

CLOUD-BASED COMPUTING AND HUMAN RESOURCE MANAGEMENT
PERFORMANCE: A DELPHI STUDY

by

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ABSTRACT

The purpose of this qualitative study with a modified Delphi research design was to understand the reasons human resource (HR) leaders are slow to implement Cloud-based technologies and potentially identify how Cloud-Based Computing influences human resource management (HRM) and HR effectiveness, and possibly the overall performance of the organization. Business executives and HR leaders acknowledge the effect of technology on business processes and strategies, and the leader's influence on technology implementation and adoption. Cloud-Based Computing is fast becoming the standard for conducting HR processes and HR leaders must be prepared to implement the change effectively. Study findings revealed characteristics demonstrated by HR leaders successfully implementing cloud technology, best practices for successful implementation, factors championing and challenging Cloud-Based Computing adoption, and perceived effects on HRM and organizational performance as a result of using Cloud-Based Computing. The outcomes of this study may provide the foundation of a model for implementing Cloud-Based Computing, a leadership model including characteristics of technology early adopters in HR, and identify factors impeding adoption and may assist HR leaders in creating effective change management strategies for adopting and implementing Cloud-Based Computing. Findings and recommendations from this study will enable HR professionals and leaders to make informed decisions on the adoption of Cloud-Based Computing and improve the effectiveness, efficiency, and strategic capability of HR.

DEDICATION

This dissertation is dedicated to my wonderful parents, Jack and Sylvia Celaya, my loving brother, Anthony Celaya, and my dearest friend, Mel Brown. You are my biggest supporters and inspiration. To those brilliant minds whom may never have the opportunity, this is also dedicated to you.

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Chapter 1

Introduction

Human resource (HR) leaders are the catalysts for ensuring efficiency in HR practices and influencing organizations to implement technology-based solutions (Indranil, 2011; Polen, 2009). The implementation of Cloud-Based Computing is slowly progressing (Willcocks, Venters & Whitely, 2013) for HR processes, for example, solutions such as online personal profiles and social networking sites are quickly abolishing the résumé (Bohnert & Ross, 2010; Dickson & Nusair, 2010; Rickborn, 2012; SHRM, 2011; Sprague, 2011; The Resume, 2011; Weiss, 2011). However, most of the HR industry failed to implement new technologies or standardize the use of Cloud-Based Computing for the HR function in areas such as interviewing, screening, and performance management, although social media and online recruitment is prevalent (Bohnert & Ross, 2010; SHRM, 2011; Sprague, 2011; Weiss, 2011). Cloud-Based Computing is any third party, web-based software, platform, infrastructure, or business process as a service. This study focused on the use of Cloud-Based Computing in the HR field. Businesses aware of which services are suitable for Cloud-Based Computing can use the technology as a competitive edge ultimately increasing business value (Aljabre, 2012).

Leadership, retention, training, talent acquisition, and engagement are the most urgent issues in HR (Bersin, 2014). HR leaders must have the right tools and technology in place to manage multiple talent processes (Lombardi, 2014) by leveraging cloud technology to transform and reinvent (Bersin, 2014) HR as a strong strategic partner. Additionally, the human resource leader's function shifted to that of a business partner (Ulrich, 1997). As a value-adding business partner, the human resource leader yields a

list of characteristics including commitment to employee development, assisting the business through change management, and efficient design and implementation of HR systems adding value by aligning to organizational strategies and outcomes (Maslak, 2008; Ulrich, 1997) and aligning with characteristics of a transformational leader.

Cloud computing enables a range of information and communication technology services ubiquitously available through network access from a service provider (Athale, Barde, Kamble, Mirajkar, & Singh, 2012; Ross, 2011). Increased broadband and improvements in the technology allow Cloud technology service providers the ability to exploit new markets (Willcocks et al., 2013) and transform traditional HR business practices (Deloitte, 2011; Ross, 2011). Cloud-Based Computing is replacing traditional software installations (Athale et al., 2012) changing traditional business processes, and increasing business value (Aljabre, 2012; Indranil, 2011; Rickborn, 2012).

However, HR professionals are reluctant to standardize implementation of Cloud-Based Computing in traditional HR practices despite the overwhelming agreement of key challenges remedied by Cloud solutions (Deloitte, 2010, 2011; Indranil, 2011; Starner; 2011) that may influence Human Resource Management (HRM) and overall organizational performance. Chapter 1 includes the background and evolution of HRM, electronic Human Resource Management (e-HRM), Human Resource Information Systems (HRIS), and the introduction of Cloud-Based Computing to HR with a review of transformational leadership in HR with respect to technology adoption. The definition of the problem and purpose for the study is in alignment with the significance of the study to HRM, leadership theory, and academia. Finally, Chapter 1 includes a review of the research questions, scope, assumptions, and delimitations for the study.

Definition of Terms

The following is a list of terms and definitions used in the research proposal that can have unique connotations for this study.

Cloud-Based Computing. Cloud-Based Computing is a term generated by the researcher to refer to any third party, web-based software, platform, infrastructure, or business process as a service. This study focused on Cloud-Based Computing in the HR field.

Cloud Technology. Leveraging third party, web-based technology and services to complete business tasks, use applications, and maintain data (Qaisar & Khawaja, 2011).

Curriculum Vitae. Curriculum Vitae and résumé are interchangeable; however, key differentiators are the length and use of the CV to expand on a candidate's professional and scholarly identity (Miron, Osoian, & Zaharie, 2011).

Delphi (Delphi Method, Delphi Technique, modified Delphi). The RAND Corporation developed the Delphi method to obtain opinions from a small group of participants over multiple questioning rounds for the purpose of consensus and forecasting (Dalkey & Helmer, 1963). The classic Delphi (Skulmoski et al., 2007) has since been modified in multiple ways in many research studies (Linstone & Turoff, 1975) and the terms Delphi (Dalkey & Helmer, 1963), Delphi Method (Linstone & Turoff, 1975), and modified Delphi (Adler & Ziglio, 1996) are often used interchangeably to refer to a Delphi research design. Changes to this modified Delphi study consisted of recruitment of informed participants with 5 years HR experience, not necessarily experts; and the gathering of prioritized responses with ranking, however not necessarily for consensus (Beakley, 2015; Hall, 2009; Hall & Jordan, 2013).

Diffusion of Innovations (DOI). A theory developed by E. M. Rogers in 1962 explaining how and why innovative ideas, products, or behaviors are adopted and diffused throughout a population or social system (McGrath & Zell, 2001; Rogers, 2003).

Human Resource Information System (HRIS). The technology tools that collect, store, maintain, and retrieve an organization's employee and HR-related data (Karimidizboni, 2013; SHRM, 2014) and assist organizations in managing talent (Karimidizboni, 2013; Spaulding, 2011).

Human Resource Management (HRM). HRM is the “formal structure within an organization responsible for all the decisions, strategies, factors, principles, operations, practices, functions, activities and methods related to the management of people” (SHRM, 2014).

Human Resource Management Systems (HRMS). A software application combining HR duties including payroll, benefits, performance management, recruiting, screening, and training (SHRM, 2014).

Human Resource (HR) strategic business partner. A strategic business partner that aligns business objectives with human resource practices and serves as a consultant to management and executive leadership on Human Resource related issues (SHRM, 2012).

Infrastructure as a Service (IaaS). Infrastructure as a Service is a service of virtual machines including raw storage, firewalls, and networks (Athale et al., 2012; Skiba, 2011).

Legacy Technologies. Legacy Technologies refer to any onsite or customized HRIS or HRMS not accessible via Cloud.

Platform as a Service (PaaS). Platform as a Service is Cloud computing module, which provides platforms such as operating systems and application development platforms via the internet (Athale et al., 2012; Skiba, 2011).

Software as a Service (SaaS). Software as a Service is a Cloud-computing model that deploys software behind a firewall on a local area network and arrayed over the internet (Howarth, 2009; Skiba, 2011).

Strategic Human Resource Management. Strategic Human Resource Management is an approach to managing human resources that align with organizational performance.

Society of Human Resource Management (SHRM). Originating in 1948, SHRM is the largest human resource-focused organization in the world dedicated to the practice and evolution of human resource management (SHRM, 2014).

Technology-Organization-Environment (TOE). A conceptual framework using three contextual groups of technology, organization, and environment to explain the process by which an organization adopts and implements technology innovations (Tornatzky & Fleischer, 1990).

Background

Human Resource professionals are an essential part of strategic and organizational leadership adding value by contributing to organizational strategy (Timmons, 2008). The focus of human resource leaders is to identify cost-effective methods for hiring, managing, and developing talent. Minimizing costs, optimizing talent, and positively influencing business outcomes means the HR leader has the opportunity to align with the business as a valuable business partner unlike historical perceptions as a compliance

officer (Chiu & Selmer, 2011). The importance of human resources integration into the business strategy sphere continues to increase since the 1980s (Chiu & Selmer, 2011). Scholars agreed HR, as an important business partner, are becoming increasingly critical to maintain a competitive edge (Kapoor & Sherif, 2012).

Organizational leaders understand that hiring top talent, and retaining talent, is crucial to maintaining a competitive advantage (Aladwan, Bhanugopan, & D'Netto, 2015). The processes of HRM, such as employee recruitment, selection, development, performance, and rewards, are emphasized within a technology-based business environment (Aladwan et al., 2015). The contribution of the Human Resource leader as a value-add business partner includes activities in recruiting and staffing, employee development, performance management, compensation management, and regulatory compliance (Armstrong & Pitrowski, 2006; Eisner, 2010) with influence to organizational performance.

Chiu and Selmer (2011) posited companies that find and retain the best talent have a competitive edge. Staffing a business with top talent is dependent on recruiting, screening, and hiring the right candidate for a specific position against the skills, knowledge, and competencies required for success. The cost to hire and retain top talent is a business goal HR leaders can leverage with new technology (Dickson & Nusair, 2010). While electronic web-based employment practices are widely used, many companies rely on standard HR processes such as recruitment, selection, screening, and performance management (Armstrong & Pitrowski, 2006; Eisner, 2010). Human resource professionals are constantly introduced to technology-based strategies and trends requiring organizational awareness of potential challenges (Morris & Revels,

2012; Shilpa & Gopal, 2011). Indecisiveness in managing business operations is an organizational recruiting challenge (Morris & Revels, 2012). Organizations rely on HR leaders to implement solid processes and strategies with integrated technology to maintain an efficient workforce (Morris & Revels, 2012) and department. The objective of HRM is to transform organizational strategy into effective HR strategies that create a competitive edge (Convertino, 2008; Tyson, 1995). In the role of a business partner, the HR leader must add value by providing direction, leadership, and solutions to successfully implement change (Nair, 2011), and achieve business objectives.

Information, technology, and systems have become a critical component in most HR departments for hiring, payroll, training, and other responsibilities (Corsello, 2012). Cloud-Based Computing is expected to intensify the need to change technologies and enable HR to improve performance (Corsello, 2012). Employers use résumés to determine if candidates possess the necessary background, skills, knowledge, and other competencies to warrant investment in more costly selection measures, such as interviews (Cole, Feild, Giles, & Harris, 2008). Digitized portfolios, or e-Portfolios, are tools for students compiling work and identifying how curricular and work activities apply professionally (Eisner, 2010) and are highly encouraged, if not required, by higher learning institutions (Dubinsky, 2003) but not standardized as a tool for talent selection in HR. At the time of this study, some employers use Cloud-Based Computing with social networking and popular websites to screen candidates (Bohnert & Ross, 2010; Marx, 2011; SHRM, 2011; Sprague, 2011; Weiss, 2011); however, most use on-site legacy systems.

Recruitment and screening are important processes for organizational success and are transforming slowly through Software-as-a-Service (Deloitte, 2011; Starner, 2011). Video interviewing is becoming a popular Cloud-based method for conducting interviews in the hiring process (Abardeen, 2012; Banham, 2011; Crenshaw, 2006). Key drivers for implementing video interviewing in the Cloud influence the whole organization including costs, resources, reach, and quality of hire (Abardeen, 2012; Latham, & Luman, 2009), are linked to business outcomes, and driven by the HR leader as a business partner. Employment recruitment and screening are ubiquitous processes of talent acquisition for human resource professionals (Collins, Domagalski, & Wright, 2011); thereby affecting HR leaders.

Software as a Service (SaaS) will potentially replace traditional software in many departments including human resources (Balbaa, 2011). In all HR leader competency models, the ability to adapt and manage change is a critical success factor (Madu, 2009). According to a survey by Deloitte (2011), standard HR practices in the Cloud are inevitable; however, HR leaders are resistant to implementing Cloud-Based Computing despite their role as an innovative leader, change agent, and business partner, and the potential of using Cloud-Based Computing as a tool to achieve business goals.

The role of a business partner requires competence in diagnosing organizations, reengineering processes, listening and responding to employees, and managing cultural transformation (Loshali & Krishnan, 2013). The HR business partner adds value to a firm through strategy execution, administrative efficiency (Sternberger, 2002), employee commitment, and cultural change (Ulrich, 1997). HR leaders could implement Cloud-

Based Computing for HR practices and be willing to influence organizations to use Cloud technologies as an alignment to business strategy (Indranil, 2011).

The HR professional's perceptions change with the introduction of new or advanced technologies (Polen, 2009) with Cloud-Based Computing being the latest evolution to affect HR professionals. Numerous Cloud-Based Computing applications are available to Human Resource professionals, and more recently to employees and candidates, as technology becomes increasingly sophisticated and accessible (Aljabare, 2012; Indranil, 2011). Organizations are competing for access to a global talent pool, to retain top talent, and require a cost effective platform for conducting traditional talent acquisition processes (Dickson & Nusair, 2010; Kapoor & Sherif, 2012). Existing challenges for large and small businesses substantially invested in fixed behaviors and practices (Gibson, 2012) hinder adoption of new technologies and processes. However, HR leaders need information supporting the decision to incorporate Cloud-Based Computing solutions into effective standard HR processes such as validation from other HR leaders based on experience.

Human resource leaders, as business partners, consider long-term business goals to ensure talent acquisition and development processes align with business strategies resulting in better talent choices (Collins, Domagalski, & Wright, 2011) potentially increasing competitive advantage and organizational performance. Considerations for the study include key drivers, processes, and concerns for implementing Cloud-Based Computing for HR functions, characteristics of an HR leader having successfully implemented Cloud-Based Computing, and the potential effect on HRM and organizational performance. As more companies compete for the finest in the global

talent pool, and maintaining a competitive advantage (Kapoor & Sherif, 2012), organizations and HR leaders must offer the best opportunity for success when implementing standard HR processes to achieve extraordinary results (Loshali & Krishnan, 2013).

Change initiatives start with leadership; therefore, leaders require adequate preparation for successfully deciding upon, and implementing, changes. Increasing competition for top talent requires organizations to implement effective strategies for hiring from a global talent pool to stay competitive. Human resource leaders are responsible for influencing organizational leadership when implementing HR technology solutions and must have solid support to affect the decision positively (Polen, 2009; Yeh, 2012). The effects of Cloud-Based Computing are slowly evolving despite prevalent interest in its benefits (Willcocks, Venters, & Whitely, 2013). Additionally, a need exists to evaluate the performance of HRM to organizational performance (Fitz-enz & Davidson, 2002; Ulrich, 2010). This study contributes to scholarship, HRM, and leadership by providing information regarding the HR leader's perspective and insight to their respective experiences implementing Cloud-Based Computing and the potential influence on organizational performance.

The most recent findings include identifying the benefits of Cloud-Based Computing, current HR processes conducted via Cloud solutions, and reasons for slow implementation by HR leaders. Findings include key success factors for technology implementation from industry experts in organizations such as KPMG International, General Electric, LinkedIn, Deloitte, and Sierra-Cedar. Cited throughout this study are foundational theorists in the profession of HR leadership such as Ashbaugh, Rowan,

Ulrich, Gibson, and Fitz-enz, and thought leaders in Cloud technology such as Indranil, Luman, Bohnert, Ikhlap, Khan, Mujtaba, Sadiq, and Ross.

Problem Statement

The general problem is the slow adoption of Cloud-Based Computing for efficiency of the HR function (Bersin, 2014; Chen, Low, & Wu, 2011; Deloitte, 2011; Deloitte 2012; Laurano, 2014; Sierra-Cedar, 2015). Bersin (2014) reports a significant gap between organizations considering HR technology an urgent issue and organizational readiness for technology change. Companies all over the world are competing for talent and maintaining a competitive advantage, and must implement strategies and technology for the ability to enhance HR performance and achieve organizational goals (Kaur & Rin Yahya, 2010; Polen, 2009). Consequently, organizations are cautiously implementing new methods for cutting costs and improving efficiency in standard HR processes such as talent acquisition (Toldi, 2010). Traditional hiring practices are extensive and may incorporate different phases, modalities, standards, or strategies, potentially requiring different technologies. Human resource leaders experience resistance to implementing technology-based solutions during the hiring process (Polen, 2009), and in standardized processes, such as the traditional screening interview (Crenshaw, 2006; Evuleocha, 2002) or online résumé. Globalizing and standardizing processes and technologies are emerging issues in HR (Keebler & Watson, 2014).

Human resource professionals influence organizational leadership when making the decision to integrate technology resources and the factors influencing the organization's adoption of technology (Polen, 2009; Yeh, 2012). HR technology is a minimum requirement for HR professionals (Madu, 2009) and the adoption of Cloud-

Based Computing becomes a competitive advantage in the HR profession (Deloitte, 2011; Yeh, 2012). The specific problem is that the literature does not provide clarity how a more rapid adoption of Cloud-Based Computing will affect HR processes. Human resource leaders should understand the advantages, disadvantages, and risks associated with moving business applications and processes to the Cloud (Wright, 2011), and redefine HR strategies with an understanding of how Cloud-Based Computing can contribute to operational efficiency, revenue growth, and strategic value (Deloitte, 2011). Qualitative studies regarding the factors influencing decisions in HR to adopt technology should be conducted (Bahli, Borgman, Heier, & Schewski, 2013). This study involved using a qualitative method with a Delphi research design. The intention of this study was to investigate the reasons HR leaders are slow to implement Cloud-Based Computing, how Cloud-Based Computing influences human resource management and HR effectiveness, and the overall performance of the organization.

Purpose Statement

The purpose of this qualitative study with a Delphi research design was to examine how the adoption of Cloud-Based Computing affects HRM and organizational performance. Business executives and HR leaders acknowledge the effect of technology on business processes and strategies, and their influence on technology implementation and adoption (Deloitte, 2011, 2012; Indranil, 2011; Polen, 2009; Starner, 2011). Additionally, executives, HR leaders, and professionals acknowledge the need for aligning HR and organizational strategies when implementing new technologies to increase business value (Aljabre, 2012; Chiu & Selmer, 2011; Starner, 2011). Balbaa (2011) stated Software-as-a-Service (SaaS) would potentially replace traditional software

in many departments including Human Resources. According to a survey by Deloitte (2011), standard HR practices in the Cloud are inevitable.

Significance of the Study

Aberdeen (2013) reports 48% of organizations still manually manage and integrate data. Organizations further along the maturity curve are more likely to adopt new technology with 62% of organizations indicating technology will be delivered via cloud within the next two years (IBM, 2015). The adoption of Cloud-Based Computing is slow despite the benefits of its implementation and use (Whitley et al., 2013). The study may be relevant to academia in fields of leadership and HR, the cloud technology industry serving HR, HR leaders as transformational leaders, and leaders of change, HRM, and organizational performance, and in identifying areas for further research, contributing to the HR body of knowledge. Human resource professionals reported to have little knowledge of information systems and HR technology used to facilitate HR activities although HR technology is a minimum requirement for HR professionals (Madu, 2009). An increased understanding and knowledge of HR leaders' perspectives on implementing Cloud-Based Computing for the HR function could influence HRM and the role of the HR leader as a value-added business partner.

