www.sajim.co.za/index.php/SAJIM>
- Bird, S. J. (2010). Responsible research: What is expected? *Science & Engineering Ethics*, 16, 693-696. doi:10.1007/s11948-010-9248-9
- Bishop, W. H. (2012). Leadership: An ulterior motive. *Journal of Strategic Leadership*, 4, 61-64. Retrieved from <http://www.regent.edu/acad/global/publications/jsl>
- Boddy, C. R. (2011). "Hanging around with people": Ethnography in marketing research and intelligence gathering. *Marketing Review*, 11, 151-163.  
doi:10.1362/146934711X589381
- Borrego, M., Douglas, E. P., & Amelink, C. T. (2009). Quantitative, qualitative, and mixed research methods in engineering education. *Journal of Engineering Education*, 98, 53-66. doi:10.1002/j.2168-9830.2009.tb01005.x
- Borrego, M., Foster, M. J., & Froyd, J. E. (2014). Systematic literature reviews in engineering education and other developing interdisciplinary fields. *Journal of Engineering Education*, 103, 45-76. doi:10.1002/jee.20038
- Bottger, P., & Barsoux, J.-L. (2012). Masters of fit: how leaders enhance hiring. *Strategy & Leadership*, 40, 33-39. doi:10.1108/10878571211191684
- Brod, M., Tesler, L. E., & Christensen, T. L. (2009). Qualitative research and content validity: Developing best practices based on science and experience. *Quality of Life Research*, 18, 1263-1278. doi:10.1007/s11136-009-9540-9

- Brooks, N. G., Riemenschneider, C. K., Hardgrave, B. C., & O'Leary-Kelly, A. M. (2011). IT professional identity: needs, perceptions, and belonging. *European Journal of Information Systems*, 20, 87-102. doi:10.1057/ejis.2010.48
- Bryant, S. (2003). The role of transformational and transactional leadership in creating, sharing, and exploiting organizational knowledge. *Journal of Leadership & Organizational Studies*, 9, 32-44. doi:10.1177/107179190300900403
- Bryant, P. C., & Allen, D. G. (2013). Compensation, benefits and employee turnover HR strategies for retaining top talent. *Compensation and Benefits Review*, 45, 171-175. doi:10.1177/0886368713494342
- Buchanan, W. L. (2013). *Exploring sustainability: The key to corporate profitability in the 21st century* (Doctoral dissertation). Retrieved from ProQuest Dissertations and Theses database. (UMI No. 3604426).
- Buyts, N., Matthews, L. R., & Randall, C. (2010). Employees' perceptions of the management of workplace stress. *International Journal of Disability Management*, 5, 25-31. doi:10.1375/jdmr.5.2.25
- Caputo, D. J., & Kohun, F. J. (2011). Women in information technology: New connections in the internet-based enterprise. *Journal of Business and Economics Research*, 1, 41-46. Retrieved from <http://journals.cluteonline.com/index.php/JBER/>
- Carcary, M. (2011). Evidence analysis using CAQDAS: Insights from a qualitative researcher. *Electronic Journal of Business Research Methods*, 9, 10-24. Retrieved

from <http://www.ejbrm.com/main.html>

- Catanzaro, D., Moore, H., & Marshall, T. R. (2010). The impact of organizational culture on attraction and recruitment of job applicants. *Journal of Business and Psychology, 25*, 649-662. doi:10.1007/s10869-010-9179-0
- Cha, H., & Quan, J. (2011). A global perspective on information systems personnel turnover. *Journal of Global Information Technology Management, 14*(4), 4-27. Retrieved from <http://www.uncg.edu/bae/jgitm/>
- Chandrasekar, K. (2011). Managing attrition: The real problem behind the growth of business process outsourcing (BPO) companies. *Journal of Social Welfare & Management, 3*, 27-35. Retrieved from <http://rfppl.org>
- Chang, C. L. (2010). The study of the turnover of MIS professionals-The gap between Taiwanese and US societies. *International Journal of Information Management, 30*, 301-314. doi:10.1016/j.ijinfomgt.2009.11.002
- Chang, C. L., Jiang, J. J., Klein, G., & Chen, H.G. (2012). Career anchors and disturbances in job turnover decisions -A case study of IT professionals in Taiwan. *Information & Management, 49*, 309-319. doi:10.1016/j.im.2012.08.002
- Charleston, L. J. (2012). A qualitative investigation of African Americans' decision to pursue computing science degrees: Implications for cultivating career choice and aspiration. *Journal of Diversity in Higher Education, 5*, 222-243. doi:10.1037/a0028918
- Chauhan, V. S., & Patel, D. (2013). Employee turnover: A factorial study of IT industry.

- Journal of Strategic Human Resource Management*, 2(1), 37-44. Retrieved from <http://www.publishingindia.com/jshrm/>
- Chen, Y., Wang, W. C., & Chu, Y. C. (2010). Structural investigation of the relationship between working satisfaction and employee turnover. *Journal of Human Resource and Adult Learning*, 6, 41-50. Retrieved from <http://www.hraljournal.com>
- Chenail, R. J. (2011). Interviewing the investigator: Strategies for addressing instrumentation and researcher bias concerns in qualitative research. *Qualitative Report*, 16, 255-262. Retrieved from <http://www.nova.edu/ssss/QR>
- Chew, J., & Entrekin, L. (2011). Retention management of critical (core) employees—A challenging issue confronting organisations in the 21st century. *International Business & Economics Research Journal*, 3, 19-36. Retrieved from <http://journals.cluteonline.com/index.php/IBER>
- Chou, S. Y., & Pearson, J. M. (2012). Organizational citizenship behaviour in IT professionals: An expectancy theory approach. *Management Research Review*, 35, 1170-1186. doi:10.1108/01409171211281282
- Coenen, M., Stamm, T. A., Stucki, G., & Cieza, A. (2012). Individual interviews and focus groups in patients with rheumatoid arthritis: A comparison of two qualitative methods. *Quality of Life Research*, 21, 359-370. doi:10.2307/41411730
- Coget, J. F. (2011). Does national culture affect firm investment in training and development? *Academy of Management Perspectives*, 25, 85-87.

doi:10.5465/amp.2011.0134

Coombs, C. R. (2009). Improving retention strategies for IT professionals working in the public sector. *Information & Management*, 46, 233-240.

doi:10.1016/j.im.2009.02.004

Cronin, C. (2014). Using case study research as a rigorous form of inquiry. *Nurse Researcher*, 21(5), 19-27. doi:10.7748/nr.21.5.19.e1240

Coupal, L. (2005). Practitioner-research and the regulation of research ethics: The challenge of individual, organizational, and social interests. *Forum Qualitative Sozialforschung/Forum: Qualitative Social Research*, 6(1), 1-12. Retrieved from <http://www.qualitative-research.net/index.php/fqs>

Dailey, F. A. (2011). *Lived experiences of information technology middle managers regarding voluntary turnover: A phenomenological study* (Doctoral dissertation). Retrieved from ProQuest Dissertations and Theses database. (UMI No. 3507041)

Darcy, C., McCarthy, A., Hill, J., & Grady, G. (2012). Work–life balance: One size fits all? An exploratory analysis of the differential effects of career stage. *European Management Journal*, 30, 111-120. doi:10.1016/j.emj.2011.11.001

Davidson, M. C. G., Timo, N., & Wang, Y. (2010). How much does labour turnover cost? A case study of Australian four- and five-star hotels. *International Journal of Contemporary Hospitality Management*, 22, 451-466.

doi:10.1108/09596111011042686

Davis, T. L. (2013). A qualitative study of the effects of employee retention on the