Significance of the Study to Leadership

Transformational leaders strive toward the mutual pursuit of enhanced individual and organizational performance. Transformational leadership contributes to enhancing organizational talent and achieving competitive advantage through people (Birasnav & Dalpati, 2010). Human Resources leads require the technology and tools to manage HR processes effectively (Lombardi, 2014).

The findings from this study contribute to leadership and HR leaders, as transformational leaders, general leaders, and human resource managers, by establishing an understanding of HR professionals' experience (Maslak, 2008; Nair, 2011) implementing Cloud-Based Computing. Transformational leaders inspire others toward a common vision, encourage innovation (Birasnav, Rangnekar, & Dalpati, 2011; Chen, Lin, Lin, & McDonough, 2012), assist in developing skill sets, led by example, and establish expectations for performance (Bass & Avolio, 1993; Mueller, 2009). The results of this study benefit transformational leaders in implementing Cloud-Based Computing as an innovative strategy and tool for HRM and the HR function.

The HR leader should be able to identify suitable technology solutions based on organizational priorities and workforce needs (Polen, 2009; Ulrich, 1997; Yeh, 2012). The results of this study benefit HR strategic business partners and professionals, considering a similar strategy, by identifying Cloud-Based Computing applied, concerns, and key success factors of implementing Cloud-Based Computing for HR processes (Deloitte, 2010; Indranil, 2011). A better understanding of HR professionals' perceptions enhances the potential of the workforce and organization, enriches the organizational leader's ability to enhance business operations, expands understanding within the HR profession, and assists future research (Polen, 2009).

The study findings contribute to the body of knowledge of leadership in HRM and leadership in general by understanding the perceived effect of Cloud-Based Computing on HRM and HR performance. The results of this study may influence the perspective of HR professionals understanding the characteristics of HR leaders with successful implementation of Cloud-Based Computing, building a business case for moving forward

with Cloud-Based Computing, and providing a model for implementing Cloud-Based Computing.

Research Questions

More companies are progressively using Cloud technologies for standard Human Resource processes (Deloitte, 2011). Human Resource leaders are business partners and asked to suggest strategies for streamlining standard HR practices. However, Human Resource leaders may be reluctant to move toward Cloud-Based Computing and look to the experience of peers to understand how technologies are implemented and the results of implementation prior to making a technology change. To study the topic of HR leader's perspective on implementing Cloud-Based Computing, the following research questions guided the study:

RQ1: What are the Cloud-Based Computing tools that appear to be most effective for Human Resources?

RQ2: What are the impediments to adoption of Cloud-Based Computing in Human Resources?

RQ3: How does successful Cloud-Based Computing affect the performance of HRM?

RQ4: What leadership traits of successful Cloud-Based Computing adopters also contribute to HR performance?

RQ5: How does HR contribute to the overall performance of an organization?

RQ6: What are the implications of best practices in Cloud-Based Computing adoption within HR and to general leadership theory?

Nature of the Study

The conduction of this study involved a qualitative research methodology with a modified Delphi research design modified to leverage the strengths of qualitative and quantitative research allowing for insight to subjective and objective issues and determine the HR leader's perception of the topic (Skulmoski, Hartman, & Krahn, 2007). The Delphi method is an exploratory technique of subjectivity (Hall, 2009; Skulmoski et al., 2007) as an iterative process to collect the subjective opinions and feedback of study participants through a series of surveys using small sample sizes (Skulmoski et al., 2007). While studies existed depicting the decision-making process for adopting cloud technologies, benefits of cloud technologies, and the effect of technology in HR, most studies are conducted in countries outside of the United States, and very little research explains how Cloud-Based Computing potentially affects HRM performance or the reasons behind the slow implementation.

The objective for researchers using a Delphi research design is to sample a range of diverse views and perspectives (Okoli & Pawlowski, 2004). Modifications to the Delphi can occur between studies, however the following definition captures the essence of the Delphi method: "The Delphi Technique is a method for the systematic solicitation and collection of judgements on a particular topic through a set of carefully designed sequential questionnaires interspersed with summarized information and feedback of opinions derived from earlier responses" (Delbecq, Van de Ven, & Gustafson, 1975, p. 10). For the purposes of this study, the use of the terms Delphi, Delphi Method, and modified Delphi are interchangeable. The research methods considered for the study included quantitative and qualitative. Quantitative research methods require more data

for an effective study on the topic and thus inappropriate for this study given the lack of data available. A review and the consideration of qualitative research designs including Grounded Theory, Phenomenological, Hermeneutics, and Case Study revealed these methods as inappropriate for this study. A modified Delphi research design was most appropriate for this study to gather data of subjective judgments, is effective with small samples, and to identify, compare and contrast the success factors from the perspective of the HR leader. Researchers using a Delphi research design are interested in understanding the unbiased expressed views of participants to improve understanding of problems, solutions, or opportunities when knowledge about a problem or phenomenon is incomplete (Skulmoski et al., 2007). Modifications to the study included the identification of informed participants opposed to experts, as consensus is not required (Hall & Jordan, 2013). Hall (2009) argued that the level of quantitative analysis possible in later rounds determines if the study should be characterized as purely qualitative, or mixed method; qualitative analysis followed by quantitation, if later rounds are conducted. Some research studies, referred to as modified Delphi studies (Hall, 2009), changed from the approach originally developed by RAND Corporation in the 1960s.

A convenience sampling of 14 informed participants with a minimum of 5 years of HR experience was recruited to participate in the study. The study consisted of a two-round pilot study followed by two rounds of a complete Delphi study with the full panel of participants distributed through SurveyMonkey®. The first round of the full Delphi consisted of demographic, informative, and open-ended questions and concluded with Likert-type scale questions for ranking in the final round. The questionnaire design of each round of the study was built upon the information collected from the previous round

until the sufficient information was uncovered (Skulmoski et al., 2007). NVivo10®, Excel®, and SPSS® software were used to discover subtle connections among data providing additional insight and ideas for answering research questions and justifying findings. Significant results were obtained through correlational analysis during Round 2 of this study in an attempt to further understand and triangulate the data. The results of the analysis resulted in additional recommendations for future research provided in Chapter 5. However, given the small sample size and ordinal data obtained, this study did not justify reclassification to quantitative or mixed methods and remains a qualitative study.

The information in this study directly challenges HR leaders with demonstrating discovered characteristics demonstrated by participants of those HR leaders successfully implementing HR while aligning with transformational leadership. The results of this study distinguish leadership characteristics of technology early adopters in HR, and identify issues hindering adoption and that may assist HR leaders in designing effective change management strategies for adopting and implementing Cloud-Based Computing, and may provide the foundation of a model for implementing Cloud-Based Computing or a model for transformational leaders adopting technology.

Population Sample and Criteria

For the purpose of this study, 14 participants were recruited to participate in this study. A requirement of 5 years minimum of HR experience ensured all participants were knowledgeable about HR, not necessarily experts (Hall, 2009). Informed participants included HR leaders, administrators, executives, generalists, and specialists using and not using, Cloud-Based Computing. A selected subset of the population

represented the population under study. Participants were recruited from HR-focused LinkedIn forums and Arizona-based HR organizations. In Round 1, 14 participants completed survey with 12 participants completing the Round 2 survey. A convenience sampling technique was appropriate given the number of LinkedIn forums and Arizona-based HR groups considered for research and incorporating a snowball sampling technique to reach other participants through referrals from participants who initially met the study criteria for participation (Christensen, Johnson, & Turner, 2011).

Data Collection

A minimum of 12 participants were targeted with a convenience sampling and a snowball sampling technique was useful as the desired population was challenging to obtain (Christensen et al., 2011) and expectation of participation was low. Twelve participants completed both rounds of the study. Study participants received an e-mail containing an informed consent form with details about the research process, withdrawal procedures, personal risks, and primary intent of the study. Once participants submitted a signed informed consent, each received a link to the Round 1 questionnaire via e-mail.

The data collection process used online surveys housed with SurveyMonkey® for all rounds of the modified Delphi research design. Each round of the study was built upon the information collected from the previous round until the researcher uncovered sufficient information (Skulmoski et al., 2007). Participants were able to withdraw from the study at any time before, during, and after data collection. Data analysis did not include information collected from participants choosing to withdraw from the study without their permission for use.

Data Analysis

Data analysis attempted to find commonalities between leader's perceptions about the implementation of Cloud-Based Computing, HR practices using Cloud-Based Computing, characteristics of HR leaders skilled at adopting Cloud-Based Computing, and the potential influence on HR effectiveness and overall productivity of an organization using NVivo10® and Microsoft Excel® software in Round 1. NVivo10® is a secure, software program specifically for analyzing qualitative and mixed methods research data. The NVivo10® software allows the researcher to import, code, organize, and query data, discover themes, and reflect on outcomes for rigorous support of the research findings. The software is a powerful tool for uncovering subtle connections among data for answering research questions and justifying findings. The use of the NVivo10® software was for analysis of the qualitative data for Round 1 and served to create the questionnaire instrument for the subsequent iteration. Excel® and SPSS® are software packages for descriptive statistical analysis and used for analyzing data from Round 2. Chapter 3 includes specifics regarding sample size and criteria, methodology, research design, instrumentation, and data analysis.

Theoretical and Conceptual Framework

Theoretical and conceptual frameworks present an overview of the foundational theories and concepts related to the study (Leshem & Trafford, 2007). The basis for the theoretical and conceptual framework supporting the study included HRM, leadership, and technology adoption theories and concepts with respect to innovation, performance, behavior, and change management. This study focused on the experiences and perceptions of HR leaders and their influence with implementing Cloud-Based

Computing for HRM and the perceived effect to HRM and organizational performance. Figure 1 provides a visual of the conceptual framework for the study depicting Human Resources as the social system by which innovations are communicated and technology as factors perceived to influence HRM and organizational performance. Figure 2 shows the relationship between the dependent and independent variables for the study.

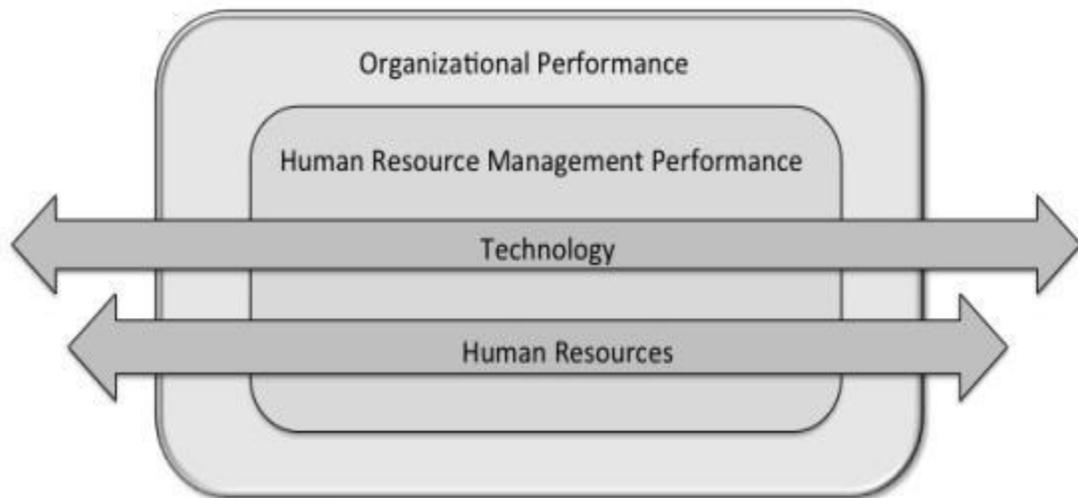


Figure 1. Conceptual Framework

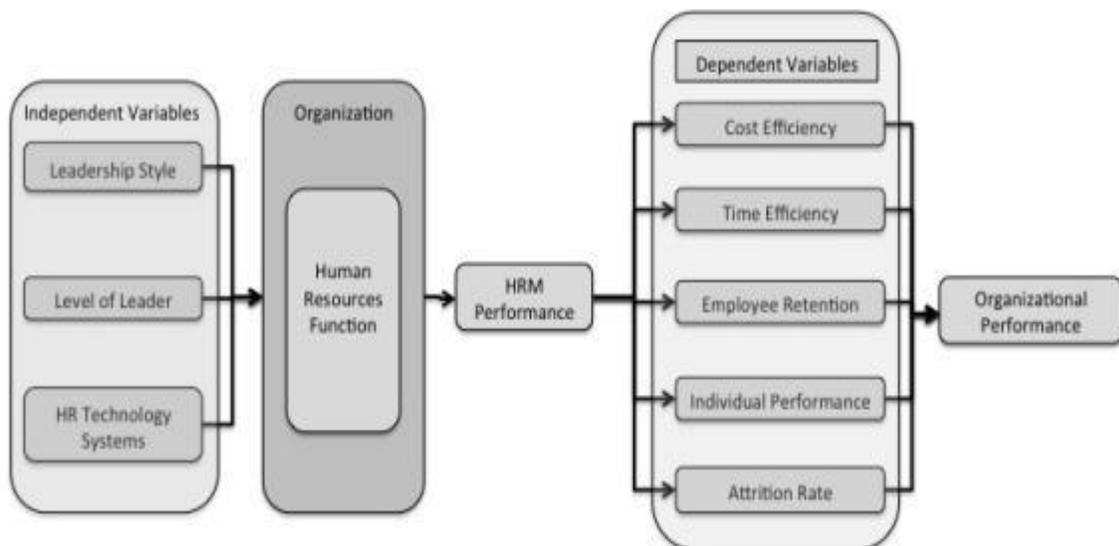


Figure 2. Relationship Between Variables

Technology is an organizational factor for maintaining competitive advantage (Oliveria & Martins, 2011). Numerous theories existed explaining the adoption, or lack thereof, of new technologies from an individual perspective; however, few were from an organizational perspective and fewer specific to HR and cloud technology. The study uses Rogers' (2003) theory of Diffusion of Innovations (DOI) and the Technology, Organization, and Environment (TOE) conceptual framework by Tornatzky and Fleischer (1990).

The TOE framework categorizes three contextual groups: technological, organizational, and environmental. The technological context refers to the internal and external factors to an organization such as perceived barriers, mobility, relative advantage, and accessibility to data and applications (Kraemer, Xu, Zhu, 2006). The organizational context describes factors of the firm including size, scope, structure, leadership support, firm culture, and organizational readiness (Bahli et al., 2013). The environmental context refers to the firms industry, competition, and government policy (Chen et al., 2011; Oliveria & Martins, 2011; Wang et al., 2010).

Diffusion of Innovations theory attempts to explain "how, why, and at what rate new ideas of technology spread through cultures operating at the individual and firm level" (Oliveria & Martins, 2011, p. 111). Innovation is communicated through certain channels over time among members of a social system (Rogers, 1995). Organizations adopt innovation that suggests various degrees of resistance effectively visualized as a bell curve with 2.5% considered innovators, 13.5% as early adopters, 34% as early majority, 34% as late majority, and 16% as laggards. Independent variables related to organizational innovation adoption include individual leadership characteristics, internal

characteristics of organizational structure, and external characteristics of the organization (Rogers, 1995). The diffusion of innovation consists of five characteristics that influence innovation adoption:

- Relative advantage – the degree to which innovation can bring benefits to an organization;
- Compatibility – the degree to which an innovation is consistent with existing business;
- Complexity – the degree to which innovation is difficult to use;
- Observability – the degree to which the results of an innovation are visible to others and;
- Trialability – the degree to which an innovation may be experimented. (Rogers, 2013, p. 15)

The TOE framework and DOI theory align with principles of change management theory and strategies for implementing change in HR (Ruta, 2005) and for HR technology (Benvenuti, 2011; Ruta, 2005). Oliveria and Martins (2011) conducted a thorough review of research studies using DOI and TOE from an empirical perspective (Kraemer et al., 2006; Wang, Wang, & Yang, 2010). Wang, Wang, and Yang (2010) and Chen, Low, and Wu (2011) conducted separate studies on Radio Frequency Identification (RFID) and Cloud technology adoption, respectively, using the TOE framework and DOI theory.

Human resource management focuses on theory development, actionable managerial principles, historical origins, and development of management scholarship and practice (Kaufman, 2012). The theory explains how human resource management

practices align with organizational performance (Huselid, 2011; Kaufman, 2012; Marler, 2012; Wright, Gardner, Moynihan, & Allen; 2005). Thought leaders, in the human resource management field, agree the HR professional must be a change agent, technology proponent, and innovation champion to create value toward organizational performance (Fitz-enz & Davidson, 2002; Ulrich, 1997, 2012).

Transformational leadership is marked by a leader's ability to influence others (Bass & Avolio, 1993), embrace innovation (Wren, 1995), and guide others toward accomplishing goals and improving organizational performance using the transformational characteristics and behaviors the leader possesses (Birasnav et al., 2011). Transformational leader characteristics in alignment with those required of HRM are professionals as champions of innovation and change, particularly when adopting new technologies (Yost et al., 2011). Previous studies using the DOI theory and TOE framework have an empirical approach to determinants of technology adoption without reference to leadership style and characteristics, not within the HR profession, and limited association to organizational performance. Additionally, the study took a qualitative approach for better understanding of the problem to answer the research questions.

Assumptions

The study involved five assumptions regarding bias, sample size, and participants. Impartiality throughout the study is critical for maximizing understanding (Christensen et al., 2011). One assumption was that the researcher remains unbiased (Linstone & Turoff, 1975; Murray & Hammon, 1995a). Delphi is an optimal methodology for small sample sizes (Skulmoski et al., 2007). Given the newness of Cloud-Based Computing in HR,

and the resistance to implement these technologies, 17 HR informed participants were petitioned for the study resulting in 14 participants completing Round 1, and 12 participants completing Round 2. Another assumption was the selected method of recruitment through LinkedIn groups and Arizona HR organizations were viable locations for recruiting study participants. Delphi rounds may be considered a time-consuming activity. Participants were assumed to have time availability for engaging in the study and commit to completing two rounds of questions. A final assumption was that study participants responded honestly and candidly, and had the information needed to answer the questionnaire (Salkind, 2003). Participants received assurance of confidentiality and remained informed of the procedures for the study and privacy measures. This study assumed the responses of HR professionals as panelists in the study would mirror those of HR professionals across all industries through the recruitment of participants from various professional backgrounds.

Scope, Limitations and Delimitations

Scope

The scope of this qualitative study with modified Delphi research design was an exploration of the perceptions of human resource leaders regarding the reasons for, and against implementation of Cloud-Based Computing. Additionally, the scope included exploring which of the many HR processes used Cloud-Based Computing, what characteristics were common for human resource leaders skilled at implementation of Cloud-Based Computing, and the potential influence of Cloud-Based Computing on HRM and organizational performance. This study included a convenience sampling of 14 HR informed participants recruited through LinkedIn forums and with expanded reach

via snowball chain method. All participants were confirmed, as required for this study, in having a minimum of 5 years of experience in HR. The full panel of 14 participants responded to two rounds of surveys including open-ended questions, demographic and informative questions, and Likert-type scale ranking questions. The problem is the resistance in adopting and standardizing Cloud-Based Computing for HR. Cloud technologies are vast and services span a variety of technical options including platform, infrastructure, and business processes.

Limitations

Limitations are the boundaries or weaknesses potentially experienced during the study (Leedy & Ormrod, 2010). The validity of the research for a population is a limitation because the design of Delphi studies uses small sample sizes (Linstone & Turoff, 1975). Avoiding the urge to oversimplify the complexity of the problem is necessary as the perceptions of participants enhance the outcomes, as consensus is pursued (Linstone & Turoff, 1975). A pilot study occurred to ensure accuracy and reliability of the study results. Suggested revisions to the questionnaires were implemented prior to distribution to the full-panel Delphi study participants. Additional limitations to the final study are expounded in Chapter 5.

Delimitations

Delimitations narrow the focus of the study by stating what is not included in the study (Leedy & Ormrod, 2010). The first control was to limit the population to HR informed participants with 5 or more years of HR experience. The second delimitation was to begin recruiting study participants within Arizona-based HR groups and HR-focused LinkedIn forums given the researcher's location. The implementation of Cloud-

Based Computing occurs globally and clients could reside in any location despite their online group affiliation. A snowball sampling effect extended outside of Arizona; however, the sample was limited to organizations primarily based in the United States. Additional delimitations to the final study are expounded in Chapter 5.

Summary

Human resource processes are slowly transforming through the SaaS process (Deloitte, 2011; Starner, 2011). However, HR professionals are slow or reluctant to standardize the implementation of Cloud-based technologies despite the overwhelming agreement of key challenges remedied by Cloud-Based Computing (Deloitte, 2010, 2011; Indranil, 2011; Starner; 2011). The general problem is the slow adoption of Cloud-Based Computing for efficiency of the HR function (Chen et al., 2011; Deloitte, 2011; Deloitte, 2012). The specific problem is the literature is unclear of how effective the HR function may be with the more rapid adoption of Cloud-Based Computing. Human resource leaders must understand the advantages, disadvantages, and risks associated with moving business applications and processes to the Cloud (Wright, 2011).

The theoretical and conceptual framework of the study includes the Technology, Organization, and Environment framework, HRM, transformational leadership, and Diffusion of Innovation theories. Definitions provided for these concepts and theories are helpful, in addition to the common terms for this research project. Arguments existed that HRM theory is piecemeal (Ferris, Hall, Royal, & Martochhio, 2004); however, the study creates another connection between HR theory, HRM performance, and organizational performance.

This modified Delphi study served to provide insight to the perceived effect of Cloud-Based Computing in HR and slow adoption of the technology. Chapter 1 contained information regarding the nature of the study, a review of research questions, scope, assumptions, limitations, and delimitations. Chapter 2 involves a detailed review of the literature applicable to this study, a historical overview, current findings, germinal research, and gaps in the literature.

Chapter 2

Review of the Literature

The purpose of the qualitative study with modified Delphi research design was to understand the reasons human resource leaders are slow to implement Cloud-Based Computing, the common characteristics between human resource leaders and human resource leaders with successful Cloud-Based Computing implementation, and how the implementation relates to HRM performance and organizational performance. Little research exists about the influence of Cloud-Based Computing to human resource (HR) performance and less on organizational performance. Much research exists on the adoption of technology; however the limited information on the adoption of Cloud-Based Computing in HR and information available is often specific to other industries or countries (Chen, Low, & Wu, 2011; Obeidat & Turgay, 2013).

People are an organization's largest resource and the key to maintaining a competitive advantage (Karimidizboni, 2013; Kaur & Rin Yahya, 2010; Theriou & Chatzoglou, 2008). The HR function is responsible for all factors related to people within the organization and influential in the adoption of new technologies. William Gibson (2012) posited adoption of Cloud-based technologies is a competitive advantage for HR performance. Extensive studies addressed innovation from transformational leaders and HR leaders as change agents; however, a gap exists between the leadership style and competencies for technology adoption and the effect on performance. Companies are competing for obtaining and maintaining talent on a global level, and technology is at the forefront of HR (Abardeen, 2012; Deloitte 2012; Kapoor & Sherif, 2012; SHRM, 2011). This chapter is a review of literature on Human Resource

Management (HRM), the evolution of technology in HR, Cloud-Based Computing, the adoption of new technology in HR with respect to change management, and the related organizational effect of technology in HR. The literature review presents theories in support of HRM, transformational leadership, technology adoption, and leadership in general. The writings of HRM and leadership theorists provide an understanding of current thought on the effect of technology, specifically Cloud-Based Computing on HRM.

Title Searches, Articles, Research Documents, and Journals

The review of literature contains peer-reviewed journal articles and dissertations obtained through University of Phoenix Library including EBSCOhost and ProQuest databases, related books and textbooks by industry, academia recognized thought leaders, and industry studies from notable organizations related to technology within the HR profession. The review of the literature focuses on providing a review of HRM, the introduction, use, and evolution of technology in HR, and the use of Cloud-Based Computing in HR. The review includes identified gaps in the literature regarding the effect of Cloud-Based Computing on HRM, leadership, and organizational performance and serves as a preliminary step in bridging the gap between the current knowledge of HRM and technology, and the potential effect on leadership practice, HRM, and organizational performance.

Literature Review

The objective of the literature review is to provide historical background of HRM, technology evolution within the HR function, HRM leadership challenges with implementing new technologies, and review Cloud-Based Computing available for HRM.

Notable HR thought leaders and theorists expressed the necessity for technology within the HR function and consistent improvement (Fitz-enz & Davidson, 2002; Ulrich; 1997, 2012). Many notable organizations predict a timeframe for updating to new Cloud-based solutions; however, the adoption of HR technology remains historically slow. Although many studies existed about the adoption of technology and the effect to performance in general, few studies explored this from the HR perspective, and fewer explored Cloud-Based Computing within the HR function. The lack of quantitative research and need for establishing qualitative information is the basis for the naturalistic approach to this literature review (Price & Walker, 2009).

The Framework of Research Literature

A broad representation of a discerning review of topics surrounding the phenomena presented for this study was through the identification of common themes used to link sources together found within the literature. The literature review includes information from 168 resources with the majority of resources dated from 2008 to 2014, with the exception of some historical sections or pertinent resources. The literature review spans the depth and breadth of relevant topics intended to identify a potential gap that the study will address. Literature sources consisted 223 sources including 14 dissertations, 40 books, 116 peer-reviewed journal articles, 22 white papers, and 31 other resources. Literature maturity includes the majority of sources dated 2009 through 2015, 61 sources dated 2000 through 2008, and 24 sources dated 1999 or earlier.

A variety of keywords associated with this study was used find and identify significant scholarly research contributing to the literature review. The keywords were used singularly and in combination with other terms including: (a) human resources, (b)

cloud, (c) cloud computing, (d) HRIS, (e) human resource technology, (f) technology adoption, (g) eHR, (h) human resource management, (i) eHRM, (j) organizational performance, and (k) leadership characteristics. The exploration of foundational topics within the available relevant literature include the adoption of technology in HR, transformational leadership in HR, the role of HR as change agent, Cloud-Based Computing, and the effect of technology on HRM and organizational performance, respectively. The review contains a presentation of content-rich, pertinent literature supported by theory, peer-review, and germane thought leaders. A clear gap exists because of the lack of available literature, framework, and standards for adopting Cloud-Based Computing in HRM.

Evolution of Human Resource Management (HRM)

Human Resource Management evolved through time with name changes and similar practices. Beginning in 1870 Industrial Relations in Great Britain sparked the growth of unions, government labor relations, policy, and law (Zeitlin, 1987). Frederick Wilson Taylor founded Scientific Management in the late 1880s by focusing on personnel managers, synthesizing and standardizing manufacturing processes to reduce employee input and effort, and maximizing productivity (Wren, 2005). The late 1920s brought about organized labor and personnel relations; however, the focus remained upon industry. In the 1930s, the role of personnel managers expanded to fuse relations with labor unions and additional duties of negotiation, regulatory compliance, hiring, record keeping, and compensation (Arthur, 2004; Fitz-enz & Davidson, 2002). Additionally, the profession of psychology emerged in personnel management with psychological

employment testing and the significance of the Hawthorne Studies on employee motivation (Doyle, Florman, & Pignatelli, 1985).

After World War II, the complexity of personnel management expanded further to include benefits administration, performance appraisal, employer/employee relations programs, employee selection testing, interviewing, and training; thus garnering a change to employee relations, a more human-centric focus in HR by attracting more skilled workers (Arthur, 2004; Fitz-enz & Davidson, 2009). This was the beginning of a more human-centric focus in HR. The balance of power remained with personnel managers throughout the 1950s and 1960s, until legislation brought about uniform policies and regulatory acts requiring compliance and adherence by personnel, and supplemented by employee handbooks, policies, and procedures. Arthur (2004) coined the term human resources in the 1980s when referring to the personnel function or department. The development and implementation of required global standards in HR occurred through the American Society of Personnel Administration (ASPA), founded in 1948, and since 1989 changed the name of the organization to the Society for Human Resource Management (Fitz-enz & Davidson, 2002; HRCI, 2014; SHRM, 2014).

The Society for Human Resource Management (2014) defines HRM as the configuration within an organization responsible for all things related to managing people including policies, operations, procedures, activities, and decisions. The reference to HRM today is human capital management or talent management (Arthur, 2004; Fitz-enz & Davidson, 2002; Nadler & Nadler, 1990).

Human resource management. The foundation of HRM began during the Industrial Revolution of the late 1800s and rooted in the emergence of personnel

management after World War II. The traditional function of personnel management was the oversight of hiring and firing employees, compensation, and training. Some argument exists that the functional overlap of personnel management and HRM was an academic façade (Strauss, 2001) of progress lacking practical and applicable theory (Kaufman, 2012; Storey, 1995) while other researchers argued a gap between HRM practice and theory is ongoing (Prabu, 2011). Numerous scholars and thought leaders provide a historical review of HRM in theory and practice over the past 2 centuries describing the changing roles, practices, environmental influences, and technologies created and adopted for HRM (Lee, 2008).

Nadler and Nadler (1990) provided a detailed review of a nine-period historical framework on the development of HRM in combination with Sherman, Bohlander & Snell (1996), Fletcher (2005), and Ulrich (1997), briefly presented in this literature review. The conceptualization of HRM occurred before 1800 by larger organizations with numerous resources such as the Catholic Church, military, and government. The evolution of HRM continued during the Industrial Revolution Era (1880 – 1990) with the development of group learning in employee training, legislative developments, scientific management achievements, and Frederick Taylor’s experiments to maximize productivity. The beginning of personnel management (Fitz-enz & Davidson, 2002; Sherman, Bohlander & Snell, 1996), reintroduction of military veterans to the workforce, and the first academic course in personnel administration offered at Dartmouth College (Sherman et al., 1996) occurred during World War I. During this time, HR academicians acknowledged notable experiments in HRM development with the Hawthorne Studies from 1920 through 1940, bringing a more human focus to personnel administration.

During World War II, a shift of the workforce to women and older men occurred. Additionally, support of work rights, and large companies, such as GE, pioneered the adoption of technology for HRM processes (Fletcher, 2005). The foundation of the American Society for Personnel Administration (ASPA) in 1948 was to combat the view of HR as a non-essential area within the organization and thus the development of human relations occurred in tandem. From 1960 through 1973, the introduction of legislature for employment equality and worker safety began along with the emergence of other industrial nations (Fletcher, 2005). Rapid development of technology began to affect HR and the introduction of behavioral science, later known as organizational development (Nadler & Nadler, 1990) was the next evolution of HR.

Significant changes in HR occurred with the operation of the Organization of Petroleum Exporting Countries (OPEC) (Nadler & Nadler, 1990) and heavy competition from Japan in the international auto industry, accompanied by increased mergers from 1973 through 1990 (Fletcher, 2005). During this time the HR profession was introduced to certifications from the Human Resources Certification Institute (HRCI) (Lee, 2008; HRCI, 2014), GE developed technology for HR payroll, and HR technology continued to evolve by incorporating non-value adding HR processes (Fletcher, 2005).

From 1980 through 1990, socioeconomic issues gave rise to HRM focusing on young workers as an advantage (Nadler & Nadler, 1990), and catapulted a shift of HRM to a strategic role including adoption of technology to streamline administrative responsibilities and free up HR resources for strategic, consultative responsibilities (Fletcher, 2005; Ulrich, 1997). During the decade prior to the turn of the millennium, the Internet, and emerging technologies brought globalization to the forefront (Lee, 2008).

Educating line managers came to the forefront of HR issues and supported as an added HRM value (Sherman et al., 1996). The focus of HR as a strategic partner, administrative expert, employee champion, and change agent (Brandl & Pohler, 2010; Ulrich, 1997) was accepted. Today, technology increasingly plays a critical role in HRM (Crenshaw, 2006; Fitz-enz & Davidson, 2002; Lee, 2008).

HRM and Organizational Performance

Human Resource Management continues to evolve respective roles and information technology (IT) continues to play an ongoing critical piece in HRM functions (Fitz-enz & Davidson, 2002; Huselid, 2011, Lee, 2008). Today HR is an internal formal structure responsible for all aspects related to managing people (SHRM, 2014).

Functions of HR in the value chain include staffing; compensation and benefits; employee relations; labor relations; employee training; and organizational development (Fitz-enz & Davidson, 2002). The categorization of each HR function is under different HR roles. Ulrich (1997) described the roles of HR as strategic partner, administrative expert, employee champion, and change agent. Fitz-enz and Davidson (2002) described the roles of HR as strategic business partner, manager of human talent, change manager, and supporter of organizational goals. The commonality between Ulrich, Fitz-enz, and Davidson (2002) is the idea of the HR function and HR leaders as value-adding business partners to the organization.

A thorough examination by researchers occurs regarding each of the functions and roles linking HRM practices to organizational performance outcomes and the creation of competitive advantage (Becker, Huselid & Ulrich, 2001; Huselid, Jackson & Schuler, 1997; Jackson & Schuler, 1995; Theriou & Chatzoglou, 2008; Ulrich, 1997).

Outcomes include dependent variables such as cost efficiency, time efficiency, individual performance, employee retention, return on investment (Fitz-enz & Davidson, 2002; Lake, 2006; Ulrich, 1997), and individual productivity (Saniewski, 2011; Theriou & Chatzoglou, 2008; Ullah, 2010). Theriou and Chatzoglou (2008) shared their theoretical framework of linking HRM best practices of knowledge management and organizational learning to enhancing organizational performance through the alignment of business and HRM strategies developed by leaders (Loshali & Krishnan, 2013; Timmins, 2008) because Kumar and Pandya (2012) presented strategies for leveraging HR technology to improve organizational performance and improve leader's decision-making. Zakaria (2013) used five factors from Argawala's (2003) HRM innovative practice categories contributing to organizational performance and competitive advantage including training and development, reward systems, performance appraisal, staffing, and communication and information sharing. Zakaria (2013) posits small to medium-sized organizations must engage in innovative HRM practices as part of corporate culture for the organization to remain relevant and long-standing.

Leadership in HRM

Numerous theories existed regarding leadership or the role of a leader such as great man theory, situational leadership, transactional leadership, servant leadership, and others (Avolio & Yammarino, 2002; Nahavandi, 2011; Wren, 1995; Yukl, 2006). The focus of this review is transformational leadership as it relates to HRM and the implementation of technology. Human resource leaders have a multifaceted role as administrative expert, employee champion, strategic partner, and change agent (Fitz-enz & Davidson, 2002; Ulrich, 1997). Accomplishments and completed goals should be the

focus of leadership. Transformational leaders are concerned with inspiring and developing others to achieve common goals and are innovative thinkers capable of identifying new ways to solving old problems (Wren, 1995). Formal leaders are not only responsible for change; middle managers are also mediating variables between HRM and performance (Savaneviciene & Stankeviciute, 2012).

Organizational leaders demonstrate significant change when implementing technology (Lavie, 2006; Mueller, 2009). Leadership support and an understanding of technology complexity and employee reaction toward the implementation of the respective technology, determines success or failure (Mueller, 2009; Polen, 2009). Innovative measures in technology for HRM are often brought to focus by transformational leaders (Mueller, 2009) making leaders core influencers for the formulation and implementation of innovative technology (Michel, 2007; Mueller, 2009; Pollen, 2009; Vonk, Geertman & Schot, 2007). This is essential for creating and maintaining a competitive advantage (Linying, Heshan, & Yulin, 2007; Theriou & Chatzoglou, 2008). The model of transformational leadership by Bass and Avolio (1993) focused more on a leader's ability to make task and mission outcomes attractive to followers. Although, transformational leadership is more strongly correlated to higher employee satisfaction, productivity, and retention (Hater & Bass, 1988) by inspiring employees to enhance performance and reach organizational goals (Wren, 1995).

The link between people and technology is foundational to individual and organizational effectiveness (Linying, Heshan, & Yulin, 2007) along with the courage of leaders toward value-driven management (Kridel, 2006). Leadership is not limited to a person with a specific title within an organization making individuals capable of

effectively influencing others (Cyrus, 2010). Organizations should have people with the appropriate placement in defining tasks and managing relationships (Cyrus, 2010), but even more important, organizations should have leaders capable of bringing organizations into futures not yet realized (Timmins, 2008).

No longer is the perception of HR as the dumping ground for personnel related tasks and poor performing managers (Arthur, 2004). The perception of the HR manager is increasing as a business partner involved in executive decision-making directly related to organizational growth and productivity (Arthur, 2004; Mueller; 2009). HRM is a complex, multifaceted, multidimensional function (Chiu & Selmer, 2011; Fitz-enz & Davidson, 2002). HR roles include change agent, administrator, employee relations, and strategic business partner (Chiu & Selmer 2011; Welch & Welch, 2012). Change management for HR staff and employees is critical for acceptance of new technology (Morgan, 2000; Yusliza & Ramayah, 2011). Advances in technology allow HR to become a value-added business partner within the organization (Morgan, 2000) by providing consulting to employees and management, talent development, and strategic planning.

Strategic HR is the ability for HR leaders to align HR initiatives with business strategy. Loshali and Krishnan (2013) reported a significant positive correlation between transformational leadership, HR strategy, and organizational performance. This alignment can occur by developing strategic talent strategy and curriculum for driving employee training and development (Loshali & Krishnan 2013).

The present concept of leadership shifted because of societal, technological, and organizational changes in values, awareness of stress on employees, and the need to

maintain competitive advantage (Timmins, 2008). Thus, leadership qualifications are adapted toward more transformational, ethical, and relationship-building styles.

Transformational leaders desire to motivate followers “by appealing to moral values and ideals” while stimulating creativity and innovation (Islam & Muhammad, 2011, p. 236). In a study by Islam and Muhammad (2011) of the perceived leadership styles of HRM executives in public sector universities, the findings revealed that few teachers viewed HRM leaders as demonstrating transformational leadership characteristics. Chen, Lin, Lin, and McDonough (2012) reported that transformational leadership positively influences technological innovation and indicated a strong innovative business culture can effectively substitute for transformational leadership.

The HR function must consistently add value to the organization through effective policies, practices, and strategies (Fitz-enz & Davidson, 2002; Ulrich, 1997; Ulrich & Brockbank, 2005). The human capital of any organization is its greatest asset (Karimidizboni, 2013; Subramanian, 2012) through learning, experience, knowledge, creativity, and innovation. As a department, human resources likely have more data than any other area of business with respect to talent management (Ingham, 2013). The management of human capital is where HR holds value to the organization (Timmins, 2008). Organizational performance serves as the outcome of effective HRM, thus business leaders, managers, and researchers have continued concerns for factors influencing performance (Ferguson, 2006). Technology removed the barriers to accountability and performance measures in HR allowing for quantitative measurement systems related to organizational performance factors (Fitz-enz & Davidson, 2002).