- organization. *Insights to a Changing World Journal*, 2013, 25-112. Retrieved from <http://www.franklinpublishing.net/insightschangingworld.html>
- da Silva, M. P., & Shinyashiki, G. T. (2014). The human resource management can reduce turnover? *Journal of Management Research*, 6(2), 39-52. Retrieved from <http://www.macrothink.org/journal/index.php/jmr>
- De Cieri, H., Holmes, B., Abbott, J., & Pettit, T. (2005). Achievements and challenges for work/life balance strategies in Australian organizations. *The International Journal of Human Resource Management*, 16, 90-103.  
doi:10.1080/0958519042000295966
- Demaiter, E. I., & Adams, T. L. (2009). "I really didn't have any problems with the male-female thing until...": Successful women's experiences in IT organizations. *Canadian Journal of Sociology*, 34, 31-54. Retrieved from <https://ejournals.library.ualberta.ca/index.php/CJS>
- DeMers, A. (2002). Solutions and strategies for IT recruitment and retention: A manager's guide. *Public Personnel Management*, 31, 27-40.  
doi:10.1177/009102600203100105
- Dinger, M., Thatcher, J. B., & Stepina, L. P. (2010). A study of work-family conflict among IT professionals: Job characteristics, individual values, and management practices. *Journal of Organizational Computing and Electronic Commerce*, 20, 91-121. doi:10.1080/10919390903482341
- Dinger, M., Thatcher, J. B., Stepina, L. P., & Craig, K. (2012). The grass is always

- greener on the other side: A test of present and alternative job utility on IT professionals turnover. *IEEE Transactions on Engineering Management*, 59, 364-378. doi:10.1109/TEM.2011.2153204
- Dominici, G., & Levanti, G. (2011). The complex system theory for the analysis of inter-firm networks: A literature overview and theoretic framework. *International Business Research*, 4(2), 31-37. doi:10.5539/ibr.v4n2p31
- Drack M. (2009). Ludwig von Bertalanffy's early system approach. *Systems Research and Behavioral Science*, 26, 563-572. doi:10.1002/sres.992
- Drack, M., & Schwarz, G. (2010). Recent developments in general system theory. *Systems Research and Behavioral Science*, 27, 601-610. doi:10.1002/sres.1013
- Draper, A., & Swift, J. A. (2011). Qualitative research in nutrition and dietetics: Data collection issues. *Journal of Human Nutrition and Dietetics*, 24, 3-12. doi:10.1111/j.1365-277X.2010.01117.x
- Duek, A. A., Brodjonegoro, B. B., & Rusli, R. R. (2010). Reinterpreting social processes: How system theory can help to understand organizations and the example of Indonesia's decentralization. *Emergence: Complexity and Organization*, 12, 30-56. Retrieved from [http://emergentpublications.com/ECO/about\\_eco](http://emergentpublications.com/ECO/about_eco)
- Dworkin, S. L. (2012). Sample size policy for qualitative studies using in-depth interviews. *Archives of Sexual Behavior*, 41, 1319-1320. doi:10.1007/s105080120016-6

- Effelsberg, D., Solga, M., & Gurt, J. (2014). Transformational leadership and follower's unethical behavior for the benefit of the company: A two-study investigation. *Journal of Business Ethics, 120*, 81-93. doi:10.1007/s10551-013-1644-z
- Ekekwe, O. J. (2013). *Relationship between institutional frameworks and growth of SMEs in Nigeria's petroleum industry* (Doctoral dissertation). Retrieved from ProQuest Dissertations and Theses database. (UMI No. 3554901)
- Employee benefits provision. (2010). *Human Resource Management International Digest, 18*(3), 10-12. doi:10.1108/09670731011040308
- Epitropaki, O., & Martin, R. (2013). Transformational–transactional leadership and upward influence: The role of Relative Leader–Member Exchanges (RLMX) and Perceived Organizational Support (POS). *The Leadership Quarterly, 24*, 299-315. doi:10.1016/j.leaqua.2012.11.007
- Ertürk, A., & Vurgun, L. (2014). Retention of IT professionals: Examining the influence of empowerment, social exchange, and trust. *Journal of Business Research, 67*, 1-13. doi:10.1016/j.jbusres.2014.05.010
- Ezulike, G. (2012). How to hold on to your key information-technology specialists: ... and the true cost of replacing them. *Human Resource Management International Digest, 20*(4), 21-23. doi:10.1108/09670731211233311
- Fein, E. C., & Kulik, C. T. (2011). Safeguarding access and safeguarding meaning as strategies for achieving confidentiality. *Industrial and Organizational Psychology: Perspectives on Science and Practice, 4*, 479-481.



doi:10.1111/j.1754-9434.2011.01378.x

- Fields, D. A., & Kafai, Y. B. (2009). A connective ethnography of peer knowledge sharing and diffusion in a tween virtual world. *Computer Supported Collaborative Learning, 4*, 47-69. doi:10.1007/s11412-008-9057-1
- Fitzgerald, S., & Schutte, N. S. (2010). Increasing transformational leadership through enhancing self-efficacy. *Journal of Management Development, 29*, 495-505. doi:10.1108/02621711011039240
- Ford, J., & Harding, N. (2011). The impossibility of the “true self” of authentic. *Leadership, 7*, 463-479. doi:10.1177/1742715011416894
- Ford, V. F., Swayze, S., & Burley, D. L. (2013). An exploratory investigation of the relationship between disengagement, exhaustion and turnover intention among IT professionals employed at a university: *Information Resources Management Journal, 26*(3), 55-68. doi:10.4018/irmj.2013070104
- Frey, R.V., Bayón, T., & Totzek, D. (2013). How customer satisfaction affects employee satisfaction and retention in a professional services context. *Journal of Service Research, 16*, 503-517. doi:10.1177/1094670513490236
- Galbreath, J. (2011). Are there gender-related influences on corporate sustainability? A study of women on boards of directors. *Journal of Management and Organization, 17*, 17-38. Retrieved from <http://journals.cambridge.org/action/displayJournal?jid=JMO>
- Garrett-Howard, C. (2012). *Factors influencing advancement of women senior leaders in*

- aerospace companies* (Doctoral dissertation). Retrieved from ProQuest Dissertations and Theses database. (UMI No. 3495166)
- George, A. P., & Alex, N. J. (2011). Turnover intentions: Perspectives of IT professionals in Kerala. *IUP Journal of Organizational Behavior*, *10*(1), 18-41. Retrieved from [http://www.iupindia.in/Organizational\\_Behavior.asp](http://www.iupindia.in/Organizational_Behavior.asp)
- Gerhart, B., & Fang, M. (2014). Pay for (individual) performance: Issues, claims, evidence and the role of sorting effects. *Human Resource Management Review*, *24*, 41-52. doi:10.1016/j.hrmr.2013.08.010
- Ghapanchi, A. H., & Aurum, A. (2011). Antecedents to IT personnel's intentions to leave: A systematic literature review. *Journal of Systems and Software*, *84*, 238-249. doi:10.1016/j.jss.2010.09.022
- Ghazzawi, I. (2010). Gender role in job satisfaction: The case of the U.S. information technology professionals. *Journal of Organizational Culture, Communications & Conflict*, *14*(2), 1-34. Retrieved from <http://www.alliedacademies.org/Public/Journals/JournalDetails.aspx?jid=11>
- Ghinea, V. M., & Bratian, C. (2012). Organizational culture modeling. *Management and Marketing*, *7*, 257-276. Retrieved from <http://www.managementmarketing.ro>
- Gialuisi, O., & Coetzer, A. (2013). An exploratory investigation into voluntary employee turnover and retention in small businesses. *Small Enterprise Research*, *20*, 55-68. doi:10.5172/ser.2013.20.1.55
- Gibbert, M., & Ruigrok, W. (2010). The ““what”” and ““how”” of case study rigor: Three

strategies based on published work. *Organizational Research Methods*, 13, 710-737. doi:10.1177/1094428109351319

Gibson, S., Benson, O., & Brand, S. L. (2013). Talking about suicide: Confidentiality and anonymity in qualitative research. *Nursing Ethics*, 20, 18-29.

doi:10.1177/0969733012452684

Gladies, J. J., & Kennedy, V. (2011). Impact of organizational climate on job stress for women employees in information technology sector in India. *Asia Pacific Journal of Research in Business Management*, 2, 66-76. Retrieved from

<http://www.indianjournals.com/ijor.aspx?target=ijor:apjrbm&type=home>

Govaerts, N., Kyndt, E., Dochy, F., & Baert, H. (2011). Influence of learning and working climate on the retention of talented employees. *Journal of Workplace Learning*, 23, 35-55. doi:10.1108/13665621111097245

Grant, A. M. (2012). Leading with meaning: beneficiary contact, prosocial impact, and the performance effects of transformational leadership. *Academy of Management Journal*, 55, 458-476. doi:10.5465/amj.2010.0588

Grossoehme, D. H. (2014). Overview of qualitative research. *Journal of Health Care Chaplaincy*, 20, 109-122. doi:10.1080/08854726.2014.925660