The change agent may have more influence on organizational performance and development (Timmins, 2008). In a study conducted by William Gibson (2012), the findings indicated that adoption of Cloud-Based Computing in the HR space is a competitive advantage for efficient performance, streamlined processes, enhanced recruiting, advanced analytics, and excellent training. However, challenges exist for large and small businesses substantially invested in fixed behaviors and practices (Gibson, 2012), thereby requiring effective HR change agents. Deloitte (2012) reported most participants to a study of HR professionals hold a modest and traditional view of HR, which is a contributing factor to the slow adoption of technology, transformation of archaic processes, and a lack of alignment to business strategy. Bersin (2014) reports two-thirds of global survey participants stated cloud technologies are an important to urgent issue for respective organizations however, 56% reported their companies had no plans for updating their current systems.

The Society for Human Resource Management (2014) defines leadership in human resources as a process where an individual identifies direction, influences others, and guides a group toward common goals. Change management relates closely to leadership, defined as applying knowledge, resources, and tools for dealing with change through a systematic approach. Change management means adopting corporate strategies, procedures, structures, and technologies to handle change externally and within the business environment (SHRM, 2014). The Society for Human Resource Management describes change agents as a group or individual who directly or ultimately instigate behavioral change or change within a group or culture. Human resource leaders must be agents of change to assist leading and guiding the organization and to attain

goals through HR policies, technology, and assessment (Fitz-enz & Davidson, 2002; Ulrich, 1997).

Transformational leadership correlates strongly with lower attrition and higher retention, productivity, and employee satisfaction (Hater & Bass, 1988) while transformational leaders are perceived as more competent, innovative, charismatic, and inspirational. Transformational leaders often encourage the use of technology to realize a vision and accomplish organizational goals (Birasnav, Rangnekar & Dalpati, 2011). Schepers, Wetzels, and Ruyter (2005) reported a correlation between acceptance and usage of new technology by employees and transformational leadership. However, a lack of information existed regarding specific characteristics of effective transformational leaders experienced in successful implementation of Cloud-Based Computing.

Transformational leaders in organizations are individuals demonstrating flexibility, innovation, ability to handle change, and lead organizations to unrealized futures (Timmins, 2008). Transformational leaders can positively influence organizational performance through their effect on organizational strategies, systems, and climates (Liao & Chuang, 2007). Purvis, Sambamurthy, and Zmud (2001) used institutional theory as the foundation for describing how and why managers influence an end user's beliefs as to the benefits of new technologies to work activities. Users form individual cognitive interpretations of new technology based on the norms and values established by managers via legitimization and domination via established policies (Linying, Heshan, & Yulin, 2007; Purvis et al., 2001) further supporting the leader's influence on technology adoption (Polen, 2009). Although studies exist regarding new

skills required by HR professionals (Yeh, 2012), little exists regarding leadership and technology adoption in HR.

Human Resource Information Technology and e-HRM

The expanding role of HR and development of technology introduced the Human Resource Information System (HRIS) (Karimidizboni, 2013; Arthur, 2004) and Electronic Human Resource Management (e-HRM) (Dhamija, 2012; Obeidat, 2012). Human Resource Information Systems are the technology tools that collect, store, maintain, and retrieve an organization's employee data (Karimidizboni, 2013) and can assist organizations in managing talent (Karimidizboni, 2013; Spaulding, 2011). Electronic Human Resource Management, as described by Dhamija (2012), is using the Internet and other technologies for conducting business transactions (Lee, 2008; Shilpa & Gopal, 2011). Dhamija (2012) stated, "e-HRM is a way of implementing HRM strategies, policies, and practices in an organization through a directed support of web technology based channels" (p. 33). Considerable confusion exists between the terms HRIS, e-HRM, and Electronic Human Resources (e-HR), as a significant portion of literature refers to these interchangeably. However, each of the terms describes the digital means of managing human capital.

A review of technology in HR begins with the HR function focus on records management in the 1930s with transaction-based retention storing résumé and employee files (Arthur, 2004). The first HR systems came to market in the early 1970s as record-keeping software (Fitz-enz & Davidson, 2002) advancing toward automating more HR functions. The HR department became one of most dependent users of technology (Ikhlap, Khan, Mujtaba, & Sadiq, 2012) with increased computer use in the workplace,

new technology, and added responsibilities required of the HR function (Shilpa & Gopal, 2011). In the 1990s, HR technologies incorporated automated interviewing, computer-based training, performance evaluation software, electronic forms, and advanced e-mail applications (Fields, 1995). Human resource executives look to technology and corresponding information to drive decision-making for organizational success (Wilcox, 1997). Expansion of client-server networks allowed employees within domestic organizations limited access to information, however unavailable overseas until KPMG's technical staff leveraged a web-enabled front-end system that provided access to employees overseas (Wilcox, 1997).

The rationale for implementation of HRIS varies between organizations and industries to include reduced costs, time efficiency, improved HR performance (Stanley & Pope, 2000), and increased strategic contribution (Ikhlap et al., 2012). However, organizations require the use of information systems to manage the base of all HR activities (Karimidizboni, 2013) yet, employee acceptance of new technology varies between organizations based on attitude (Yusliza & Ramayah, 2011), organizational culture, demographics, and change management effectiveness (Morgan, 2000).

One challenge for the HR function is the ongoing evolution of technology and the effect to the profession and function (Ashbaugh & Rowan, 2002). HRM-related breakthroughs in technology typically occur because of the effects of HRM by environmental discontinuities, regulatory, or legislative modifications (Fitz-enz & Davidson, 2002). The future of the global business environment requires the HR function to fill a strategic role (Shilpa & Gopal, 2011) and add more value to the organization by further automating

administrative responsibilities thus reducing time, cost, and people resources, and the need for additional on-site technology.

Globalization increases because of the shortage of talent in many developed countries, accessibility to low-cost labor, increasing consumer numbers in developing countries, technology, and diversity. HR departments of large-scale organizations must have global databases of employee information, including information regarding attrition, hiring, compensation, benefits, demographic, and national data. Large companies must modify their HR practices to attract, develop, maintain, and retain high performing talent for sustainability and success in a global market, including having a globally accessible HRIS (Kapoor & Sherif, 2012). Electronic human resource management integrates the administrative responsibilities of HR and related outcomes to the technology required for creating value across the organization (Sareen & Subramanian, 2012). Technology is a tool allowing HR professionals the ability to streamline functional responsibilities and delivery of services to focus on more strategic, consultative, and management roles (Fitzenz & Davidson, 2002; Ulrich, 1997, 2010). The explosive evolution of technology requires the transformation of HRM (Saleem, 2012). As such, HR leaders must influence the adoption of technology within respective organizations (Bassellier, Benbasat, & Reich, 2003; Polen, 2009; Toldi, 2010; Ulrich, 1997) and, as transformational leaders, are the innovative thinkers to implement new technologies (Mueller, 2009).

Ashbaugh and Rowan (2002) identified a general list of benefits to an organization when leveraging an HRIS, including aligning to organizational performance issues (Muenstermann, Alexander, Laumer, & Eckhardt, 2010), improving core business processes, developing human capital inventory, planning and budgeting, labor-

management relations, employee-manager self-service, and business intelligence. The literature includes HRIS related studies conducted in developing nations with small to large firms resulting in improved technology acceptance with access to information, ease of use, and training (Morgan, 2000). Extensive literature existed regarding the adoption, usage, and implementation of technology in general; however, little research existed about the successful use of information technology (IT) in HRM practice (Mishra & Akman, 2010). Mishra and Akman (2010) indicated the industry in which the use of technology increases for HRM practice is significant in terms of early adoption. Skiba (2011) reported adoption efforts in healthcare and education are gradually increasing while pharmaceutical and life science industries are emerging (Subramanian, 2012). Kinanga (2012) reported a positive correlation between accessible IT infrastructure to IT adoption and HR performance in Kenyan universities; however, information is lacking referencing IT or Cloud-Based Computing adoption and HR performance in the United States.

Human Resource leaders, theorists, and thought leaders agreed that people are an organization's most important resource (Deloitte, 2011; Fitz-enz & Davidson, 2002; Karimidizboni, 2013; Kaur & Rin Yahya, 2010; Theriou & Chatzoglou, 2008; Ulrich, 1997). Organizational leaders must rely on HR and IT to increase effectiveness, efficiency, and productivity of the organization (SHRM, 2014). Gainey and Klaas (2008) report e-HR is often associated with improved delivery of HR services resulting in reduced costs, higher employee engagement, and greater strategic involvement by the HR function. Electronic human resource services include the use of social media, HRIS, and digital means for recruitment, selection, interviewing, performance management,

compensation, benefits, and payroll (Gainey & Klaas, 2008). The significant differentiator between e-HR and e-HRM is employee access to key functionality within the HRIS (Shilpa & Gopal, 2011). Most organizations provide some form of online access to employees (Overman, 2002); however, the extent to which the HR function uses technology varies. Sareen and Subramanian (2012) stated, “e-HRM helps to create competitive advantage and align the function more closely with business/corporate strategy and the longer-term branding and reputational objectives of organizations” (p. 123). In a study conducted by Gainey and Klaas (2008), 18% of surveyed organizations did not use electronic means for any HR activities. However, Ankrah and Sokro (2012) indicated that improved technology would cause efficiencies in the HR function resulting in better HRM.

Cloud Computing and Human Resources

Organizations are facing technological obsolescence with globalization and high competition (Birasnav, Rangnekar, & Dalpati, 2011). Technology is evolving faster than business organizations can keep up, including the HR function, requiring collaboration between HR and IT to improve HR practices (Stryve Advisors & The RBL Group, 2011). Technology substantially and strategically affects business and HR capabilities as does those responsible for talent management (Ingham, 2013). The roles and functions of HRM continue to evolve in addition to the use of technology for HR. Human resource leaders are responsible for implementing plans for reducing costs, time efficiency, decreasing attrition, and increasing performance (Gainey & Klaas, 2008; Jordan, 2002). Cloud-Based Computing is a new paradigm shift for distributed applications, platforms,

and infrastructures globally accessible through any mobile device with Internet access (Chen et al., 2011) providing HR leaders the opportunity to complete these tasks.

Studies conducted on the adoption of Cloud-Based Computing include small to large high tech organizations in the United States and other countries (Cegielski, Hazen, Jones-Farmer, & Wu, 2012; Indranil, 2011; Obeidat & Turgay, 2013) and industries (DeFelice, 2010), with few directed toward HR (Indranil, 2011; Yeh, 2012). Chen, Low, and Wu (2011) conducted a study in several Taiwanese high-tech organizations identifying relative advantage, firm size, top management support, competitive pressure, and trading partner pressure as determinants with significant effect on the adoption of Cloud-Based Computing. HR must transform and reinvent itself by leveraging cloud technology (Deloitte, 2014). A survey by Deloitte (2014) found 68% of participants consider HR technology an important to urgent trend. Yet, results from the HR Systems Survey by CedarCrestone (2012) indicate 79% of surveyed domestic, and 84% of global, organizations have core HR systems located on-site because SaaS solutions consisted of only 11%, and Laurano (2014) reports 48% of organizations still manually handle data (Aberdeen, 2013).

Reasons for slow adoption of Cloud-Based Computing in HR include a lack of leadership support (Deloitte, 2012), substantial investment in traditional HR practices, poor change management (Gibson, 2012), security (Carcary, Conway, & Doherty, 2014; Khawaja & Qaisar, 2012; Laurano, 2014; Sierra-Cedar, 2015) and departmental or organizational silos (Jones, 2012). Time, cost, and effective change management are consistent risk factors for public and private sector organizations implementing new technology (Ashbaugh & Rowan, 2002). Cloud-Based Computing services can be used

to reduce time and capacity constraints, lower costs by changing fixed costs to variable usage-based costs, provide anytime-anyplace connectivity, and scalability without responsibility for maintenance or updates (Rader, 2012).

Significant cost reduction is possible with Cloud-Based Computing (Aljabre, 2012; Carcary, Conway, & Doherty, 2014; Geczy et al., 2012). Gibson (2012) reported large companies must focus on overcoming long-standing HR practices to move toward Cloud-Based Computing while small to medium-sized businesses can take advantage of low capital expenditure. Obeidat and Turgay, (2013) used the technology trade theory (Triple-T) model for identifying a multi-perspective approach for evaluating technology adoption. The model used 16 advantages and disadvantages for technology adoption and found IT executives agreed to a balance of benefits and suggest organizations adopting technology must highlight the benefits, that may include cost savings, time and space efficiency, flexibility, scalability, and improved output to improve acceptance of technology within the organization (Obeidat & Turgay, 2013).

Studies using the Technology-Organizational-Environment framework found relative advantage, compatibility, complexity, organizational readiness, top management support, and training are critical variables to successful cloud computing adoption (Bahli, Borgman, Heier, & Schewski, 2013; Gangwar, Date, & Ramaswamy, 2014). Willcocks, Venters, & Whitely (2013) identify three antecedents to implementing Cloud-Based Computing including collaboration, innovation implementation process, and attributes to the technology. Attributes to the technology include the relative advantage, risk level, ease of use, complexity, and Trialability (Rogers, 1995). Innovation implementation

process includes the receptiveness to change, user attributes, organizational readiness, and the quality of the organization's implementation plan (Willcocks et al., 2013).

Innovations exist on a variety of levels once cloud computing is adopted including operational innovations, business process innovations, and market innovations (Willcocks et al., 2013). HR leaders must be prepared to link top and bottom line results when deciding upon new technology (Lombardi, 2014) however, cost savings may emerge more slowly than organizations anticipate (Willcocks et al., 2013). Additional advantages of Cloud-Based Computing include efficient use of resources, instant scalability, no hardware or software maintenance, anti-virus security, data recovery, and upcoming standardized data security legislation (Aleem & Sprott, 2013). The benefits of adopting technology within the HR function are apparent; however, potential negative outcomes exist including the cost for wiring the workforce and successful change management methods for ensuring user acceptance (Sareen & Subramanian, 2012). Risks for transferring information through Cloud-Based Computing include privacy of data (Shilpa & Gopal, 2011), inconsistent data protection legislation, remigration challenges when changing service providers, lack of disaster recovery by the user organization, inadequate employee training, unauthorized access (Card & Sivak, 2015; Dutta, Peng, & Choudhary, 2013; Géczy, Izumi, & Hasida, 2012; Sierra-Cedar, 2015), and lack of control over availability (Aleem & Sprott, 2013).

In a study by Deloitte (2012) of 334 senior business leaders and HR executives' at large businesses, the findings reported 67% of businesses would significantly increase technology as part of their talent strategies. In a study conducted by SHRM (2011), 48% of participants stated rapid growth toward mobile technologies strategically affected

business and that Cloud-Based Computing, via SaaS and mobile technologies, are increasingly becoming the preferred solution for HR technology while other HR professionals indicated system integration to Cloud-Based Computing is a top priority (Jones, 2012). While Cloud-Based Computing is slowly realized, mobile technologies are fast becoming an HR issue (Card & Sivak, 2015; Keebler & Watson, 2014) with only 10% of organizations providing mobile applications for employees (Keebler & Watson, 2014).

Conclusion

Wang and Shyu (2007) reported effectiveness of HRM practices and organizational performance improved when HRM and business strategies align (Loshali & Krishnan, 2013; Timmins, 2008). Theriou and Chatzoglou (2008) found HR best practices in knowledge management and organizational learning is two of the greatest factors affecting organizational performance. Knowledge management and organizational learning are more effective when using Cloud-Based Computing (Theriou & Chatzoglou, 2008). Human resource management performance may increase with the use of Cloud-Based Computing technologies and directly effecting organizational performance.

Although prior study results revealed that HRIS, e-HR, and Cloud-Based Computing assisted with achieving HR and organizational goals, little research existed concerning the cause for the slow adoption of Cloud-Based Computing and the related effect of Cloud-Based Computing on HR performance, and overall influence on organizational performance. Information technology experts believed legal and technical complexity hinders the adoption of Cloud-Based Computing (Aleem & Sprott, 2013;

Dutta, Peng, & Choudhary, 2013). Studies regarding the understanding and implementation of Cloud-Based Computing in various industries provided insight to the advantages and disadvantages of adoption. A lack of information existed regarding the direct influence of Cloud-Based Computing use on organizational performance in non-technology related industries. Bassellier et al. (2003) stated, “To achieve successful IT planning and IT implementation, essential for business managers to take a leadership position” (p. 317). Results from the study may assist with HRM and talent management as globalization becomes more apparent with small- to mid-sized businesses (Xiaoya, Marler, & Zhiyu, 2012) and may support that the implementation of Cloud-Based Computing globally could improve HRM and change management on an international scale.

Summary

This chapter was a review of the pertinent literature germane to this study. The HR function is viewed increasingly more as a critical business partner within organizations. The demands on HR require additional tools for managing the administrative responsibilities of the function for focus on strategic roles. This requires leaders to influence respective organizations and end users to adopt new technologies, such as Cloud-Based Computing, in an effort to improve the performance of HRM. Human resource managers with strategic competence and management skills must consider an IT-based workplace a top priority (Mishra & Akman, 2010). However, the HR function is historically slow to adopt new technologies, and Cloud-Based Computing is no different. The information provided in the literature review identified the importance of innovative leaders, as characteristically seen in a transformational

leadership style, examine the evolution of HRIS and e-HRM to Cloud-Based Computing, and consider the possibility of improved HRM and overall organizational performance. Extensive research existed regarding the adoption of technology, implementation of Cloud-based technology, adoption of technology in HR, and the effect of technology on organizational performance. However, a gap exists for literature specific to the adoption of Cloud-Based Computing in HR and on the implications of Cloud-Based Computing on HRM and organizational performance. Chapter 3 will present the methodology for use with this specific study of informed HR professionals.

Chapter 3

Research Method

Companies are competing for talent on a global level and technology is at the forefront of human resource HR change (Abardeen, 2012; Deloitte 2012; SHRM, 2011). An extensive literature search suggested that no definition existed for the characteristics of successful leaders implementing Cloud-Based Computing related to the effect on human resources management (HRM) performance through the adoption of Cloud-Based Computing, and limited information available regarding the reasons for slow adoption in HR. The purpose of this qualitative study with a modified Delphi research design was to understand the reasons HR leaders are slow to implement Cloud-Based Computing, the common characteristics of effective HR leaders and leaders with successful implementation experience, and how the implementation of Cloud-Based Computing relates to HRM and organizational performance. The problem is the slow adoption to Cloud-Based Computing for efficiency of the HR function. The information in this chapter includes a detailed review of the research method and design appropriateness, population, sampling, instrument, data collection, and data analysis techniques.

Study Method and Design Appropriateness

Rationale for Selecting a Qualitative Method

Quantitative research is a numerical research approach involving one or more variables, as opposed to a qualitative research approach that involves reviewing characteristics and complexities of a given phenomenon (Leedy & Ormrod, 2010). An extensive literature search led to the identification of a gap in the body of knowledge regarding reasons behind the slow adoption of Cloud-Based Computing, describing the

characteristics of successful leaders implementing Cloud-Based Computing, and the potential effect to HRM performance through the adoption of Cloud-Based Computing. Little research is available on the effect of Cloud-Based Computing to HRM (Indranil, 2011; Yeh, 2012). Quantitative research is used for validating existing theories (Creswell, 2009); however, the prior research was incomplete regarding information about technology adoption in HRM. Qualitative information is required to provide key topics for research and move forward to quantitative research (Neuman, 2009). The focus of the study was to understand the perceived effect of Cloud-Based Computing to HRM and research factors documented making a qualitative approach appropriate for examining the given phenomenon.