Groves, K. S., & LaRocca, M. A. (2011). An empirical study of leader ethical values, transformational and transactional leadership, and follower attitudes toward corporate social responsibility. *Journal of Business Ethics*, 103, 511-528.

doi:10.1007/s10551-011-0877-y

- Guest, G., Bunce, A., & Johnson, L. (2006). How many interviews are enough? An experiment with data saturation and variability. *Field Methods, 18*, 5-82.  
doi:10.1177/1525822X0527990
- Gupta, N., & Shaw, J. D. (2014). Employee compensation: The neglected area of HRM research. *Human Resource Management Review, 24*, 1-4.  
doi:10.1016/j.hrmr.2013.08.007
- Guzman, I. R., & Stanton, J. M. (2009). IT occupational culture: The cultural fit and commitment of new information technologists. *Information Technology and People, 22*, 157-187. doi:10.1108/09593840910962212
- Haines, I., Victor Y., Jalette, P., & Larose, K. (2010). The influence of human resource management practices on employee voluntary turnover rates in the Canadian non governmental sector. *Industrial and Labor Relations Review, 63*, 228-246.  
Retrieved from <http://www.ilr.cornell.edu/ilrreview/>
- Hamstra, M. R., Van Yperen, N. W., Wisse, B., & Sassenberg, K. (2011). Transformational-transactional leadership styles and followers' regulatory focus. *Journal of Personnel Psychology, 10*, 182-186. doi:10.1027/1866-5888/a000043
- Hancock, J. I., Allen, D. G., Bosco, F. A., McDaniel, K. R., & Pierce, C. A. (2013). Meta-analytic review of employee turnover as a predictor of firm performance. *Journal of Management, 39*, 573-603. doi:10.1177/0149206311424943
- Hanson, J., Balmer, D., & Giardino, A. (2011). Qualitative research methods for medical educators. *Academic Pediatrics, 11*, 375-386. doi:10.1016/j.acap.2011.05.001

- Hargis, M. B., Watt, J. D., & Piotrowski, C. (2011). Developing leaders: Examining the role of transactional and transformational leadership across business contexts. *Organization Development Journal*, 29(3), 51-66. Retrieved from <http://www.isodc.org/Default.aspx?pageId=1730212>
- Harper, S. (2012). The leader coach: A model of multi-style leadership. *Journal of Practical Consulting*, 4(1), 22-31. Retrieved from <http://www.regent.edu/acad/global/publications/jpc>
- Harris, N., Cushman, P., Kruck, S. E., & Anderson, R. D. (2009). Technology majors: Why are women absent? *Journal of Computer Information Systems*, 50(2), 23-30. Retrieved from <http://iacis.org/jcis/jcis.php>
- Harris, M., Klaus, T., Blanton, J., & Wingreen, S. (2009). Job security and other employment considerations as predictors of the organizational attitudes of IT professionals. *International Journal of Global Management Studies*, 1(1), 32-45. Retrieved from <http://association-gms.org/index.php/journals/ijgms/>
- Harris, K. J., Wheeler, A., & Kacmar, K. M. (2011). The mediating role of organizational embeddedness in the LMX-outcomes relationships. *The Leadership Quarterly*, 22, 271-281. doi:10.1016/j.leaqua.2011.02.003
- Hawk, S., Kaiser, K. M., Goles, T., Bullen, C. V., Simon, J. C., Beath, C. M., & Frampton, K. (2012). The information technology workforce: A comparison of critical skills of clients and service providers. *Information Systems Management*, 29, 2-12. doi:10.1080/10580530.2012.634292

- Hayes, B., Bonner, A., & Douglas, C. (2013). An introduction to mixed methods research for nephrology nurses. *Renal Society of Australasia Journal*, 9, 8-14. Retrieved from [http://www.renalsociety.org/RSAJ/index\\_nl.html](http://www.renalsociety.org/RSAJ/index_nl.html)
- Herring, C. (2009). Does diversity pay? Race, gender, and the business case for diversity. *American Sociological Review*, 74, 208-224.  
doi:10.1177/000312240907400203
- Hewitt, R. T. (2012). Valuing IT human capital. *IT Professional*, 14, 58-60.  
doi:10.1109/MITP.2012.17
- Hoare, Z., & Hoe, J. (2012). Understanding quantitative research: Part 1. *Nursing Standard*, 27(17), 52-57. doi:10.7748/ns2012.12.27.15.52.c9485
- Hoare, Z., & Hoe, J. (2013). Understanding quantitative research: Part 2. *Nursing Standard*, 27(18), 48-55. doi:10.7748/ns2013.01.27.18.48.c9488
- Hodges, N. (2011). Qualitative research: A discussion of frequently articulated qualms (FAQs). *Family and Consumer Sciences Research Journal*, 40, 90-92.  
doi:10.1111/j.1552-3934.2011.02091.x
- Holmes, M. (2006). *Retaining information technology employees in higher education* (Doctoral dissertation). Retrieved from ProQuest Dissertations and Theses database. (UMI No. 3243318)
- Hom, P. W., Mitchell, T. R., Lee, T. W., & Griffeth, R. W. (2012). Reviewing employee turnover: Focusing on proximal withdrawal states and an expanded criterion. *Psychological Bulletin*, 138, 831-858. doi:10.1037/a0027983

Houghton, C., Casey, D., Shaw, D., & Murphy, K. (2013). Rigour in qualitative case-study research. *Nurse Researcher*, 20(4), 12-17.

doi:10.7748/nr2013.03.20.4.12.e326

Hughes, L. W., Avey, J. B., & Nixon, D. R. (2010). Relationships between leadership and followers' quitting intentions and job search behaviors. *Journal of Leadership and Organizational Studies*, 17, 351-362. doi:10.1177/1548051809358698

Idris, A. (2014). Flexible working as an employee retention strategy in developing countries. *Journal of Management Research*, 14(2), 71-86. Retrieved from <http://www.macrothink.org/journal/index.php/jmr>

Igbaria, M., & Siegel, S.R. (1992). The reasons for turnover among information systems personnel. *Information and Management*, 23, 321-331.

doi:10.1016/03787206(92)900147

Inabinett, J. M., & Ballaro, J. M. (2014). Developing an organization by predicting employee retention by matching corporate culture with employee's values: A correlation study. *Organization Development Journal*, 32(1), 55-74. Retrieved from <http://www.isodc.org/>

Iyer, S., & Israel, D. (2012). Structural equation modeling for testing the impact of organization communication satisfaction on employee engagement. *South Asian Journal of Management*, 19, 51-81. Retrieved from <http://sajm-amdisa.org/>

Jacob, S. A., & Furgerson, S. (2012). Writing interview protocols and conducting interviews: Tips for students new to the field of qualitative research. *Qualitative*

- Report, 17*, 1-10. Retrieved from <http://www.nova.edu/ssss/QR/>
- Jain, M. (2011). Employee retention strategies for organizational success. *Journal of Social Welfare and Management, 3*(2), 5-10. Retrieved from <http://www.rfppl.org/>
- Jain, M. (2013). Employee attrition-causes and remedies. *Journal of Social Welfare and Management, 5*(2), 69-74. Retrieved from <http://www.rfppl.org/>
- James, B. A. (2012). How managerial interactions affect employees' work output in Ghanaian organizations. *African Journal of Economic and Management Studies, 3*, 204-226. doi:10.1108/20400701211265009
- James, L., & Mathew, L. (2012). Employee retention strategies: IT Industry. *SCMS Journal of Indian Management, 9*, 79-87. Retrieved from <http://www.scmsgroup.org/scmsjim/>
- Javalgi, R. G., Granot, E., & Alejandro, T. G. B. (2011). Qualitative methods in international sales research: Cross-cultural considerations. *Journal of Personal Selling and Sales Management, 31*, 157-170. doi:10.2753/PSS0885-3134310204
- Johnson, A. H. (2014). Employee engagement: Lessons learned from the U.S. 2013 glassdoor best places to work employee choice award leaders. *Journal of American Academy of Business, 19*, 102-108. Retrieved from <http://www.jaabc.com/>
- Kaine, G., & Cowan, L. (2011). Using general systems theory to understand how farmers manage variability. *Systems Research and Behavioral Science, 28*, 231-244.



doi:10.1002/sres.1073

Kaiser, R. B., McGinnis, J., & Overfield, D. V. (2012). The how and the what of leadership. *Consulting Psychology Journal: Practice and Research*, 64, 119-135.  
doi:10.1037/a0029331

Kappelman, L., McLean, E., Luftman, J., & Johnson, V. (2013). Key issues of IT organizations and their leadership: The 2013 SIM IT trends study. *MIS Quarterly Executive*, 12, 227-240. Retrieved from <http://misqe.org/>

Kark, R., Waismel-Manor, R., & Shamir, B. (2012). Does valuing androgyny and femininity lead to a female advantage? The relationship between gender-role, transformational leadership and identification. *Leadership Quarterly*, 23, 620-640. doi:10.1016/j.leaqua.2011.12.012

Kast, F. E., & Rosenzweig, J. E. (1972). General system theory: Applications for organization and management. *Academy of Management Journal*, 15, 447-465.  
doi:10.2307/255141

Kavitha, S. R., Geetha, S. R., & Arunachalam, V. (2011). An empirical study on employee retention strategies in a biscuit manufacturing company in India. *Interdisciplinary Journal of Contemporary Research in Business*, 3, 762-772.  
Retrieved from <http://www.ijcrb.com/>

Kennedy, E., & Daim, T. U. (2010). A strategy to assist management in workforce engagement and employee retention in the high tech engineering environment. *Evaluation and Program Planning*, 33, 468-476.

doi:10.1016/j.evalprogplan.2009.12.001

- Kennett, G. (2013). The impact of training practices on individual, organisation, and industry skill development. *Australian Bulletin of Labour*, 39, 112-135. Retrieved from <http://www.flinders.edu.au/sabs/nils/publications/australian-bulletin-of-labour/>
- Kim, S. (2012). The impact of human resource management on state government IT employee turnover intentions. *Public Personnel Management*, 41, 257-279. doi:10.1177/009102601204100204
- King, K (2012). Transformational leadership journeys of transnational individuals: A study of Belizean leaders, *International Forum on Teaching and Studies*, 8(1), 5-22. Retrieved from <http://www.americanscholarspress.com/IFST.html>
- Kissack, H. C., & Callahan, J. L. (2010). The reciprocal influence of organizational culture and training and development programs. *Journal of European Industrial Training*, 34, 365-380. doi:10.1108/03090591011039090
- Knox, S., & Burkard, A. W. (2009). Qualitative research interviews. *Psychotherapy Research*, 19, 566-575. doi:10.1080/10503300802702105
- Koster, F., de Grip, A., & Fouarge, D. (2011). Does perceived support in employee development affect personnel turnover? *International Journal of Human Resource Management*, 22, 2403-2418. doi:10.1080/09585192.2011.584404
- Kramer-Kile, M. L. (2012). Research column: Situating methodology within qualitative research. *Canadian Journal of Cardiovascular Nursing*, 22(4), 27-31. Retrieved

from <http://pappin.com/journals/cjcn.php>

Kuppusamy, A., Ganesan, J., & Rosada, S. A. (2010). Leadership styles and management techniques: An analysis of Malaysian women entrepreneurs. *Communications of IBIM*, 2010, 1-10. doi:10.5171/2010.817881

Laddha, A., Singh, R., Gabbad, H., & Gidwani, G. D. (2012). Employee retention: An art to reduce turnover. *International Journal of Management Research and Reviews*, 2, 453-458. Retrieved from <http://ijmrr.com/>

Ladelsky, L. K., & Catană, G. A. (2013). Causes affecting voluntary turnover in IT sector. Review of some empirical studies. *Proceedings of the International Conference Marketing - from Information to Decision, Romania, 2013*, 102-113. Retrieved from <http://www.econ.ubbcluj.ro/mid/>

Lasch, K. E., Marquis, P., Vigneux, M., Abetz, L., Arnould, B., Bayliss, M., & Rosa, K. (2010). PRO development: Rigorous qualitative research as the crucial foundation. *Quality of Life Research*, 19, 1087-1096. doi:10.1007/s11136010-9677-6

Larkin, R., & Burgess, J. (2013). The paradox of employee retention for knowledge transfer. *Employment Relations Record*, 13(2), 32-43. Retrieved from <http://iera.net.au/employment-relations-record/>

Latif, K. F. (2012). An integrated model of training effectiveness and satisfaction with employee development interventions. *Industrial and Commercial Training*, 44, 211-222. doi:10.1108/00197851211231487

- Latif, K. F., Jan, S., & Shaheen, N. (2013). Association of training satisfaction with employee development aspect of job satisfaction. *Journal of Managerial Sciences*, 7(1), 159-178. Retrieved from <http://www.qurtuba.edu.pk/jms/>
- Leech, N. L., & Onwuegbuzie, A. J. (2011). Beyond constant comparison qualitative data analysis: Using NVivo. *School Psychology Quarterly*, 26, 70-84.  
doi:10.1037/a0022711
- Liao, W., & Teng, M. (2010). The relationship between ethics training and employee satisfaction: A mediator of corporate responsibility practices. *Journal of Human Resource and Adult Learning*, 6, 9-18. Retrieved from <http://www.hraljournal.com>
- Lichtenstein, B. B., & Plowman, D. A. (2009). The leadership of emergence: A complex systems leadership theory of emergence at successive organizational levels. *Leadership Quarterly*, 20, 617-630. doi:10.1016/j.leaqua.2009.04.006
- Lin, T.C., Ku, Y.C., & Huang, Y.S. (2014). Exploring top managers' innovative IT (IIT) championing behavior: Integrating the personal and technical contexts. *Information & Management*, 51, 1-12. doi:10.1016/j.im.2013.09.002
- Litwin, A. S. (2011). Technological change at work: The impact of employee involvement on the effectiveness of health information technology. *Industrial & Labor Relations Review*, 64, 863-888. Retrieved from <http://www.ilr.cornell.edu/ilrreview>
- Liu, Z., Cai, Z., Li, J., Shi, S., & Fang, Y. (2013). Leadership style and employee

turnover intentions: a social identity perspective. *Career Development International*, 18, 305-324. doi:10.1108/CDI-09-2012-0087

Loiselle, C. G., Profetto-McGrath, J., Polit, D. F., & Beck, C. T. (2010). *Canadian essentials of nursing research*. Philadelphia, PA: Lippincott, Williams, & Wilkins.

Luftman, J., & Ben-Zvi, T. (2010). Key issues for IT executives 2009: Difficult economy's impact on IT. *MIS Quarterly Executive*, 9, 49-59. Retrieved from <http://misqe.org/>

Luftman, J., & Ben-Zvi, T. (2011). Key issues for IT executives 2011: Cautious optimism in uncertain economic times. *MIS Quarterly Executive*, 10, 203-212. Retrieved from <http://misqe.org/>

Luftman, J., & Derksen, B. (2012). Key issues for IT executives 2012: Doing more with less. *MIS Quarterly Executive*, 11, 207-218. Retrieved from <http://misqe.org/>

Luftman, J., Kempaiah, R., & Rigoni, E. H. (2009). Key issues for IT executives 2008. *MIS Quarterly Executive*, 8, 151-159. Retrieved from <http://misqe.org/>

Mabuza, P. F., & Gerwel Proches, C. N. (2014). Retaining core, critical and scarce skills in the energy Industry. *Indian Journal of Industrial Relations*, 49, 635-648. Retrieved from <http://www.srcirhr.com/ijir.php>

Machtmes, K., Johnson, E., Fox, J., Burke, M. S., Harper, J., Arcemont, L., & Aguirre, R. T. (2009). Teaching qualitative research methods through service-learning. *The Qualitative Report*, 14, 155-164. Retrieved from <http://www.nova.edu/ssss/QR>

- Maran, D., & Soro, G. (2010). The influence of organizational culture in women participation and inclusion in voluntary organizations in Italy. *Voluntas: International Journal of Voluntary and Nonprofit Organizations*, 21, 481-496. doi:10.1007/s11266-010-9143-7
- Marshall, B., Cardon, P., Poddar, A., & Fontenot, R. (2013). Does sample size matter in qualitative research? A review of qualitative interviews in is research. *Journal of Computer Information Systems*, 54(1), 11-22. Retrieved from <http://www.iacis.org/jcis/jcis.php>
- Marshall, C., & Rossman, G. (2011). *Designing qualitative research* (2nd ed.). Thousand Oaks: Sage.
- Mason, M. (2010). Sample size and saturation in PhD studies using qualitative interviews. *Forum: Qualitative Social Research*, 11(3), 1-19. Retrieved from <http://www.qualitative-research.net/index.php/fqs>
- Mastracci, S. H. (2009). Evaluating HR management strategies for recruiting and retaining IT professionals in the U.S. Federal Government. *Public Personnel Management*, 38, 19-34. doi:10.1177/009102600903800202
- McCarthy, A., Darcy, C., & Grady, G. (2010). Work-life balance policy and practice: Understanding line manager attitudes and behaviors. *Human Resource Management Review*, 20, 158-167. doi:10.1016/j.hrmr.2009.12.001
- McFarland, T. D. (2010). Are women in information era jobs overcoming industrial era barriers? A study of the impact of organizational characteristics. *Forum on Public*

*Policy: A Journal of the Oxford Round Table*, 2010(2), 1-11. Retrieved from <http://forumonpublicpolicy.com>

McGrath, D. L. (2012). Interpersonal contact at work: Consequences for wellbeing.