According to Christensen, Johnson, and Turner (2011) qualitative research relies on subjective perspectives from participants. Creswell (2009) stated a qualitative research method is appropriate for exploring undefined phenomenon experienced by participants. Peshkin (1993) stated qualitative studies could serve one or more purposes of description, interpretation, verification, or evaluation (Leedy & Ormrod, 2010). This study focused on investigating the experiences and perspectives of informed participants on the HR practices transitioned to Cloud-Based Computing, interpret the impediments of adoption, characteristics of leaders successfully transitioning to Cloud-Based Computing, and evaluate the perceived effect of Cloud-Based Computing to HRM performance. Salkind (2003) described qualitative research as a rigorous method for exploring academic questions needing additional context and explanation of phenomenon. Bahli, Borgman, Heier, & Schewski (2013) recommended further qualitative study regarding the factors influencing leader's decision to adopt cloud computing. The goal of this study

was to obtain an understanding of the phenomenon associated with Cloud-Based Computing adoption and HRM performance; thereby, a qualitative method was appropriate to address the complexity of the research problems.

Rationale for the Research Design

After identifying the proper research method, an evaluation of the appropriate research design is necessary. Considerations included the type of data required to answer the research questions, data collection and analysis processes, interpretation, and researcher skill (Leedy & Ormrod, 2010). The review and consideration of several design approaches included grounded theory, hermeneutics, phenomenological, case study, and Delphi.

Grounded theory. The grounded theory approach is useful for developing theory from existing data and is least likely to begin with a theoretical framework (Leedy & Ormrod, 2010). Creswell (2008) described grounded theory as an appropriate design when available theories are insufficient or nonexistent for a particular phenomenon and requires the discovery of a new theory or the creation of a new theoretical model (Creswell, 2009). The literature review was inconclusive in identifying an applicable theoretical model suggesting the need for further study of the phenomenon.

Hermeneutics. Smith, Flowers, and Larkin (2009) defined hermeneutics as “the theory of interpretation” (p. 21). The researcher interprets the meaning of the participant’s lived experience in found themes (Creswell, 2013). Hermeneutics, used often in the study of humanities, helps researchers to interpret the essence of lived experience by examining text in the form of writings, pictures, or conversations (Neuman, 2009). Hermeneutics requires comprehensive investigation of the phenomena

from personal observations (Neuman, 2006). Extensive knowledge is gained from analysis of field notes and additional observations or data obtained regarding the phenomena (Neumann, 2006). For the purposes of this study, hermeneutics represents interpretation of the lived experiences of participants' involvement in adoption of Cloud-Based Computing and perceived effect to HRM performance.

Phenomenology. Edmund Husserl developed the phenomenological research design to provide a fundamental understanding regarding how a person experiences an occurrence by conducting interviews of study participants (Christensen et al., 2011). The design of phenomenological studies is to gain a better understanding of other's perspectives or perceptions based on experience (Creswell, 2009; Leedy & Ormrod, 2010). Christensen, Johnson, and Turner (2011) stated phenomenological studies are appropriate when the researcher attempts to understand the essence of an individuals' lived experience of a phenomenon (Creswell, 2009).

Case study. Christensen, Johnson, and Turner (2011) described case study "as the intensive and detailed description and analysis of one or more cases" (p. 374). Social science researchers are familiar with case studies across multiple industries including law, medicine, psychology, and political science as it presents a thorough understanding of a case (Creswell, 2013; Neuman, 2009). Studies existed for organizations in various industries adopting different technologies and technological organizations adopting Cloud-Based Computing at the time of the research; however, none addressed Cloud-Based Computing within HR specifically.

Delphi method. The Delphi method, developed by Helmer and Dalkey (1963) in the 1950s at the RAND Corporation, gathered consensus of participants on a specific

topic through the individual, and anonymous, questioning of study participants via a series of questionnaires. The use of the Delphi method can be a judgment, decision, or forecasting tool (Linstone & Turoff, 1975; Rowe & Wright, 1999). Skulmoski, Hartman, and Krahn (2007) described the Delphi method as "an iterative process to collect and distill the anonymous judgments of experts using a series of data collection and analysis techniques with feedback" (p. 1). Classical Delphi is useful for helping to describe the research method that adheres to the original Delphi method established by Helmer and Dalkey (1963). The method is well suited when information about a phenomenon is incomplete or nonexistent and "well suited to rigorously capture qualitative data" (Skulmoski et al., 2007, p. 9). Delphi was the appropriate research design for this study given the search for agreement regarding applicable phenomena (Adler & Ziglio, 1996) and factors not established by prior research (Hall, 2009; Linstone & Turoff, 1975). Additionally, the anonymity of participants eliminates exposure to bias from others participants. The flexibility for modification of the Delphi model (Linstone & Turoff, 1975; Skulmoski et al., 2007) and lack of studies similar in scope or design, and the likelihood of answering the research questions (Hsu & Sandford, 2007) contributed to the appropriateness of modified Delphi for this study.

Overview of Research Methodology

The selection of the modified Delphi research design for this study was appropriate for several reasons. The purpose of this study was to explore the experiences, perceptions, and perspectives of informed participants in HR on the adoption of Cloud-Based Computing, leadership characteristics of those successfully implementing Cloud-Based Computing, and the perceived effect to HRM and organizational performance.

"Researchers may want to look forward to see what will be the key information systems issues in a wireless world, the ethical dilemmas in social network analysis, and the lessons of early adopters" (Skulmoski et al., 2007, p. 2) making the modified Delphi a reasonable research design for answering the research questions of this study.

Key characteristics of Delphi include minimizing the effects of bias during group interaction using electronic means of communication (Hsu & Sandford, 2007), providing controlled feedback to study participants, and maintaining participant anonymity (Adler & Ziglio, 1996; Dalkey, 1972). Primary considerations include the lack of literature available regarding the phenomenon (Skulmoski et al., 2007) and established standards, the flexibility for modification of the method for identifying subjective themes, the request for informed participants over experts, and the ability for the researcher to request further insight to participant ranked items through subsequent iterations (Hsu & Sandford, 2007). The modified Delphi approach aligns with and benefits the research by assisting with the exploration of the experiences and opinions of informed participants through sequential, iterative, anonymous collaborative contribution (Skulmoski et al., 2007). The results of the study benefit the existing body of knowledge on the phenomena of leadership, adoption of Cloud-Based Computing, HRM, organizational performance, and may advance future research through quantitative methods.

Delphi Process

The Delphi technique is the methodical gathering of perspectives on a topic through sequential surveys created from the participant responses of earlier iterations (Agarwal & Balasubramanian, 2012). Hall (2009) expressed the process for Delphi research as illustrated in Figure 3. A structured approach in qualitative study contributes

to validity and reliability (Shank, 2006). The number of rounds varies based on the purpose of the research (Skulmoski et al., 2007). When the goal is to understand nuances, reach consensus, or reveal sufficient information the research process may require three rounds or fewer (Skulmoski et al., 2007). Various modes of interaction are acceptable for Delphi studies, including paper-based and electronic e-mail questionnaires, and online surveys (Skulmoski et al., 2007). This study used SurveyMonkey® for online distribution of the questionnaire instrument to answer the research questions.

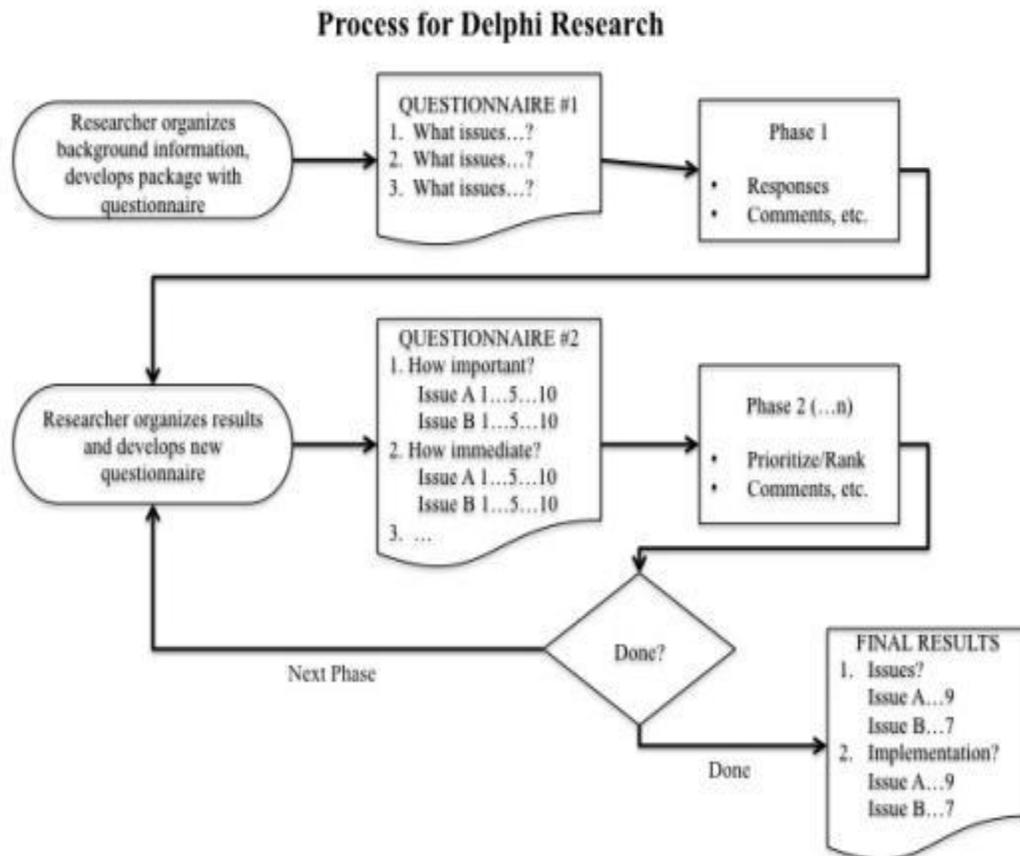


Figure 3. Process for Delphi Research (Hall, 2009). Note. Adapted from “The Delphi primer: Doing real-world or academic research using a mixed-method approach.” by Elmer Hall, in Cheryl Lentz, *The refractive thinker: Vol. 2: Research Methodology*, (p. 7). Copyright 2009 by Elmer Hall. Adapted and reprinted with permission.

Research Questions

The following research questions drove the study regarding the topic of HR leader's perspective on the phenomenon:

RQ1: What are the Cloud-based Computing tools that appear to be most effective for Human Resources?

RQ2: What are the impediments to adoption of Cloud-Based Computing in Human Resources?

RQ3: How does successful Cloud-Based Computing affect the performance of HRM?

RQ4: What leadership traits of successful Cloud-Based Computing adopters also contribute to HR performance?

RQ5: How does HR contribute to the overall performance of an organization?

RQ6: What are the implications of best practices in Cloud-Based Computing adoption within HR and to general leadership theory?

The research questions were addressed with open-ended questions in free-form format in Round 1, and Likert-type scale questions for ranking in Round 2. Qualitative analysis of the data occurred to identify themes and connections using NVivo10® and Excel®, and statistical analysis using Excel® and SPSS® occurred after Round 2. The data from Round 1 guided the creation of ranking questions for the Round 2 survey while addressing the research questions with free form questions in Round 1. The data analysis began by using NVivo10® to identify themes, patterns, and connections. The resulting qualitative data were useful for creating additional questions in Round 2 as outcomes revealed the need for further insight. The research questions were also part of the data

collection process in Round 2 using ranking and percentage questions based on common answers obtained in Round 1. The results of the study for RQ5 included findings associated with the other research questions of this study and integrated with available literature to identify themes and patterns within existing leadership theory. Statistical analysis of the outcomes from all research questions of Round 2 was conducted using Excel® and SPSS®.

Population and Geographic Location

Identifying the population for a Delphi study is critical for ensuring involvement of appropriate participants (Helmer, 1967) and typically dependent on the area of experience (Hsu & Sandford, 2007). The population for this qualitative study consisted of HR informed participants with 5 or more years of experience in HR with a targeted number of 12 participants associated with HR focused LinkedIn forums and HR groups in Arizona. Round 1 of the study secured 14 participants. The accessibility of LinkedIn is global and not limited to any specific geographic area that provided a larger population sample of HR informed participants.

Participant Selection Criteria

Classic Delphi requires the identification of experts on a study participant panel (Helmer, 1967; Helmer & Dalkey, 1963). A modification to the Delphi allows for flexibility in identification of study participants. For the purpose of this study, the target sample relates to the identified subsets of the total population for this study, including participants with 5 or more years of HR experience, knowledge of Cloud-Based Computing in HR, members of select HR LinkedIn groups, and Arizona-based HR groups. Figure 4 provides a visual representation of the target population.

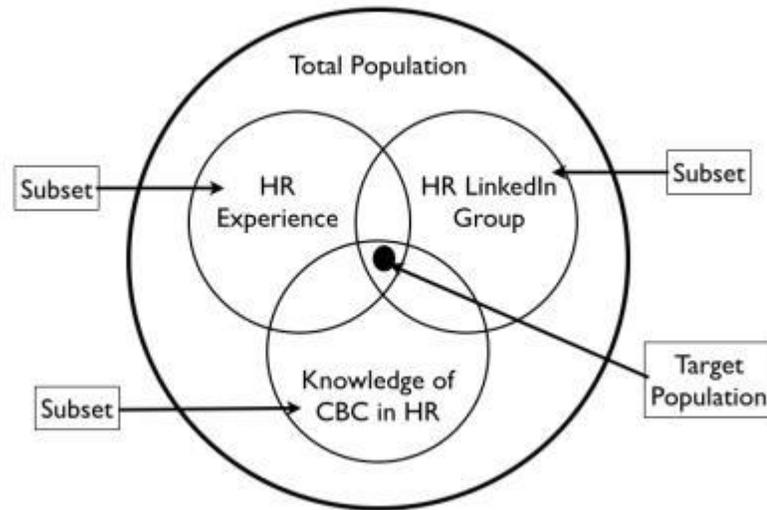


Figure 4. Target Sampling Frame

In Delphi research, a large panel is unnecessary (Delbecq, Van de Ven, & Gustafson, 1975; Hall, 2009; Skulmoski et al., 2007) because a smaller informed group can more easily obtain consensus (Linstone & Turoff, 1975). The recommendation from the literature was 10 to 18 participants on a Delphi panel, as size does not depend on statistical power (Agarwal & Balasubramanian, 2012). Previous Delphi studies included a similar number of participants. The expected convenience sample was a targeted group of 12 HR informed participants with 14 recruited from various professional organizations and social media groups to participate in the study. Participation was low upon initially posting a request for study participants in the LinkedIn forums. A purposive snowball sampling technique was then used to recruit participants.

Why use social networking groups and local chapters. LinkedIn is a top professional social networking site with over 250 million individual profiles. LinkedIn groups provide a forum for like-minded professionals to connect with others within a respective industry or similar interest. The groups provide an immediate filter for recruiting volunteer participants within the target population. The HR groups where the

recruitment of participants occurred for this study required administrative approval and proof of the requesting member's affiliation within the respective industry or area of interest. Most social media groups are open groups once members are approved allowing members to post content, which promotes the progress or welfare of the group industry or interest. Select HR groups received a request to solicit (see Appendix A) study participants and responded affirmatively for recruiting study participants (see Appendixes B, C, & D).

Miller and Salkind (2002) stated that, "when practical considerations preclude the use of probability sampling" (p. 53) a subgroup might be selected for group representation. Identification of potential participants occurred through qualifying questions in the demographic portion of the questionnaire. Participants included HR professionals with varying levels of HR, managerial, and executive experience. All participant organizations were based in the United States and all participants were familiar with Cloud-Based Computing in HR. The combined experience, leadership level, industry background, and technology experience provided informative feedback. Participant attrition commonly occurs with the completion of each round making the goal of each round to obtain information saturation in the event a participant withdrew prior to completion.

Informed Consent

A fundamental ethical principle of research is participation in research must be voluntary and potential participants must know their rights to make an informed decision (Leedy & Ormrod, 2010; Neuman, 2009). The informed consent statement explains all aspects of a study requesting the potential participants' voluntary agreement prior to the

start of the study (Neuman, 2009). Leedy and Ormrod (2010) stated no data collected should refer back to the participant and personal data must remain confidential.

All prospective participants received an e-mail containing a consent form to obtain informed consent from each participant prior to involvement in the study (see Appendix E). Upon successful submission of an electronically signed consent form, the participant received an introduction e-mail with a link to the survey housed on SurveyMonkey®. The potential participant received access to the Round 1 questionnaire after providing a signed informed consent via e-mail or fax. The informed consent form explained the process, withdrawal procedures, risks, and primary intent of the study. Participants were able to withdraw at any point before, during, and after data collection. Participants who choose not to participate were directed to submit a written withdrawal via e-mail to the researcher. Had participants withdrawn, the participant's data would have been removed from data gathered, deleted, and destroyed. Forms are stored and saved for a minimum of 3 years.

Confidentiality

Maintaining the privacy, anonymity, and confidentiality of research participants (Neuman, 2009) is paramount and involves physically and electronically securing data (Stiles & Petrilla, 2011). The assignment of unique and individual alphanumeric codes ensured the confidentiality of all participants and organizations discussed remained anonymous. During each phase of the study, the participants' unique data codes helped to identify specific phases, themes, and participant. The code issued to the first participant in the pilot phase of the study is TCPS001 and TCFDS001 for the first participant in the full Delphi study. Using a coding system provides further protection of

participant confidentiality and aids in the organization of the data. Creswell (2012) recommends using a coding system to enhance readability of data while maintaining confidentiality of the participant and respective data.

Data code keys remain separate from the research data to which the researcher holds exclusive access. Data will remain exclusive to the researcher, stored on a digitally encrypted, password protected external hard drive or housed in a fireproof safe for a minimum of three years. The hard drives and folders containing data code keys, participant codes, and research data will be erased, formatted, and physically destroyed and all documentation will be shredded after the 3-year period.

Reliability and Validity

Qualitative research requires objectivity and as such, researchers must emphasize rigor and trustworthiness to ensure validity and reliability (Lincoln & Guba, 1985; Neuman, 2009). The establishment of reliability must occur prior to validity (Lincoln & Guba, 1985) and refers to the dependability of the outcomes (Christensen, Johnson, & Turner, 2011) while validity refers to how effectively the phenomenon observed matches with the constructs used to understand the phenomenon (Neuman, 2009). Rigor relates to the logical and systematic manner of planning and implementing a research design with accuracy. The Delphi methodology serves to obtain agreement between the participants thus, by its very nature provides validity because of expert consensus (Bourgeois, Pugmire, Stevenson, Swanson, & Swanson, n.d.; Linstone & Turoff, 1975) while the processes of identifying and selecting experts, ranking, and consensus are rigorous (Okoli & Pawlowski, 2004). Linstone and Turoff (1975) explained that creating a valid and reliable population sample on a Delphi panel of experienced participants uses the

researcher's established selection criteria. Design considerations such as sample size, sample composition, methodology, number of rounds, and mode of interaction contribute to rigor of the method, a successful Delphi and deeper understanding of the topic (Skulmoski et al., 2007). To maintain validity and reliability in a Delphi study 5 to 10 carefully selected participants are needed, according to Loo (2002), 10 to 50 participants according to Turoff (1970), and 10 to 15 according to Meijering, Kampen, and Tobi (2013), and Skulmoski (2007). This study obtained the opinions of 12 qualified full-panel participants completing both survey rounds.