*International Journal of Health, Wellness & Society*, 2(1), 33-48. Retrieved from <http://ijw.cgpublisher.com/>

McKeen, J. D., Smith, H., & Jin, J. (2009). Developments in practice XXXII: Successful

strategies for IT staffing. *Communications of the Association for Information*

*Systems*, 24, 805-820. Retrieved from <http://aisel.aisnet.org/cais/vol24/iss1/46>

McKnight, D. H., Phillips, B., & Hardgrave, B. C. (2009). Which reduces IT turnover

intention the most: Workplace characteristics or job characteristics? *Information*

*& Management*, 46, 167-174. doi:10.1016/j.im.2009.01.002

McNamara, T. K., Pitt-Catsouphes, M., Matz-Costa, C., Brown, M., & Valcour, M.

(2013). Across the continuum of satisfaction with work–family balance: Work

hours, flexibility-fit, and work–family culture. *Social Science Research*, 42, 283-

298. doi:10.1016/j.ssresearch.2012.10.002

Mendes, F., & Stander, M. W. (2011). Positive organisation: The role of leader behaviour

in work engagement and retention. *South African Journal of Industrial*

*Psychology*, 37(1), 29-41. doi:10.4102/sajip.v37i1.900

Meszaros, P. S., Creamer, E., & Lee, S. (2009). Understanding the role of parental

support for IT career decision making using the theory of self-authorship.

*International Journal of Consumer Studies*, 33, 392-395. doi:10.1111/j.1470-

6431.2009.00790.x

Microsoft. (2009). *New study says IT sector to help drive global economic recovery.*

Retrieved from: [www.microsoft.com/en-us/news/press/2009/oct09/10-04idceconomicimpactpr.aspx](http://www.microsoft.com/en-us/news/press/2009/oct09/10-04idceconomicimpactpr.aspx)

Milman, A., & Dickson, D. (2014). Employment characteristics and retention predictors among hourly employees in large US theme parks and attractions. *International Journal of Contemporary Hospitality Management*, 26, 447-469.

doi:10.1108/IJCHM-04-2013-0178

Mobley, W. H., Griffeth, R. W., Hand, H. H., & Meglino, B. M. (1979). Review and conceptual analysis of the employee turnover process, *Psychological Bulletin*, 86, 493-522. doi:10.1037/0033-2909.86.3.493

Mohlala, J., Goldman, G. A., & Goosen, X. (2012). Employee retention within the information technology division of a South African bank. *South African Journal of Human Resource Management*, 10(2), 1-11. doi:10.4102/sajhrm.v10i2.438

Mohamed, A. F., Singh, S., Irani, Z., & Darwish, T. K. (2012). An analysis of recruitment, training and retention practices in domestic and multinational enterprises in the country of Brunei Darussalam. *The International Journal of Human Resource Management*, 24, 2054-2081.

doi:10.1080/09585192.2012.723021

Mohammed, K. A., Othman, J., & Silva, J. L. D. (2012). Social *demographic* factors that influence transformational leadership styles among top management in selected



organizations in Malaysia. *Asian Social Science*, 8(13), 51-58.

doi:10.5539/ass.v8n13p51

Moll, S. (2012). Navigating political minefields: Partnerships in organizational case study research. *Work*, 43, 5-12. doi:10.3233/wor-2012-1442

Montgomery, E. G., & Oladapo, V. (2014). Talent Management vulnerability in global healthcare value chain: A general system theory perspective. *Journal of Business Studies Quarterly*, 5, 173-189. Retrieved from <http://www.jbsq.org>

Morse, J. M., Barrett, M., Mayan, M., Olson, K., & Spiers, J. (2002). Verification strategies for establishing reliability and validity in qualitative research. *International Journal of Qualitative Methods*, 1, 13-22. Retrieved from <http://ejournals.library.ualberta.ca/index.php/IJQM/index>

Mourmant, G., Gallivan, M. J., & Kalika, M. (2009). Another road to IT turnover: the entrepreneurial path. *European Journal of Information Systems*, 18, 498-521. doi:10.1057/ejis.2009.37

Naqvi, S. M. M. R., & Bashir, S. (2012). IT-expert retention through organizational commitment: A study of public sector information technology professionals in Pakistan. *Applied Computing and Informatics*, 9, 1-13. doi:10.1016/j.aci.2011.11.001

Nicholls, D. (2009). Qualitative research: Part two-methodologies. *International Journal of Therapy and Rehabilitation*, 16, 586-592. Retrieved from <http://www.ijtr.co.uk>

North Dakota Information Technology Department. (2013). *Definition of information*

*technology*. Retrieved from <http://www.nd.gov/itd/about-us/definition-information-technology>

- Onwuegbuzie, A. J., & Leech, N. L. (2006). Linking research questions to mixed methods data analysis procedures. *The Qualitative Report, 11*, 474-498. Retrieved from <http://www.nova.edu/ssss/QR>
- Ortlieb, R., & Sieben, B. (2012) How to safeguard critical resources of professional and managerial staff: Exploration of a taxonomy of resource retention strategies. *The International Journal of Human Resource Management, 23*, 1688-1704. doi:10.1080/09585192.2011.610341
- Owens, D., & Khazanchi, D. (2011). Best practices for retaining global IT talent. In *Proceeding of the 44th Hawaii International Conference on System Sciences* (pp. 1-12). Honolulu, HI. doi:10.1109/HICSS.2011.79
- Paritsis, N. (2010). Human systems therapy. *Systems Research & Behavioral Science, 27*, 336-348. doi:10.1002/sres.1012
- Peachey, J., & Burton, L. (2011). Male or female athletic director: Exploring perceptions of leader effectiveness and a (potential) female leadership advantage with intercollegiate athletic directors. *Sex Roles, 64*, 416-425. doi:10.1007/s11199-010-9915-y
- Perry, A. S. (2012). *Determining the keys to entrepreneurial sustainability beyond the first 5 Years* (Doctoral dissertation). Retrieved from ProQuest Dissertations and Theses database. (UMI No. 3552549)

- Pettinao, D. (2010). *In information systems: People, organizations, institutions, and technologies*. Washington, DC: Physica-Verlag HD.
- Phipps, S. A., Prieto, L. C., & Verma, S. (2012). Holding the helm: Exploring the influence of transformational leadership on group activity, and the moderating role of organizational learning culture. *Journal of Organizational Culture, Communications and Conflict*, *16*, 145-156. Retrieved from <http://www.alliedacademies.org/public/journals/JournalDetails.aspx?jid=11>
- Piccolo, R. F., Bono, J. E., Heinitz, K., Rowold, J., Duehr, E., & Judge, T. A. (2012). The relative impact of complementary leader behaviors: Which matter most? *The Leadership Quarterly*, *23*, 567-581. doi:10.1016/j.leaqua.2011.12.008
- Poonpool, N., Limsuwan, S., & Satchawatee, N. (2013). The effects of risk management effectiveness on organizational sustainability of information technology businesses. *Review of Business Research*, *13*(1) 109-129. Retrieved from <http://www.iabe.org/domains/iabeX/journal.aspx?journalid=5>
- Potgieter, I. (2012). The relationship between the self-esteem and employability attributes of postgraduate business management students. *South African Journal of Human Resource Management*, *10*(2), 1-15. doi:10.4102/sajhrm.v10i2.41910
- Porra, J., Hirschheim, R., & Parks, M. S. (2006). Forty years of the corporate information technology function at Texaco Inc.- A history. *Information and Organization*, *16*, 82-107. doi:10.1016/j.infoandorg.2005.06.001
- Pratt, M. G. (2009). For the lack of a boilerplate: Tips on writing up (and reviewing)

qualitative research. *Academy of Management Journal*, 52, 858-862.

doi:10.5465/AMJ.2009.44632557

Pretorius, M., & Maritz, R. (2011). Strategy making: the approach matters. *Journal of Business Strategy*, 32(4), 25-31. doi:10.1108/02756661111150945

Quan, J., & Cha, H. (2010). IT certifications, outsourcing and information systems personnel turnover. *Information Technology & People*, 23, 330-351.

doi:10.1108/09593841011087798

Rai, R. K. (2011). Knowledge management and organizational culture: A theoretical integrative framework. *Journal of Knowledge Management*, 15, 779-801.

doi:10.1108/13673271111174320

Raja, M. W. (2012). Does transformational leadership leads to higher employee work engagement? A study of Pakistani service sector firms. *International Journal of Academic Research in Business and Social Sciences*, 2, 160-166. Retrieved from <http://hrmars.com/index.php/pages/detail/IJARBSS>

Ramlall, S. (2012). A review of employee motivation theories and their implications for employee retention within organizations. *Journal of American Business Review*, 1(1), 189-200. Retrieved from <http://www.jaabc.com/jabrc.html>

Ramos, E., & Joia, L. A. (2013). An investigation into turn-away among information technology professionals in Brazil. *The Journal of High Technology Management Research*, 24, 30-41. doi:10.1016/j.hitech.2013.02.005

Ratna, R., & Chawla, S. (2012). Key factors of retention and retention strategies in

- telecom sector. *Global Management Review*, 6(3), 35-46. Retrieved from <http://www.sonamgmt.org/gmr.html>
- Resick, C. J., Whitman, D. S., Weingarden, S. M., & Hiller, N. J. (2009). The bright-side and the dark-side of CEO personality: Examining core self-evaluations, narcissism, transformational leadership, and strategic influence. *Journal of Applied Psychology*, 94, 1365-1381. doi:10.1037/a0016238
- Richardson, L., & Adams St. Pierre, E. (2008). Writing: A method of inquiry. In N. K. Denzin, & Y. S. Lincoln (Eds.), *Collecting and interpreting qualitative materials* (3rd ed., pp. 473-500). Thousand Oaks, CA: Sage.
- Richardson, S. (2009). Undergraduates' perceptions of tourism and hospitality as a career choice. *International Journal of Hospitality Management*, 28, 382-388. doi:10.1016/j.ijhm.2008.10.006
- Riemenschneider, C. K., Armstrong, D. J., & Moore, J. E. (2009). Meeting the demand for IT workers: A call for research. *European Journal of Information Systems*, 18, 458-461. doi:10.1057/ejis.2009.36
- Ross, L. F., Loup, A., Nelson, R. M., Botkin, J. R., Kost, R., Smith, G. R., & Gehlert, S. (2010). Human subjects protections in community-engaged research: A research ethics framework. *Journal of Empirical Research on Human Subjects*, 5(1), 5-17. doi:10.1525/jer.2010.5.1.5
- Roulston, K. (2010). Considering quality in qualitative interviewing. *Qualitative Research*, 10, 199-228. doi:10.1177/1468794109356739

- Rutner, P., Riemenschneider, C., O'Leary-Kelly, A., & Hardgrave, B. (2011). Work exhaustion in information technology professionals: The impact of emotion labor. *Database for Advances in Information Systems, 42*, 102-119. Retrieved from <http://www.sigmis.org/DataBase.html>
- Salas, E., Tannenbaum, S. I., Kraiger, K., & Smith-Jentsch, K. A. (2012). The science of training and development in organizations: What matters in practice. *Psychological Science in the Public Interest, 13*, 74-101.  
doi:10.1177/1529100612436661
- Samson, S. M. (2013). Attrition issues and retention challenges of employees. *Asia Pacific Journal of Research in Business Management, 4*, 1-2. Retrieved from <http://www.skirec.com/index.html>
- Sanchez, C. O. (2010). *Strategic management of the information technology resource: A framework for retention* (Doctoral dissertation). Retrieved from ProQuest Dissertations and Theses database. (UMI No. 3407444)
- Sandelowski, M. (1995), Sample size in qualitative research. *Research in Nursing and Health, 18*, 179-183. doi:10.1002/nur.4770180211
- Sawitri, D., & Muis, M. (2014). Human resource management: A strategic theoretical perspective. *International Journal of Organizational Innovation, 6*(3), 6-20.  
Retrieved from <http://www.ijoi-online.org/>
- Self, D. R., & Self, T. B. (2014). Negligent retention of counterproductive employees. *International Journal of Law & Management, 56*, 216-230. doi:10.1108/IJLMA-

07-2012-0021

- Shannon, N. C. (2013). *Exploring the impact of Marine Corps recruiters on entry-level attrition* (Doctoral dissertation). Retrieved from ProQuest Dissertations and Theses database. (UMI No. 3601303)
- Shockley, K. M., & Allen, T. D. (2010). Investigating the missing link in flexible work arrangement utilization: An individual difference perspective. *Journal of Vocational Behavior, 76*, 131-142. doi:10.1016/j.jvb.2009.07.002
- Shore, B. (2013). Improving employee retention in a South Korean high growth organization: Do western strategies apply? *Journal of Global Business Issues, 7*(2), 1-8. Retrieved from <http://www.jgbi.org/>
- Smit, P. (2012). *A phenomenological examination of supply chain professionals' experiences to improve cash-to-cash positioning* (Doctoral dissertation). Retrieved from ProQuest Dissertations and Theses database. (UMI No. 3510290)
- Smith, A., Oczkowski, E., & Smith, C. S. (2011). To have and to hold: modelling the drivers of employee turnover and skill retention in Australian organisations. *The International Journal of Human Resource Management, 22*, 395-416. doi:10.1080/09585192.2011.540162
- Smith, S. M., Stokes, P., & Wilson, J. F. (2014). Exploring the impact of investors in people: A focus on training and development, job satisfaction and awareness of the Standard. *Employee Relations, 36*, 266-279. doi:10.1108/ER-09-2012-0064
- Sosik, J. J., & Cameron, J. C. (2010). Character and authentic transformational leadership

- behavior: Expanding the ascetic self toward others. *Consulting Psychology Journal: Practice and Research*, 62, 251-269. doi:10.1037/a0022104
- Sosik, J. J., Chun, J., Blair, A. L., & Fitzgerald, N. A. (2014). Possible selves in the lives of transformational faith community leaders. *Psychology of Religion and Spirituality*, 5, 283-293. doi:10.1037/a0032646
- Sturmberg, J. P., Martin, C. M., & Katerndahl, D. A. (2014). Systems and complexity thinking in the general practice literature: An integrative, historical narrative review. *Annals of Family Medicine*, 12, 66-74. doi:10.1370/afm.1593
- Sumner, M., & Niederman, F. (2004). The impact of gender differences on job satisfaction, job turnover, and career experiences of information systems professionals. *Journal of Computer Information Systems*, 44(2), 29-39. doi:10.1145/512360.512395
- Suri, H. (2011). Purposeful sampling in qualitative research synthesis. *Qualitative Research Journal* 11, 63-75. doi:10.3316/QRJ1102063
- Swauger, M. (2011). Afterword: The ethics of risk, power, and representation. *Qualitative Sociology*, 34, 497-502. doi:10.1007/s11133-011-9201-5
- Syrek, C. J., Apostel, E., & Antoni, C. H. (2013). Stress in highly demanding IT jobs: Transformational leadership moderates the impact of time pressure on exhaustion and work-life balance. *Journal of Occupational Health Psychology*, 18, 252-261. doi:10.1037/a0033085
- Tay, A. S. M. (2010). IT service and support: What to do with geographically distributed



teams? *Issues in Informing Science & Information Technology*, 7, 145-159.