The Delphi method works well when the objective of a study is obtaining a consensus, developing forecasts, or obtaining a deeper understanding of issues, problems, or solutions (Skulmoski et al., 2007). Adler and Ziglio (1996) determined the reliability of the Delphi research method was significantly comparable to traditional interviews and group discussions. The iterative process of the Delphi method incorporates the knowledge and experience of participants providing the researcher with controlled feedback and data critical for analysis that is valid and reliable (Dalkey, 1967). Lincoln and Guba (1985) stated establishing trustworthiness is necessary in research and defined credibility, confirmability, dependability, and transferability as key factors to traditionally defined validity and reliability in qualitative study. All efforts were made to mitigate potential issues and maintain the validity and reliability of this study.

Credibility and Triangulation

Internal validity is the degree to which the observation of a phenomenon is causal (Christensen et al., 2011; Leedy & Ormrod, 2010). Credibility refers to the internal validity of a study and suggests corroboration of study participants as a strategy for

addressing credibility (Lincoln & Guba, 1985). Credibility requires establishment through triangulation and is useful as an equivalent or extension to, validity and reliability in qualitative research (Willis, 2007). The objective of triangulation is ensuring multiple perspectives of an observed phenomenon (Willis, 2007; Lincoln & Guba, 1985). Four types of triangulation exist including measures, methods, theory, and observers (Neuman, 2009). This study used data triangulation and theoretical triangulation. Data triangulation provided various perspectives regarding best practices for Cloud-Based Computing implementation, HR leader characteristics, and factors championing and challenging cloud adoption. Data triangulation was accomplished by obtaining data from multiple study participants (Barusch, Gringeri, & George, 2011; Christensen et al., 2011) in different settings (Christensen et al., 2011) where participants had the opportunity to corroborate findings in Round 2, enhancing the credibility, or internal validity, of the study.

Triangulation is viewing data through multiple means. Denzin and Lincoln (2000) posit the use of multiple data collection procedures enhances validity and improves understanding, duplication, and comprehension of research questions (Christensen et al., 2011; Denzin, 1978). Data sources triangulation is used by collecting data at two different points in time (Patton, 2002) through the Delphi process using open-ended questions in Round 1 and Likert-type scale questions in Round 2. Triangulation occurred by using open-ended questions during Round 1 of the study and categorizing responses according to how many years the participants indicated the target company was in business and the years of managerial experience for each participant, respectively, sliced the data. Theoretical triangulation occurs when multiple theoretical perspectives

are used during data analysis to better understand and interpret the data (Christensen et al., 2011; Neuman, 2009). In this study, theoretical triangulation was accomplished by comparing previous study results discussed in Chapter 2 with outcomes from this study and by using concepts of the DOI and TOE theory and conceptual frameworks (Neuman, 2009).

Spearman rank correlation is a bivariate, nonparametric test used in statistical analysis (Hollander & Wolfe, 1973). Robust parametric statistical tests are not reliable given small sample sizes, therefore, descriptive statistics and non-parametric tests were used to explore and analyze the data (Bahli, Borgman, Heier, & Schweski, 2013) testing the reliability of the range of data and mitigating limitations in ranking Delphi methods (Patton, 2002). Although correlational analysis was conducted in this study, the small sample size, and lack of statistical power did not justify the need to reclassify this study as mixed-methods, rather this study remains qualitative.

Confirmability

Reliance on researcher interpretation increased confirmability of qualitative studies, often considered subjective in academia (Leedy & Ormrod, 2010). Lincoln and Guba (1985) referred to confirmability as the neutrality of the researcher when interpreting data. “Researchers strive for objectivity” (Leedy & Ormrod, 2010, p. 21); however, objectivity may not be possible or desirable in qualitative studies (Creswell, 2009; Leedy & Ormrod, 2010). According to Lincoln and Guba (1985), the researcher establishes confirmability through triangulation or by providing auditable proof of corroborated results including raw data, methodological decision, analysis notes, personal interpretations, and other pertinent information to ensure objectivity. The study used data

triangulation and maintained accurate, descriptive documentation for auditing. The pilot study conducted allowed pilot participants to review the surveys for bias and ensure objectivity. Feedback from pilot participants was incorporated into the final creation of each survey with subsequent iterations designed based on replies and feedback from pilot participants.

Dependability

In qualitative research dependability, “that the results will be subject to change” (Creswell, 2013, p. 246), corresponds to reliability in quantitative research (Lincoln & Guba, 1985). Dependability refers to the reliability, or consistency (Neuman, 2009) of a measurement. Researchers can ensure dependability by providing a transparent account of the research process including an audit trail of data, findings, analysis, and interpretations (Lincoln & Guba, 1985). Participant responses were gathered, examined, and compiled into Excel® spreadsheets prior to analysis. The data were then manually analyzed and cross-referenced to data analysis from NVivo10® for each survey round, and supportive literature to preserve dependability.

Transferability and Limited Generalizability

Transferability corresponds to the external validity of a qualitative research study (Lincoln & Guba, 1985). External validity in qualitative research is the degree to which one can apply the study results to another or similar population (Christensen et al., 2011; Willis, 2007). Kirchner (2014) describes transferability as “descriptive adequacy” (p. 82) conducted by providing detailed descriptions of data collection and analysis processes (Lincoln & Guba, 1985). Krefting (1991) argues strategies for establishing trustworthiness of transferability include nominated sample, time sample, and dense

description. Lincoln and Guba (1995) describe transferability as the original researcher providing adequate detail about a phenomenon where implications are applicable to other settings, times, situations, and people, and argue proof of transferability, after sufficient detail is provided, lies with the researcher seeking application elsewhere. This study attempts to provide a dense description of the research process, participant backgrounds, and study outcomes to increase the possibility of transferability. The study findings from this research may be transferable and applicable, in larger scale, across industries in HR, or Cloud-Based Computing.

Generalizability is a determination on the applicability of study outcomes to a larger population and a major criterion in quantitative research (Polit & Beck, 2010). Generalizability may be limited because of the challenges in exact replication of a study, the nature of the Delphi methodology, and small sample size; however, generalizability is attainable when the sample closely represents the population (Salkind, 2003). The study appears to be consistent with a representative sample (Leedy & Ormrod, 2010) of HR informed participants who met the requirements of consideration, despite the small number of respondents, generalizability is possible however, applying the results to the broader population of HR managers should be judiciously conducted. Correlational analysis was conducted to understand the data and potential contribution to triangulation better. Several statistically significant relationships were produced implying the strength of relationships would increase if the population were larger and fully representative of all HR manager's responses. However, small sample sizes may not provide robust, reliable statistical results (Bahli et al., 2013) thereby limiting generalizability of the study results.

Data Collection

Data collection began by recruiting volunteer participants via LinkedIn HR specialized forums and Arizona-based HR groups. The administrators for three Arizona HR forums on LinkedIn received a written request (see Appendix A) and returned e-mails of written permission from each of the administrators (see Appendixes B, C, and D). The study included a modified Delphi technique with two rounds of questionnaires (Skulmoski et al., 2007). Study participants had five or more years of HR experience to ensure the participants were knowledgeable on the topic. Participants received a letter of recruitment (see Appendix H) with details regarding the purpose of the study and informed consent form detailing privacy measures. All participants were required to physically sign and return the informed consent form (see Appendix E). After receiving a signed informed consent from each participant, the researcher provided an introductory letter with the link to the Round 1 questionnaire (see Appendix F) via e-mail. The expectation was to use the same participants in Round 1 and in Round 2 in the study.

Each round of the study built upon the information collected from the previous round until reaching information saturation among participants (Skulmoski, 2007). The objective of the first round questionnaire was to obtain information from participants using open-ended questions and free form answers. The answers from Round 1 were then used to develop the questionnaire for data collection in Round 2 (see Appendix G).

Questionnaires were distributed via the Internet using SurveyMonkey®. Online surveys and electronic e-mail questionnaires are acceptable modes of interaction for Delphi studies (Skulmoski et al., 2007). SurveyMonkey® provides multilayered security

and encryption features ensuring the protection of data transmission, storage, and access ensuring the anonymity and privacy of participants and data integrity.

Instrumentation

The Delphi method is a process requiring a series of data collection rounds using participant feedback to modify the instrument used for data collection in subsequent iterations (Skulmoski et al., 2007) including the modified Delphi. The online questionnaire was a combination of free-form answers, Likert-type scale, and ranking questions. The study used an online questionnaire instrument for each round of the full Delphi study Round 1 (see Appendix F), Round 2 (see Appendix G), distributed via SurveyMonkey®. Expediency of electronic communication and questionnaire distribution assists with maintaining enthusiasm and retention of study participants (Skulmoski et al., 2007). Online distribution of the questionnaire instrument preserves anonymity of participants and data integrity by avoiding bias, group think (Straus, Parker, Bruce, & Dembosky, 2009), dominant perspectives (Hall & Jordan, 2013), or influence from other study participants (Linstone & Turoff, 1975).

Modification of the Round 1 questionnaire occurred based on results from the pilot study. Round 1 of the full Delphi began after the pilot study was complete and results analyzed. All study participants received an e-mail letter of recruitment explaining the purpose of the study (see Appendix I), background of the researcher, detailed explanation of the Delphi process and an attached informed consent form (see Appendix J) with instructions for form submission. After receiving, coding, and storing signed informed consent forms, the participants received an email link to the online questionnaire with instructions for completion. The Round 1 questionnaire consisted of

demographic, informational, and open-ended questions. Round 1 data were analyzed and participant feedback aided in creating the Round 2 survey.

Creating the Round 2 questionnaire occurred after obtaining and analyzing the Round 1 data from participants. The Round 2 questionnaire (see Appendix G) required revisions from the initial survey based on data collected from Round 1 and considering feedback from pilot participants. The Round 2 questionnaire consisted of Likert-type scale questions for ranking purposes. Data collected were reviewed, examined, and analyzed to produce the results of this study. All electronic written communication, informed consent forms, and storage of the data are housed on encrypted, secure external drives in a fireproof safe with physical documentation accessible only to the researcher.

Pilot Study

A pilot Delphi is a small-scale version of the full Delphi study and is “sometimes conducted with the goals of testing the Delphi questionnaire to improve comprehension, and to work out any procedural problems” (Skulmoski et al., 2007, p. 4). A pilot test of the survey instrument ensures participants can complete the questionnaire (Creswell, 2009), improves reliability (Neuman, 2009), and increases rigor of the study (Lincoln & Guba, 1985). Five individuals assisted with conducting a pilot for the study. Prior to the Round 1 pilot study start, pilot participants were sent the Informed Consent form (see Appendix J). An introduction letter to the pilot study was sent to all pilot participants upon receipt of a signed consent form (see Appendix I). The introduction letter emphasized the need for their trusted opinion based on content, structure, phrasing, understanding, and ease of use.

The pilot study participants were not invited to participate in the full Delphi; although the pilot results were reviewed as part of the data triangulation process in Chapter 4. Feedback received from the pilot included slight verbiage changes, the deletion of one question, and the addition of three clarifying questions. All participants in Round 1 of the full Delphi study received the revised questionnaire instrument after the pilot testing and incorporation of feedback from pilot participants.

Data Analysis

The data analysis phase of the Delphi study included results from the pilot study and full Delphi rounds. Analysis techniques for the Delphi relate to the questions presented to participants (Skulmoski et al., 2007). Electronic collection of raw data can benefit expediency of collection and minimize transcription during analysis (Skulmoski et al., 2007). Analyzing qualitative data requires organizing data, themes, coding, interpretation, and presentation (Creswell, 2009). NVivo10® is a secure, online software program supportive of qualitative and mixed methods research. NVivo10® functionality allows the researcher to import, code, organize, and query data, discover themes, and reflect on outcomes to support research findings rigorously. NVivo10® is a powerful tool for uncovering subtle connections among data providing the researcher with additional insight and ideas for answering research questions and justifying findings. The software was useful for analyzing the data from Round 1. SurveyMonkey® and NVivo10® work seamlessly and securely together preserving confidentiality and ensuring data integrity. Data from Round 1 was initially collected into Excel®, organized and manually coded. The data were then imported into, and analyzed in, NVivo10® to identify themes and cross-referenced with key themes identified in

NVivo10® and analysis from Excel®. The NVivo10® software is capable of managing unstructured, text-based data with theorizing and indexing ability (Creswell, 2012).

Visual graphic representations are a feature within NVivo10®.

The Round 2 questionnaire consisted of one identification question for the participant code, seven Likert-type scale questions for ranking, and one open-ended question. Likert-type scale presents qualitative data with a quantitative value (Neuman, 2009). SPSS® is a statistics software package for managing and analyzing data. Excel® and SPSS® are programs located on a password-secured computer owned by and accessible only to the researcher. Given the small sample size, robust parametric statistical tests are not reliable, therefore, SPSS® software was used to explore and analyze the data using descriptive statistics and non-parametric tests (Bahli, Borgman, Heier, & Schweski, 2013).

A total of 12 participants completed both survey rounds, more than sufficient for a Delphi study. Correlational analysis was conducted using Spearman's *Rho* resulting in noteworthy information, although a sample size of 30 or greater is recommended for quantitative analysis (Neil & Rasmussen, 2007). The data collected from the small sample size used for this study provides valuable information yet less than reliable results. This study was not reclassified as a quantitative or mixed-method study, although correlational analysis was conducted and statistically significant results were found (Beakley, 2015; Kirchner, 2014). The outcomes of this study are presented in Chapter 4 and discussed further in Chapter 5, along with recommendations for future research.

Summary

The purpose of this qualitative study with a modified Delphi research design was to understand the reasons HR leaders are slow to implement Cloud-Based Computing, common characteristics between effective HR leaders, and HR leaders experienced with successful implementation of Cloud-Based Computing, and discover how the implementation of Cloud-Based Computing may potentially affect HRM and organizational performance. Chapter 3 provided an explanation and justification of the appropriateness for selecting the methodology and research design for the study. This chapter contained an explanation regarding the conduction of the study, including the selection of the study participants and the data collection and data analysis processes. Chapter 3 also provided a description of the instrumentation, validity, reliability, and ethical considerations for ensuring privacy and confidentiality of study participants and data.

The gaps found during the literature review assisted with the formulation of the research questions for this study to address these gaps. Quantitative approaches require more data than currently available; therefore, a qualitative approach is appropriate. After reviewing various qualitative methods, the modified Delphi approach is the most appropriate method to answer the research questions. A modified Delphi research design was appropriate to gather data of subjective judgments, highly effective with small samples, flexible for modifications (Skulmoski et al., 2007), and suitable to identify, compare and contrast the success factors from the perspective of the HR leader. The modified Delphi was used to acquire input from informed participants by organizing

feedback obtained through questionnaires delivered through multiple iterations and revised based on the input from previous iterations.

SurveyMonkey® is a secure website where the collected data from the two Delphi rounds remained until the data analysis process begins. The data analysis process includes using Excel® and NVivo10® software to identify themes and subtle patterns, and using SPSS® for descriptive statistics and non-parametric tests. Chapter 4 will include the results of the data analysis obtained from the Delphi study.

Chapter 4

Results

The objective of this modified Delphi study was to obtain a deeper understanding of how a more rapid adoption of Cloud-Based Computing will potentially affect HR processes and outcomes. Chapter 1 included an examination of background information and the necessity for this study, a presentation of the research questions that guided this study, and overview of the conceptual framework. Chapter 2 included an examination of relevant literature about current research on HRM, Cloud-Based Computing in HR, and leadership. Chapter 3 detailed the appropriateness of the research method with participant criteria and overview of the methodology for this study. Chapter 4 includes details regarding the pilot study, participant recruitment, qualifying criteria, research design, and presentation of the data. This chapter provides the results from the two rounds of respondent surveys.

Review of the Purpose Statement and Research Questions

The purpose of this study was to examine how the adoption of Cloud-Based Computing affects HRM and organizational performance. This study served to gain a deeper understanding of the slow adoption of Cloud-Based Computing for efficiency of the HR function and how a more rapid adoption might affect HR processes and outcomes.

This modified Delphi study focused on attaining the opinions of informed HR participants via two rounds of surveys. The study was conducted to obtain data pertinent to answering the research questions that guided this study. Six research questions are

analyzed. The pilot assisted with validating the study questionnaires and ensuring the information captured aligned with answering the research questions.

Pilot Study

Pilot studies are a tool to determine the general effectiveness and validity of research instruments, and collection and analysis procedures. A pilot study was conducted with five panelists testing the effectiveness of the questionnaires. The data analysis results from the pilot study served as the foundation for creating the final questionnaires of the full-panel study. Five pilot participants met the selection criteria and were emailed Informed Consent forms 1 week prior to the Round 1 pilot study start date. An introduction letter to the pilot study was sent to all pilot participants upon receipt of a signed consent form. The introduction letter emphasized the need for their trusted feedback based on content, structure, phrasing, understanding, and ease of use.

The Round 1 questionnaire consisted of demographics questions, open-ended questions with free form answers, and multi-selection questions. Participants of the pilot study were afforded the opportunity to provide additional feedback at the end of each questionnaire via open format text box. Round 1 of the pilot study began on November 14, 2014 and concluded November 20, 2014. Due to a heavy holiday schedule at the end of November and throughout December, Round 2 of the pilot commenced January 7, 2015 and concluded on January 14, 2015. One pilot participant did not complete Round 2 and did not respond to email requests for completion.

Pilot Participant Demographics

Five participants were selected for the pilot. All participants expressed understanding the definition of Cloud-Based Computing. However, forty percent of pilot

participants indicated having no experience with Cloud-Based Computing in HR. Three participants were classified as individual contributors while two participants were classified at manager or executive level. The participant who dropped out of the Round 2 pilot survey was a female at the individual contributor level. Twenty percent of pilot participants expressed having six to nine years of HR experience and 80% with 10 years or more of HR experience. All pilot participants were based in the United States and worked for domestic organizations.

Pilot Study Findings

Feedback from the pilot resulted in minor verbiage changes, the deletion of one question, and vetting of three additional questions in the Round 1 questionnaire. Results from Round 2 of the pilot resulted in verbiage changes for better clarity of the questions. Two participants provided additional statements in the open comment field at the end of the Round 1 pilot survey. Pilot participant TCPS001 stated, “Security is a wild and big issue for everyone. That may be the biggest reason that companies hold back on implementing cloud.” Pilot participant TCPS003 stated, “Cloud-computing can have a strong impact on overall organizational performance and in creating greater productivity and efficiencies.” The consensus among pilot participants was the research questions were relevant and the study evoked ideas significant to the research topic and questions resulting in a successful pilot. Pilot participants did not receive a request to participate in the full-panel Delphi study. No major changes were required based on feedback from the pilot study. Since four panelists in the pilot completed both rounds of the Delphi study, the findings from the pilot are useful in corroborating the results of the full study; this is done in the triangulation section pertaining to data triangulation.

Sample Collection

The goal of the study was to obtain input from a panel of informed participants with a minimum of 5 years' experience in HR. Participants were recruited via topic-specific HR LinkedIn forums and Arizona-based HR groups. LinkedIn forums provide a community platform for individuals with common interests, professions, or affiliations. Permission was requested from each forum administrator (see Appendix B, Appendix C, & Appendix D). Each forum administrator provided permission to solicit study participants from within the forums. A digital post was submitted to each forum one time per week for three weeks prior to the start of Round 1 of the full-panel Delphi. A low response rate resulted in frequent postings, which kept the request at the top of the forum feed (see Table 1).