Retrieved from <http://www.informingscience.us/icarus/journals/iisit>

Taylor, V. (2010). Broadening participation cultivating cultural diversity in information technology. *Communications of the ACM*, 53, 35-36.

doi:10.1145/1785414.1785430

Tebeian, A. E. (2012). How to improve employee motivation and group performance through leadership - conceptual model. *Annals of the University of Oradea, Economic Science Series*, 21, 1092-1097. Retrieved from

<http://anale.steconomiceuoradea.ro/en>

<http://anale.steconomiceuoradea.ro/en>

Thomas, E., & Magilvy, J. (2011). Qualitative rigor or research validity in qualitative research. *Journal for Specialists in Pediatric Nursing*, 16, 151-155.

doi:10.1111/j.1744-6155.2011.00283.x

Thomas, S. P. (2005). *The career development of women in executive-level positions in information technology* (Doctoral dissertation). Retrieved from ProQuest

Dissertations and Theses database. (UMI No. 3182396)

Tipu, S. A. A., Ryan, J. C., & Fantazy, K. A. (2012). Transformational leadership in Pakistan: An examination of the relationship of transformational leadership to organizational culture and innovation propensity. *Journal of Management and Organization*, 18, 461-480. doi:10.5172/jmo.2012.18.4.461

doi:10.5172/jmo.2012.18.4.461

Tirgari, V. (2012). Information technology policies and procedures against unstructured data: A phenomenological study of information technology professionals.

- Academy of Information & Management Sciences Journal*, 15, 87-106. Retrieved from <http://alliedacademies.org/public/Journals/JournalDetails.aspx?jid=10>
- Toloie-Eshlaghy, A., Chitsaz, S., Karimian, L., & Charkhchi, R. (2011). A classification of qualitative research methods. *Research Journal of International Studies*, 20, 106-123. Retrieved from <http://kgma.kz/en/2748.html>
- Tonvongval, S. (2013). Impact of transformational leadership development through organization development intervention on employee engagement and firm performance: A case study. *Social Research Reports*, 25, 34-49. Retrieved <http://www.researchreports.ro>
- Torres, E., & Adler, H. (2012). Hotel compensation strategies: perceptions of top industry executives. *Journal of Human Resources in Hospitality & Tourism*, 11, 52-71. doi:10.1080/15332845.2012.621055
- Tracy, S. J. (2010). Qualitative quality: Eight “big-tent” criteria for excellent qualitative research. *Qualitative Inquiry*, 16, 837-851. doi:10.1177/1077800410383121
- Trauth, E. M., Quesenberry, J. L., & Huang, H. (2009). Retaining women in the US IT workforce: Theorizing the influence of organizational factors. *European Journal of Information Systems*, 18, 476-497. doi:10.1057/ejis.2009.31
- Troncale, L. R. (2009). The future of general systems research: Obstacles, potentials, case studies. *Systems Research & Behavioral Science*, 26, 511-552. doi:10.1002/sres.993
- Tse, H. H. M., Huang, X., & Lam, W. (2013). Why does transformational leadership

- matter for employee turnover? A multi-foci social exchange perspective. *The Leadership Quarterly*, 24, 763-776. doi:10.1016/j.leaqua.2013.07.005
- Tse, H. H. M., & Mitchell, R. (2010). A theoretical model of transformational leadership and knowledge creation: The role of open-mindedness norms and leader–member exchange. *Journal of Management and Organization*, 16, 83-99.  
doi:.5172/jmo.16.1.83
- Turner, D. W. III. (2010). Qualitative interview design: A practical guide for novice investigators. *The Qualitative Report*, 15, 754-760. Retrieved from <http://www.nova.edu/ssss/QR>
- U.S. Department of Labor. (2014). *Bureau of Labor Statistics, Occupational Outlook Handbook, 2014-15 Edition, computer and information research scientists*. Retrieved from <http://www.bls.gov/ooh/computer-and-information-technology/computer-and-information-research-scientists.htm>
- Vinkenburg, C. J., van Engen, M. L., Eagly, A. H., & Johannesen-Schmidt, M. C. (2011). An exploration of stereotypical beliefs about leadership styles: Is transformational leadership a route to women's promotion? *Leadership Quarterly*, 22, 10-21.  
doi:10.1016/j.leaqua.2010.12.003
- von Bertalanffy, L. (1972). The history and status of general systems theory. *Academy of Management Journal*, 15, 407-426. doi:10.2307/255139
- Van Dyk, J., & Coetzee, M. (2012). Retention factors in relation to organisational commitment in medical and information technology services. *South African*

*Journal of Human Resource Management*, 10(2), 1-11.

doi:10.4102/sajhrm.v10i2.433

Vijayakumar, J. (2012). The Retention strategies of employees of IT Industries.

*International Journal of Research in Social Sciences*, 2, 98-131. Retrieved from

[http://www.ijmra.us/social\\_journal.php](http://www.ijmra.us/social_journal.php)

Vincent-Höper, S., Muser, C., & Janneck, M. (2012). Transformational leadership, work

engagement, and occupational success. *Career Development International*, 17,

663-682. doi:10.1108/13620431211283805

Vispute, S. (2013). Recruitment strategy and employer retention in Indian banking and

insurance sector. *International Journal of Arts & Sciences*, 6, 743-756. Retrieved

from <http://www.internationaljournal.org/>

Von Hagel, W. J., & Miller, L. A. (2011). Precipitating events leading to voluntary

employee turnover among information technology professionals. *Journal of*

*Leadership Studies*, 5(2), 14-33. doi:10.1002/jls.20215

Walker, J. L. (2012). Research column: The use of saturation in qualitative research.

*Canadian Journal of Cardiovascular Nursing*, 22(2), 37-41. Retrieved from

<http://www.ccn.ca/content.php?doc=21>

Wallace, J., & Gaylor, K. P. (2012). A study of the dysfunctional and functional aspects

of voluntary employee turnover. *S.A.M. Advanced Management Journal*, 77(3),

27-36. Retrieved from <http://samnational.org/publications/sam-advanced->

[management-journal/](http://samnational.org/publications/sam-advanced-management-journal/)

- Walshe, C. (2011). The evaluation of complex interventions in palliative care: An exploration of the potential of case study research strategies. *Palliative Medicine*, 25, 774-781. doi:10.1177/0269216311419883
- Walstrom, K. A. (2012). Toward an implicit general systems model of leadership. *International Leadership Journal*, 4(3), 58-76. Retrieved from <http://www.tesc.edu/business/leadership-journal.cfm>
- Wang, N., Liang, H., Zhong, W., Xue, Y., & Xiao, J. (2012). Resource structuring or capability building? An empirical study of the business value of information technology. *Journal of Management Information Systems*, 29, 325-367. Retrieved from <http://www.jmis-web.org>
- Warrick, D. D. (2011). The urgent need for skilled transformational leaders: Integrating transformational leadership and organization development. *Journal of Leadership, Accountability and Ethics*, 8(5), 11-26. Retrieved from <http://www.na-businesspress.com/JLAE/jlaescholar.html>
- Weberg, D. (2010). Transformational leadership and staff retention: An evidence review with implications for healthcare systems. *Nursing Administration Quarterly*, 34, 246-258. doi:10.1097/NAQ.0b013e3181e70298
- Webster, J. R., & Beehr, T. A. (2013). Antecedents and outcomes of employee perceptions of intra-organizational mobility channels. *Journal of Organizational Behavior*, 34, 919-941. doi:10.1002/job.1823
- Wells, J. E., & Peachey, J. W. (2011). Turnover intentions: Do leadership behaviors and

satisfaction with the leader matter? *Team Performance Management*, 17, 23-40.

doi:10.1108/13527591111114693

Wierschem, D., Guoying Zhang, & Johnston, C. R. (2010). Information technology certification value: An initial response from employers. *Journal of International Technology & Information Management*, 19, 89-108. Retrieved from [http://www.iima.org/index.php?option=com\\_phocadownload&view=section&id=11&Itemid=77](http://www.iima.org/index.php?option=com_phocadownload&view=section&id=11&Itemid=77)

Wilson, C. V. (2012). *Postimplementation planning and organizational structure of enterprise resource planning systems* (Doctoral dissertation). Retrieved from ProQuest Dissertations and Theses database. (UMI No. 3512581).