Table 1

First Responses Influenced by Signed Informed Consent Forms

Response Type	N	%
Responses to the requests for participants	17	n/a
Returned signed Informed Consent form	14	100
Participated in Round 1 of full-panel Delphi	14	100
Participated in Round 2 of full-panel Delphi	12	0.86

Note: Eighteen percent of initial participants elected not to proceed with participating after reading the letter of informed consent.

The additional visibility prompted requests for participation and a snowball affect extended reach to additional participants. Each participant request was vetted to ensure participants met selection criteria and participants were then emailed an Informed Consent form. Seventeen individual requests were received with 14 participants completing the Informed Consent form resulting in an 82% initial response rate.

Full-Panel Delphi Demographics

This section focuses on the demographic characteristics of the full-panel participants. All informed participants met the requirement of 5 years minimum HR experience. Fourteen individuals completed Round 1 of the full-panel Delphi with 12 participants completing Round 2 resulting in a 14% attrition rate. Participants who did not complete Round 2 provided permission for use of their data from the previous round. The study contained a high concentration of women participants, with 93% females and 62% of all participants with 10 or more years of HR experience. Table 2 illustrates the demographics of participant's experience and gender.

Table 2

Participant's Experience and Gender

Years of Experience	Gender	n	%
5 Years	Female	2	14
	Male	0	0
6 to 9 Years	Female	3	21
	Male	0	0
10 to 14 Years	Female	2	14
	Male	1	7
15+ Years	Female	6	44
	Male	0	0
Totals		14	100

Note: Only one male responded to, and participated in, the study.

All participants indicated having experience with electronic HR systems and were employed in a multitude of industries with 50% of participants in organizations established for 30 years or more. Twenty-one percent of participants worked for organizations with 10,000 or more employees. Industries of full-panel participants are included in Table 3.

Table 3

Industries of Full-Panel Participants

Industry Type	n	%
Education	3	21.44
Manufacturing	2	14.30
Construction	1	7.14
Consulting	1	7.14
Financial Services	1	7.14
Government	1	7.14
Healthcare	1	7.14
HR Recruiting & Screening	1	7.14
Social Services	1	7.14
Technology	1	7.14
Transportation	1	7.14
Totals	14	100.00

Data Collection

The study used a modified Delphi research design to assist with exploring the experiences and opinions of informed participants through iterative rounds of Likert-type scale survey information and open-ended, free-form text questions. SurveyMonkey® served as the channel for distributing study questionnaires and collecting data. The data collection process included two rounds of questionnaires in both the pilot and full-panel study. The pilot served to identify ambiguities in the questionnaire, solidify the data collection and analysis processes, and validate the questionnaire. Areas of focus for the study included HR leadership characteristics, leadership characteristics of HR leader's successfully implementing technology, technology implementation best practices in HR, and HR organizational performance factors with technology.

A total of 14 participants completed Round 1 of the study and 12 participants completed Round 2 that was above the minimum participants needed for this type of modified Delphi study. All initial participants received an Informed Consent form via

email (see Appendix E) and introduction letter (see Appendix H) upon completion of the pilot study. All informed participants met the criteria of 5 years minimum HR experience. Participants returned signed informed consent forms by fax and email. Each participant was sent an introduction letter with detailed information regarding the nature and purpose of the study, expected time commitment, the need for their honest opinion, and thanking them for participating.

Round 1 included 14 participants and the questionnaire consisted of 33 total questions in a combination of open-ended free form text answers and select closed-format multiple choice (see Appendix F). Fifteen questions related to demographic information about the participant and the target company being referenced by the participant to answer study questions. The remaining 18 questions related to identifying HR leadership characteristics, technology implementation best practices in HR, characteristics of HR leaders having successfully implemented technology, and the effect of technology to HR and organizational performance.

The data derived from the first iteration guided the formulation of the questionnaire used in the second iteration. Round 2 consisted of four questions on a 7-point Likert-type rating scale of probability and two questions on a 5-point Likert-type rating scale of importance (see Appendix G). Panelists ranked factors affecting implementation of Cloud-Based Computing, leadership characteristics, best practices for implementation, and factors affected by the implementation of Cloud-Based Computing. Ranking across all areas of study related to the research questions was complete; therefore, the second iteration was the final round. A third iteration would have

commenced if additional questions arose or ranking was unachievable in the second round.

Data Analysis

Data from Round 1 of the full-panel Delphi study were analyzed using NVivo10® and Excel®. The results were used to create the questionnaire format and questions, and determine ranking scales, for Round 2. The entire process took approximately two months longer than originally anticipated. Recruiting through LinkedIn forums required multiple posts at various points throughout the day in order to maintain visibility to the group. Delays occurred with holidays, obtaining signed Informed Consent forms and in providing gentle reminders to participants to complete questionnaires. Attrition is expected in any Delphi study and was experienced in both rounds (Davidson, 2013; Donohoe, 2011).

Fourteen participants responded to the Round 1 questionnaire. The same 14 participants received an email inviting them to participate in Round 2 of which 12 responded by completing the Round 2 questionnaire resulting in a 14% attrition rate. Rigorous qualitative research is suitable for discovering high-level concepts applicable to participants or settings (Polit & Beck, 2010). Thorough inductive analysis, combined with confirmatory strategies that require credibility of conclusions, assist qualitative researchers in building insightful, inductive conclusions (Polit & Beck, 2010).

Analysis of the data was rigorous. Rigorous qualitative research depends upon inclusion of credibility, confirmability, dependability, and transferability (Hasson & Keeney, 2011; Lincoln & Guba, 1985). Credibility refers to the internal validity of a study through triangulation (Neuman, 2009; Willis, 2007) by ensuring multiple

perspectives of an observed phenomenon (Willis, 2007; Lincoln & Guba, 1985). This study included participants of various HR experience levels, industry, function, and leadership. Confirmability refers to researcher objectivity and neutrality (Leedy & Ormrod, 2010) through data triangulation to ensure accurate and descriptive documentation. Survey questions within the study were strategically aligned with other questions to provide a slightly different perspective and confirm the participant's intent. Dependability refers to the stability of data and transparency in collection, analysis, and interpretations without ambiguity (Hasson & Keeney, 2011; Lincoln & Guba, 1985). Transferability refers to the applicability of study results (Christensen et al., 2011) attained when the sample closely represents the population (Salkind, 2003).

The thematic analysis involved progressively coding the data to uncover and verify themes while carefully preserving the integrity of the participant's opinions. Themes revealed during the data analysis included information directly related to the research questions for leadership characteristics, factors challenging and supporting Cloud-Based Computing, and best practices for implementing Cloud-Based Computing in HR. Interpretation of the data from Round 1 of the full-panel Delphi was important because meaning was derived as participants chose from options presented and provided open comments to elaborate on selections. Each of the participant's unique industry, level of HR experience and experience with technology in HR influenced the answers.

Round 1 analysis of comments included open coding to identify preliminary analytic categories (Neuman, 2006). Axial coding revealed category clusters with links to preliminary analytic categories (Neuman, 2006). Round 1 data were manually analyzed using Microsoft Excel® to find preliminary categories and themes and then

analyzed using NVivo10® to identify and verify additional themes, patterns, and word frequencies.

The Round 2 survey consisted of Likert-type scale questions requiring participants to rank responses based on likelihood or importance, with one question requesting percentage. The second round provided participants an opportunity to provide additional information or change responses leading to consensus and data saturation. A consensus was considered reached when a convergence of topics and themes was identified and new information was exhausted. Data were then analyzed using SPSS® to obtain descriptive statistics including minimum, maximum, mean, and standard deviation scores. This study obtained qualitative data including ranking of open-ended responses from Round 1 in Round 2. The minimum, maximum, and standard deviation obtained from Round 2 data provided agreement among participants and was further analyzed using Spearman's *Rho*. Correlational analysis resulted in statistically significant results implying the strength of relationships would increase with a larger sample size more representative of all HR leader's responses. The small sample size did not justify reclassification of the study to quantitative or mixed-methods and remains a qualitative study. Appendices Y, Z, AA, and AB display Spearman's *Rho* and statistical criteria of specified correlations. SPSS® was used to conduct correlational analysis and calculate descriptive statistics. Appendices K through X display data triangulation based on the two categories described. Although statistically significant results were found, limitations exist with use of the data requiring care when interpreting results due to confines of the study and small sample size.

Full-Panel Delphi Findings

The focus of this study was to examine how the adoption of Cloud-Based Computing potentially affects HRM and organizational performance. Two rounds of surveys were distributed. Round 1 consisted of open-ended questions to obtain data that were further refined in Round 2. The survey for Round 2 required participants to rank analyzed data obtained in Round 1 and the opportunity to expand on their previous responses until consensus was reached or data exhausted.

Round 1 Findings

The first round survey questions addressed each research question. Research Question 1 addressed in survey Questions 9, 17, 18, 19, and 20. Research Question 2 is addressed in survey Questions 24 and 27. Research Question 3 is addressed in survey Questions 25, 26, and 29. Research Question 4 is addressed in survey Questions 21, 22, and 23 with additional supportive information gathered from survey Questions 24 through 28. Research Question 5 is addressed in survey Questions 28 and 29. Research Question 6 is addressed in survey Question 28 with additional supportive information gathered in survey Questions 21 through 27, 30, 31, and 32.

The first section of the survey consisted of qualifying and demographic questions about the participant and the target company with which the participant had prolonged experience. Fourteen qualified participants responded to the Round 1 survey of which 93% were female and 62% had 10 years or more of HR experience and 100% had HR management experience and 50% with executive experience. All participants indicated having worked with electronic HR systems. Participants described electronic HR systems by process or system brand name where Table 4 displays the top five processes

most used in HR by function. Brand names mentioned included ADP, Kronos, PeopleSoft, AS400, Ascentis, Ceridian, FileMaker Pro, HireSystems, InfiniSource, Oracle, Paychex, Taleo, and Timeforce. Additional electronic processes included attendance, coaching, customer relationship management (CRM), employee relations, learning management systems (LMS), performance reviews, and screening.

Table 4

HR Processes Using Electronic Systems

HR Function	<i>f</i>	%
Recruiting	8	57
Payroll	7	50
Benefits	6	40
HRIS	6	40
Interviewing	5	36

The National Institute of Standards & Technology (NIST) defines Cloud Computing as, “a model for enabling ubiquitous, convenient, on-demand network access to a shared pool of configurable computing resources (e.g., networks, servers, storage, applications, and services), that can be rapidly provisioned and released with minimal management effort or service provider” (Grance & Mell, 2011). Three service models include Software-as-a-Service SaaS), Infrastructure-as-a-Service (IaaS), and Platform-as-a-Service (PaaS).

Participants in Round 1 indicated understanding the definition of Cloud Computing as defined by NIST. When asked with which Cloud-Based Computing systems participants had experience, items were listed by function and brand name including ADP, BLR Employer Resources, Cisco, SaaS, IaaS, PaaS, Paychex, PayCom, SAP, SuccessFactors, Ultimate Software, UltiPro, WorkDay, and Workforce Logic. Participants were asked which HR processes use on-site technology in question 17 and

which currently use Cloud-Based Computing in question 18. Table 5 reflects analysis results of participant responses to questions 17 and 18. On-site technology was used most often for Benefits, Hiring, Performance Management, and Training & Development, for 50% of participants while 57% used on-site technology for Hiring. Cloud-Based Computing for other, or undefined, HR processes for 50% of participants. The participants indicated Compensation/Payroll (43%), Time and Attendance (36%) were the following two HR process most used with Cloud-Based Computing.

Table 5

HR Processes Using Various Technologies

HR Process	Using On-Site Technology	% Using On-Site Technology	Using CBC	% Using CBC
Benefits	7	50	3	21
Compensation/Payroll	6	43	6	43
Diversity & Inclusion	4	29	0	0
Employee Labor Relations	5	36	0	0
Hiring	7	50	2	14
Onboarding	6	43	2	14
Performance Management	7	50	2	14
Performance Analytics	3	21	0	0
Recruiting	8	57	3	21
Screening/Interviewing	6	43	2	14
Time & Attendance	5	36	5	36
Training & Development	7	50	2	14
Workforce & Succession Planning	5	36	2	14
Other	2	14	7	50

Note. Items are bolded noting a majority of participants using a variety of technologies for HR processes.

Understanding the slow adoption of Cloud-Based Computing required insight to the current and planned use of Cloud-Based Computing for standard HR processes for the referred organizations to identify possible innovators, early adopters, and early majority.

Similar to results in Table 6, 43% of participants indicated Compensation/Payroll and Time & Attendance were the top two HR processes currently accessed using Cloud-Based Computing. Within one year, 36% of participants indicated Onboarding efforts would move to Cloud-Based Computing while 29% of participants indicated Benefits and Training & Development would use Cloud-Based Computing technologies within one year.

Table 6

HR Processes Moving to Cloud-Based Computing

HR Process	Currently Using	Within 1 Year	Within 5 Years	No Plans	Unknown	<i>n</i>
Benefits	3	4	0	3	4	14
Compensation/Payroll	6	3	0	3	2	14
Diversity & Inclusion	0	0	0	0	0	14
Employee Labor Relations	1	0	1	4	8	14
Hiring	2	2	1	5	4	14
Onboarding	1	5	1	4	3	14
Performance Management	2	2	1	5	4	14
Performance Analytics	1	1	1	4	7	14
Recruiting	2	3	0	5	4	14
Screening/Interviewing	2	3	0	5	4	14
Time & Attendance	6	2	0	3	3	14
Training & Development	1	4	3	3	3	14
Workforce & Succession Planning	1	2	2	4	5	14

Note. Items are bolded noting a majority of participants using or plan to be using Cloud-Based Computing.

Although Compensation/Payroll, Benefits, and Time & Attendance were the top HR processes currently using Cloud-Based Computing, or within one year, 50% of participants stated plans to use Cloud-Based Computing for Benefits unknown or none, 38% stated unknown or no plans for Compensation/Payroll and 43% indicated unknown or no plans for Time & Attendance. Performance Analytics, Diversity & Inclusion, and

Employee Labor Relations are the top three HR processes participants indicated were the least likely to use Cloud-Based Computing.

The topic of the next question focused on HR Processes currently in use via mobile devices (see Table 7). Benefits, Compensation/Payroll, and Recruiting were currently accessible via mobile by 14% of participants, while 7% of participants indicated Screening/Interviewing, Performance Management, Time & Attendance, and Training as currently used, mobile-accessible, HR processes.

Table 7

Currently Mobile Accessible HR Processes

HR Process	<i>f</i>	% Using
Benefits	2	14
Payroll	2	14
Recruiting	2	14
Screening/Interviewing	1	7
Performance Management	1	7
Time & Attendance	1	7
Training	1	7

The focus on leadership characteristics was a key consideration in identifying a difference between successful HR leaders and those HR leaders successfully implementing Cloud-Based Computing. For Question 21 participants listed 20 characteristics of successful HR leaders (see Table 8). Knowledge, including education and certification, was considered a top characteristic for 71% of participants. The ability to coach, motivate, and empower employees was a top characteristic for 64% of participants while 43% agreed Communication, the ability to be Strategic, and having Business Acumen were key characteristics of successful HR leaders. Remaining characteristics had 36% or less agreement among participants.

Table 8

HR Leadership Characteristics

Characteristic	<i>f</i>	% Agreed
Knowledgeable (Education/Certification)	10	71
Coaching/Motivating/Empowering	9	64
Communication	6	43
Strategic	6	43
Business Acumen	6	43
Integrity/Credibility	5	36
Open-Minded/Approachable	4	29
People Savvy/Interpersonal Skills	4	29
Analytical/Detailed	3	21
Initiative	3	21
Managing Vision & Purpose	3	21
Technology Savvy	3	21
Innovative/Resourceful	2	14
Project Management	2	14
Authenticity	1	7
Change Management	1	7
Confident	1	7
Dependable	1	7
Relationship Building	1	7
Time Management	1	7

Note. Items bolded reflect leading responses from participants.

For Question 22, participants were asked to list the top three characteristics that they believe contribute most to being a successful HR leader adopting Cloud-Based Computing using the list each participant created in question 21. For Question 23, participants were asked if there were any characteristics to add to the list. Participants shifted focus on top characteristics when considering successful adoption of Cloud-Based Computing and expanded the list when asked if additional characteristics should be added generating a list of 21 total characteristics. Table 9 is a combination of characteristics generated by participant data from Questions 22 and 23 that displays the list of characteristics with 57% stating Technology Savvy as the top characteristic. Forty-three

percent of participants rated the ability to be Strategic as a leading characteristic with 29% agreeing to Business Acumen and Communication. Remaining responses had 21% agreement or less.

Table 9

Characteristics of an HR Leader Successfully Implementing CBC

Characteristic	<i>f</i>	% Agreed
Technology Savvy	8	57
Strategic	6	43
Business Acumen	4	29
Communication	4	29
Analytical	3	21
Foresight/Innovative	3	21
People Savvy	3	21
Project & Change Management	3	21
Confident	2	14
Knowledgeable	2	14
Managerial Courage	2	14
Open-Minded	2	14
Operations Focused	2	14
Influencing	1	7
Problem Solver	1	7
Purpose Driven	1	7
Resourceful	1	7
Time Management	1	7
Training	1	7
Trustworthy	1	7
Dependable	1	7

Note. Items bolded reflect leading responses from participants.

For Question 24, participants listed reasons for the target company not implementing Cloud-Based Computing in HR to which participants generated a list of 13 reasons contributing to not implementing. Seventy-one percent of participants agreed Cost/Budget as the leading factor while 36% agreed aversion to change and lack of technology awareness as top contributing factors for not implementing Cloud-Based

Computing (Table 10). Security was a concern for 29% of participants and 21% agreed executive fear or unfamiliarity, lack of user skills, and sufficient legacy systems as contributing factors for non-implementation.

Table 10

Reasons for Not Implementing CBC at Target Company

Reasons	<i>f</i>	% Agreed
Cost/budget	10	71
Aversion to change	5	36
Lack of technology awareness	5	36
Security	4	29
Executive fear or unfamiliarity	3	21
Lack of user skill	3	21
Legacy systems function sufficiently	3	21
Limited staff & resources	2	14
Company culture	1	7
HR concerned for people not technology	1	7
Other higher priorities	1	7
Small company size	1	7
Time constraints	1	7

Question 25 of the Round 1 survey asked participants to list the top reasons Cloud-Based Computing was implemented at the target company. Accessibility and availability to the application and data were identified as the top reasons for supporting implementation. Although Budget/Cost was identified as the top reason the participant's target company had not implemented Cloud-Based Computing, 21% indicate Cost/Budget as a leading reason for implementation along with mobility of the application and data (Table 11). Remaining answers had 14% or less agreement among participants.

Table 11

Reasons Why CBC Was Implemented at Target Company

Reason	<i>f</i>	% Agreed
Accessibility & availability to application a	5	36
Budget/cost	3	21
Mobility of application and data	3	21
Business priority	2	14
Efficiency in productivity	2	14
Global expansion (business strategy)	2	14
Ability to implement a phased approach	1	7
Consistency of information	1	7
Encourage technology awareness and ability	1	7
Improved customer experience	1	7
Prioritizing specific HR processes per leadership	1	7
Security	1	7
Streamlining plants in multiple sites	1	7
Technical agility	1	7

Note. Items bolded reflect leading responses from participants.

In response to Question 26, 57% of participants agreed having change management and implementation plans contributed most to successful implementation of Cloud-Based Computing. Solid executive and technology support along with training were listed as success factors by 36% of participants. Additional factors included communication and vendor support (29%), security and understanding of the technology available (21%), followed by ease of use and having a solid business case (14%) as seen in Table 12.