Wilson, D., & Washington, G. (2007). Retooling phenomenology: Relevant methods for conducting research with African American women. *Journal of Theory Construction and Testing*, 11, 63-66. Retrieved from <http://tuckerpublish.com/jtct.htm>

Wisdom, J. P., Cavaleri, M. A., Onwuegbuzie, A. J., & Green, C. A. (2012). Methodological reporting in qualitative, quantitative, and mixed methods health services research articles. *Health Services Research*, 47, 721-745.  
doi:10.1111/j.1475-6773.2011.01344.x

Wood, G. J. (2009). Revisiting women managers and organisational acceptance. *Gender in Management: An International Journal*, 24, 615-631.  
doi:10.1108/17542410911004876

- Wright, B. E., Moynihan, D. P., & Pandey, S. K. (2012). Pulling the levers: transformational leadership, public service motivation, and mission valence. *Public Administration Review*, 72, 206-215. doi:10.1111/j.1540-6210.2011.02496.x
- Yamamoto, H. (2011). The relationship between employee benefit management and employee retention. *International Journal of Human Resource Management*, 22, 3550-3564. doi:10.1080/09585192.2011.560871
- Yildirim, K. (2010). Raising the quality in qualitative research. *Ilkogretim Online*, 9, 79-92. Retrieved from <http://ilkogretim-online.org.tr>
- Yin, R. K. (2009). *Case study research: Design and methods* (4th ed.). Thousand Oaks, CA: Sage.
- Yin, R. K. (2011a). *Applications of case study research* (3rd ed.). Thousand Oaks, CA: Sage.
- Yin, R. K. (2011b). *Qualitative research from start to finish* (3rd ed.). Thousand Oaks, CA: Sage.
- Yin, R. K. (2013). Validity and generalization in future case study evaluations. *Evaluation*, 19, 321-332. doi:10.1177/1356389013497081
- Zarif, T. (2012). Grounded theory method: An overview. *Interdisciplinary Journal of Contemporary Research in Business*, 4, 969-979. Retrieved from <http://ijcrb.webs.com>
- Zhao, L., & Rashid, H. (2010). The mediating role of work-leisure conflict on job stress

and retention of IT professionals. *Academy of Information & Management Sciences Journal*, 13, 25-40. Retrieved from <http://www.alliedacademies.org/public/journals/journaldetails.aspx?jid=10>

Zhu, W., Sosik, J. J., Riggio, R. E., & Yang, B. (2012). Relationships between transformational and active transactional leadership and followers' organizational identification: The role of psychological empowerment. *Journal of Behavioral and Applied Management*, 13, 186-212. Retrieved from <http://www.ibam.com/pubs/jbam>



## Appendix A: Informed Consent for Participants over 18 Years of Age

You are invited to take part in a research study of the strategies senior IT leaders are practicing to retain IT professionals. You were chosen for the study because you are (a) are serving as a senior leader in IT in a mid sized utility company in the State of Georgia. (b) you have supervisory responsibility for at least two IT professionals. This form is part of a process called “informed consent” to allow you to understand this study before deciding whether to take part.

This study is being conducted by a researcher named Shannon Thomas, who is a doctoral student at Walden University.

### **Background information:**

The purpose of this study is to explore strategies senior IT leaders are practicing to retain IT professionals. Themes from senior leaders in the IT industry regarding retention strategies may be helpful in developing effective strategies for retaining IT professionals.

### **Procedures:**

If you agree to be in this study, you will be asked to:

- Participate in a semistructured, audiotaped interview with the researcher regarding retention strategies senior IT leaders are practicing to retain IT professional. The duration of the interview will be thirty to sixty minutes.
- Member check the interview data, which is ensuring your opinions about the initial findings and interpretation is accurate.

### **Here are some sample questions:**

1. What strategies do you use to retain IT professionals?
2. What are the critical factors you use to retain IT professionals?

### **Voluntary nature of the study:**

This study is voluntary. Everyone will respect your decision as to whether or not you choose to be in the study. No one will treat you differently if you decide not to be in the study. If you decide to join the study now, you can still change your mind later. You may stop at any time.

### **Risks and benefits of being in the study:**

The time commitment related to this study is that you will be required to complete the 30 to 60 minute interview during or after normal work hours. You will be given a copy of the results of this study for your personal information. There are no other risks related to this study. More importantly, your participation will contribute to the knowledge base

relevant to strategies senior IT leaders can practice to retain IT professionals.

**Compensation:**

No compensation will be provided for your participation in this study.

**Confidentiality:**

Some individuals in the company may know that you participated in the study, however, any information that you provide (i.e. responses to interview questions) will be kept confidential. The researcher will not use your personal information for any purposes outside this research project. Also, the researcher will not include your name or anything else that could identify you in the study reports. The electronic information will be stored on a password-protected flash drive, and documents related to this study will be kept in a locked file storage cabinet which only the researcher will have access. Data will be kept for a period of at least five years, after which they will be destroyed.

**Contacts and questions:**

You may contact the researcher, Shannon Thomas, at 404-xxx-xxxx or Shannon.Thomas2@waldenu.edu. You may also contact the researcher's faculty mentor and doctoral study chair, Dr. Patricia Fusch, at 360-xxx-xxxx or Patricia.Fusch@waldenu.edu. If you want to talk privately about your rights as a participant, you can call Dr. Leilani Endicott. She is the Walden University representative who can discuss this with you. Her phone number is 1-800-925-3368, extension 3121210. Walden University's approval number for this study is **09-16-14-0190607** and it expires on **September 15, 2015**.

**Statement of consent:**

I have read the above information and I feel that I understand the study well enough to make a decision about my involvement. By signing this consent form I am agreeing to participant in the study based on the terms described above and will receive a copy of the signed consent form for my records.

Printed name of participant

\_\_\_\_\_

Date of consent

\_\_\_\_\_

Participant's written signature

\_\_\_\_\_

Researcher's written signature

\_\_\_\_\_

## Appendix B: Semistructured Interview Questions

### **Demographics Questions**

1. How many years have you served in senior IT leadership?
2. What is the total number of employees in your company?
3. In the last two years, how many IT professionals have voluntarily resigned from your department?
4. What was your area of service?
5. How many direct and indirect (reports) employees are you responsible for leading?
6. What is the average tenure of IT professionals in your organization/department?

### **Interview Questions**

1. What strategies do you use to retain IT professionals?
2. What are the critical factors you use to retain IT professionals?
3. What retention strategies do you use to retain IT professionals in your IT organization?
4. What strategies do you use that are least effective in retaining IT professionals in the IT organizations?
5. What strategies do you use that are most effective in retaining IT professionals?
6. What other strategies and leadership characteristics do you use that are

beneficial in retaining IT professionals?

7. In your experience, what barriers prohibit retention strategies from being successful?
8. What other information would you like to provide that we have not addressed already?

## Appendix C: Consent to Use and Reproduce

from: **Chad Shannon** chadshannon@xxxxxxxx.com  
 reply-to: Chad Shannon <chadshannon@.xxxxxxxxcom>  
 to: Shannon Thomas <shannon.thomas2@waldenu.edu>  
 date: Wed, Mar 12, 2014 at 3:01 PM  
 subject: Re: Permission to use and reproduce interviewing instrument]]

Chad Shannon chadshannon@xxxxxxxx.com  
 to me

Shannon,

Thank you for reaching out to me. I give you permission to utilize my instrument, as necessary. If your topic changes, this agreement is still valid.

Good luck on your study.

Dr. Chad Shannon

Sent from my iPhone

On Mar 12, 2014, at 10:39 AM, "Shannon Thomas" <[shannon.thomas2@waldenu.edu](mailto:shannon.thomas2@waldenu.edu)> wrote:

Greeting Dr. Shannon

I am a doctoral student at Walden University pursuing a Doctor of Business Administration degree. I am writing my doctoral study project tentatively entitled "Effective Retention Strategies of Senior Information Technology Leaders: A Phenomenological Exploration". I am requesting your permission to use and reproduce in my study some or the entire interviewing instrument (or a variation of the instrument) from the following study:

I am requesting to use and reproduce this instrument under the following conditions:

- I will use this survey only for my research study and will not sell or use it with any compensated or curriculum development activities.
- I will send a copy of my doctoral study that uses this instrument promptly to your attention upon final approval.

If these are acceptable terms and conditions, please indicate so by emailing a written approval by replying to this email and given your written consent of use.

Sincerely,

Shannon Thomas  
Doctoral Candidate  
Walden University