Table 12

Factors Contributing to Successful CBC Implementation in HR

Success Factor	<i>f</i>	% Agreed
Change management plan	8	57
Implementation plan	8	57
IT support	5	36
Senior leadership support	5	36
Training	5	36
Communication	4	29
Vendor support	4	29
Security	3	21
Understanding of technology available	3	21
Ease of use	2	14
Solid business case	2	14
Cost effective	1	7
Metrics for success	1	7
Pressure from leadership	1	7
Scalability	1	7

Note. Items bolded reflect leading responses from participants.

Table 13 illustrates the results of Round 1, Question 27 with the factors identified by participants as challenging or limiting successful Cloud-Based Computing implementation. Fifty percent of participants indicate a lack of planning or scoping a Cloud-Based Computing project as the leading factor challenging implementation. The participants indicated lack of subject knowledge (43%), fear or close-mindedness (29%), ineffective training (29%), and lack of executive leadership support (29%) as leading factors hindering Cloud-Based Computing implementation in HR.

Table 13

Factors Challenging CBC Implementation in HR

Challenge Factors	<i>f</i>	% Agreed
Lack of planning/scoping	7	50
Lack of subject knowledge	6	43
Fear/close-minded	4	29
Ineffective training	4	29
Lack of executive leadership support	4	29
Resistant to change	3	21
Budget	2	14
Lack of vendor/support	2	14
Low employee adoption	2	14
Security	2	14
Company culture	1	7
Disaster recovery	1	7
Hidden fees/costs	1	7
Lack of internal IT support	1	7
Vendor selection	1	7

Note. Items bolded reflect leading responses from participants.

In Question 28 of Round 1, participants were asked to indicate best practices for implementing Cloud-Based Computing in HR. Table 14 presents the frequency and percentages of the collected best practices. Efficient training for end users was identified by 71% of participants followed by 57% stating that creating and understanding a clear implementation plan was a best practice and addressing security needs/concerns and conducting a detailed needs analysis with 29% of participants in agreement, respectively.

Table 14

Best Practices for Adopting CBC in HR

Best Practice	<i>f</i>	% Agreed
Efficient training for end users	10	71
Creating and understanding a clear implementation plan	8	57
Addressing security needs and concerns	4	29
Detailed needs analysis	4	29
Communication	2	14
Global scalability	2	14
Accessibility	1	7
All-in-one integration	1	7
Ample testing time	1	7
Buy-in from executive leadership	1	7
Commitment to long-term goal	1	7
Cost efficiency	1	7
Data accuracy	1	7
Feedback loop from end users	1	7
Hire a professional consultant	1	7
Identify super users	1	7
Innovation awareness	1	7
Involve business operations leaders	1	7
Project management streams	1	7
Service level agreements with vendor	1	7
Teaching executive leadership CBC basics	1	7
Utilization metrics	1	7

Note. Items bolded reflect leading responses from participants.

In Round 1, Question 29 participants were asked to indicate the effect of Cloud-Based Computing on the specified factors. Table 15 shows how participants rated each factor based on a five-point scale from no effect to critical effect. Seventy-four percent of participants agreed Cloud-Based Computing has a low to no effect on Absenteeism. A moderate effect by Cloud-Based Computing in HR has an effect on employee retention (57%) and general employee performance (50%). However, participants agreed Cloud-Based Computing in HR has high to critical effect on cost (71%) and time efficiency

(71%), the HR individual's performance (57%), overall HR department performance (71%), and overall organizational performance (71%).

Table 15

The Effect of CBC on the Following Factors:

Factor	None	Low	Moderate	High	Critical
Absenteeism	4	6	4	0	0
Employee retention	2	3	8	1	0
Cost efficiency	0	0	4	5	5
Time efficiency	0	0	4	5	5
General employee performance	1	3	7	3	0
HR individual's performance	1	1	4	5	3
Overall HR department's performance	0	1	3	5	5
Overall organizational performance	0	1	3	7	3

Note. Bold indicates a majority selecting high or critical effect on select factors.

Table 16 displays descriptive statistics of the participant's responses. The average response for cost and time efficiency was 4.07 with a small standard deviation (*SD*) of .80 with 29% of participants on the lower end of the scale and 71% expressing that Cloud-Based Computing had high to critical impact. The average response for effect on the overall HR department's performance was 4.00 with .93 standard deviation. The effect of Cloud-Based Computing on overall organizational performance was found high to critical with a mean of 3.86 and standard deviation of .83. Seven percent of participants disagreed while 21% found CBC to have a moderate effect on organizational performance.

Table 16

Descriptive Statistics for the Effect of CBC on the Following Factors:

Factor	<i>n</i>	Min.	Max	<i>M</i>	<i>SD</i>
Absenteeism	14	1	3	2.00	0.76
Employee retention	14	1	4	2.57	0.82
Cost efficiency	14	3	5	4.07	0.80
Time efficiency	14	3	5	4.07	0.80
General employee performance	14	1	4	2.86	0.83
HR individual's performance	14	1	5	3.57	1.12
Overall HR department's performance	14	2	5	4.00	0.93
Overall organizational performance	14	2	5	3.86	0.83

Note. Bold indicates a majority selecting high or critical effect on select factors.

Round 1, Questions 30, 31, and 32 attempted to gather information from participants for better understanding of customized and successfully implemented Human Resource Technology Systems (HRTS). Question 30 asked participants what percentages of off-the-shelf HRTS were customized, in their experience. The range of responses spanned 85 points with a mean of 37.73 for minimally customized HRTS. Moderately customized HRTS responses ranged 70 points with a mean of 29.93 and HRTS with significant modifications ranged 80 points with a mean of 41.36. Based on the means, a higher percentage of HRTS with significant modifications were experienced (see Table 17).

Table 17

Descriptive Statistics for the percentage of customized off-the-shelf HRTS:

HRTS Customization Factor	<i>n</i>	Range	Min	Max	<i>M</i>
Very little customization (10% or less is customized)	11	85	5	90	37.73
Some modification (25% or less is customized)	13	70	5	75	29.23
Significant modification (more than 25% is customized)	12	80	5	85	41.36

Question 31 asked participants to indicate the percentage of customized HRTS successfully implemented. The range of responses spanned 85 points with a mean of

38.18 for minimally customized HRTS. Moderately customized HRTS responses ranged 70 points with a mean of 32.27 and HRTS with significant modifications ranged 80 points with a mean of 48.33 (see Table 18). Based on the means, a higher percentage of HRTS with significant modifications were successfully implemented.

Table 18

Descriptive Statistics for the percentage of customized HRTS successfully implemented:

HRTS Implementation Factor	<i>n</i>	Range	Min	Max	<i>M</i>
Very little customization (10% or less is customized)	11	85	5	90	38.18
Some modification (25% or less is customized)	11	70	5	80	32.27
Significant modification (more than 25% is customized)	12	80	5	85	48.33

Question 32 asked participants to indicate what percentage of Cloud-Based Computing systems are successfully implemented at the respective target company. Fifty-seven percent of participants had experience with implementation of Cloud-Based Computing at the target company with a mean of 62.5 successfully implemented (see Table 19). Figure 5 represents the individual participant responses displaying the span between percentages of successfully implemented Cloud-Based Computing Systems.

Table 19

The percentage of Cloud-Based Computing systems successfully implemented:

HRTS Factor	<i>n</i>	Range	Min	Max	<i>M</i>
Cloud-Based Computing HRTS successfully implemented	8	90	20	90	62.50

Participants were provided a free form comment section at the end of the Round 1 survey where two participants offered additional information. Participant TCFDS007 stated, “There is a lack of technological understanding regarding using cloud based HR systems within the HR world.” Participant TCFDS010 stated, “We are in a four year phased project of moving HRIS to cloud based in partnership with Oracle People Soft.”

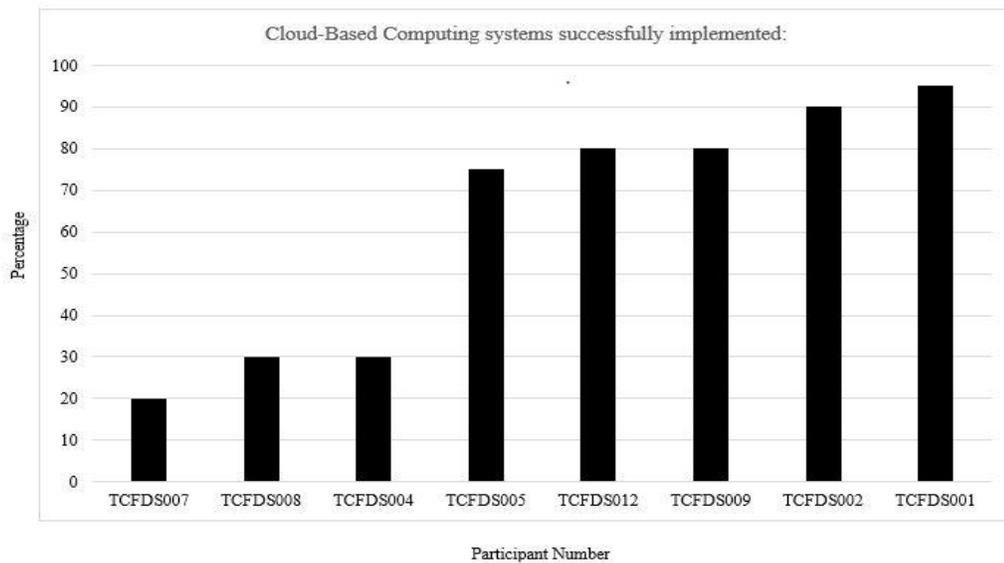


Figure 5. Histogram Representation of Individual Participant Responses. Responses included from eight respondents with four non-responses.

Round 2 Findings

Round 2 of the Delphi study began shortly after data from Round 1 was analyzed using NVivo10® and Microsoft Excel®. The results from Round 1 were used to create the survey questions and determine the 7-point and 5-point Likert-type rating scales for Round 2. The same 14 participants received an introduction letter with as an invitation with instructions to complete Round 2. Of the initial 14 participants, 12 completed the Round 2 survey. Each Round 2 survey question was built to answer the guiding research questions. Research Question 1 is addressed in survey Question 9. Research Question 2 is addressed in survey Questions 2 and 5. Research Question 3 is addressed in survey Question 9 with supportive information from Question 3. Research Question 4 is addressed in survey Questions 7 and 8 with supportive information gather from survey Question 9. Research Question 5 is addressed in survey Question 9. Research Question 6 is addressed in survey Questions 6, 7, 8, and 9 with supportive information gathered from survey Questions 3 and 4.

The purpose of survey Question 1 of the Round 2 survey was to collect the participant's individual code. Data analysis from Round 1 generated a list of 14 reasons for non-implementation of Cloud-Based Computing in HR. Table 20 illustrates the results from Question 2, responses rating the probability of the accompanying reasons for not implementing Cloud-Based Computing at the participant's respective target company, frequency from data analysis in Round 1 (n), and analyzed using mean, minimum, maximum, and standard deviation. Appendix K (Table 28) and Appendix L (Table 29) display a comparison of means broken down by years the target company has been in business and years of management experience for each participant, respectively. Outlier's two standard deviations from the mean occurred with participants in a target company of 21 to 25 years in business and with participants 10 to 14 years of management experience and over 15 years of management experience.

Table 20

Reasons for Not Implementing Cloud-Based Computing in HR

Reasons	<i>f</i>	Min.	Max.	<i>M</i>	<i>SD</i>
Q2a Cost/budget	9	4	7	5.50	1.09
Q2k Limited staff & resources	1	2	7	4.58	1.68
Q2l Other priorities rank higher	1	2	7	4.42	1.73
Q2b Lack of technology awareness	5	3	7	4.17	1.27
Q2e Executive fear/unfamiliarity	3	3	6	4.08	1.24
Q2d Aversion to change	5	2	7	3.92	1.62
Q2m Outsourcing HR processes	1	1	7	3.67	1.97
Q2i Company culture	1	1	6	3.58	1.17
Q2f Legacy systems function sufficiently	3	1	7	3.58	1.78
Q2n Small company size	1	1	7	3.58	2.07
Q2c Security	4	1	6	3.42	1.38
Q2h HR processes not defined	1	2	5	3.33	0.99
Q2j HR concerned about people and not technology	1	1	5	3.08	1.17
Q2g Lack of user skill	3	1	4	3.08	0.79

Note. Items are bolded noting a majority of participant agreement. *f* = frequency of the item from Round 1.

A list of 14 reasons for implementing Cloud-Based Computing in HR at the respective target organizations was generated during analysis in Round 1. Table 21 illustrates the results of Round 2, Question 3 where participants rated the probability of the reasons for implementing Cloud-Based Computing, frequency from Round 1, and analyzed using mean, minimum, maximum, and standard deviation. Appendix M (Table 30) and Appendix N (Table 31) display a comparison of means broken down by years the target company has been in business and years of management experience for each participant, respectively. Outlier's two standard deviations from the mean occurred with participants in a target company of 21 to 25 years in business and with participants 10 to 14 years of management experience and over 15 years of management experience.

Table 21

Reasons for Implementing Cloud-Based Computing in HR

Reasons	<i>f</i>	Min.	Max.	<i>M</i>	<i>SD</i>
Q3a Accessibility/availability to application and data	5	4	6	5.17	0.94
Q3e Efficiency in productivity	2	4	7	4.92	1.00
Prioritizing specific HR processes as dictated by					
Q3k company and leadership	1	3	7	4.83	1.27
Q3m Streamlining multiple company sites	1	1	7	4.75	1.82
Q3i Improved customer experience	1	4	6	4.67	0.79
Q3c Mobility of application and data	3	3	7	4.67	1.07
Q3g Consistency of information	1	2	7	4.50	1.31
Q3n Technical agility	1	3	6	4.42	0.90
Q3b Budget/cost	3	3	6	4.25	1.22
Q3j Ability to implement a phased approach	1	2	6	4.17	1.12
Q3l Security	1	2	7	4.08	1.31
Q3d Business priority	2	2	6	3.92	1.17
Q3h Encourage technology awareness & ability	1	1	5	3.83	1.19
Q3f Global expansion as a business strategy	2	1	6	3.50	1.62

Note. Items are bolded noting a majority of participant agreement. *f* = frequency of the item from Round 1.

In Question 4, participants were allowed to indicate which best practices contributed to the successful implementation of Cloud-Based Computing in HR. Data

analysis of Round 1 responses generated a list of best practices. Participants rated the probability of these factors contributing to successful implementation of Cloud-Based Computing. Table 22 illustrates the frequency of each factor from Round 1, and analyzed using mean, minimum, maximum, and standard deviation. Appendix O (Table 32) and Appendix P (Table 33) display a comparison of means broken down by years the target company has been in business and years of management experience for each participant, respectively. Outliers, two standard deviations from the mean, occurred with participants in a target company of 11 to 15 years in business.

Table 22

Likelihood of Factors in Contributing to Successful Implementation of Cloud-Based Computing:

Success Factors	<i>f</i>	Min.	Max.	<i>M</i>	<i>SD</i>
Q4e Communication	4	4	7	6.50	0.91
Q4d Training	5	4	7	6.42	0.90
Q4f IT support	4	4	7	6.33	0.89
Q4b Implementation plan	7	4	7	6.08	1.08
Q4c Senior leadership support	5	4	7	6.00	1.13
Q4l Cost effective	1	4	7	5.92	1.17
Q4j Ease of use	2	4	7	5.83	1.19
Q4a Change management plan	8	3	7	5.75	1.42
Q4m Metrics for success	1	4	7	5.67	1.44
Q4g Security	3	4	7	5.67	1.07
Q4i Vendor Support	3	4	7	5.67	1.16
Q4k Solid business case	2	4	7	5.50	1.31
Q4h Understanding of technology available	3	4	7	5.42	1.00
Q4o Scalability	1	3	7	5.00	1.35
Q4n Pressure from leadership	1	3	7	4.75	1.49

Note. Items are bolded noting a majority of participant agreement. *f* = frequency of the item from Round 1.

Question 5 of Round 2 allowed participants to rate the probability of factors challenging the implementation of Cloud-Based Computing in HR. Round 1 data analysis generated a list of factors. Table 23 illustrates the frequency results from Round

1, and analyzed using mean, minimum, maximum, and standard deviation. Appendix Q (Table 34) and Appendix R (Table 35) display a comparison of means broken down by years the target company has been in business and years of management experience for each participant, respectively. No significant outliers from the mean occurred.

Table 23

Likelihood of Factors Challenging Successful Implementation of Cloud-Based Computing:

Challenging Factors	<i>f</i>	Min.	Max.	<i>M</i>	<i>SD</i>
Q5a Lack of planning	7	3	7	5.67	1.58
Q5f Budget	2	4	7	5.33	1.30
Q5d Ineffective training	4	3	7	5.25	1.49
Q5b Lack of subject knowledge	6	3	7	5.25	1.49
Q5m Hidden fees/costs	1	3	7	5.17	1.47
Q5e Lack of executive leadership support	3	1	7	5.08	1.88
Q5n Lack of internal IT support	1	4	7	5.00	1.21
Q5g Lack of vendor support	2	3	7	4.83	1.19
Q5o Vendor selection	1	3	7	4.67	1.16
Q5c Fear/close-minded	4	2	7	4.50	1.57
Q5l Disaster recovery	1	2	7	4.42	1.56
Q5h Low employee adoption	2	2	7	4.42	1.56
Q5j Security	2	3	7	4.42	1.24
Q5i Resistant to change	2	2	7	4.17	1.40
Q5k Company culture	1	2	7	4.08	1.31

Note. Items are bolded noting a majority of participant agreement. *f* = frequency of the item from Round 1.

Round 1 data analysis generated a list of best practices for successfully implementing Cloud-Based Computing in HR. Question 6 in Round 2 allowed participants to rate the importance of each best practice. Table 24 exhibits the frequency of each best practice from Round 1, and analyzed using mean, minimum, maximum, and standard deviation. Appendix S (Table 36) and Appendix T (Table 37) display a comparison of means broken down by years the target company has been in business and years of management experience for each participant, respectively. Outlier's two

standard deviations from the mean occurred with participants in a target company of less than 5 years in business.

Table 24

Importance of Best Practices for Successfully Implementing Cloud-Based Computing:

Best Practices	<i>f</i>	Min.	Max.	<i>M</i>	<i>SD</i>
Q6a Create & follow a comprehensive implementation plan	11	3	5	4.50	0.80
Q6f Create a communication plan	2	3	5	4.50	0.67
Q6b Training plan for all end users	9	3	5	4.50	0.67
Q6k Implement feedback loop for ongoing improvements	1	3	5	4.17	0.72
Q6e Leadership buy-in & support	3	2	5	4.17	1.03
Q6c Address data security (access/accuracy/backup)	6	2	5	4.08	1.00
Q6d Conduct detailed needs analysis	5	2	5	4.08	1.00
Q6i Cost efficiency	1	2	5	3.83	1.03
Q6g Ensure scalability	2	2	5	3.83	0.94
Q6l Solution should fit company culture and needs	1	1	5	3.83	1.47
Q6h All-in-one integration	1	1	5	3.50	1.38
Q6j Hire a professional consultant	1	1	5	2.58	1.51

Note. Items are bolded noting a majority of participant agreement. *f* = frequency of the item from Round 1.

In Round 1, participants provided a list of leadership characteristics indicative of a successful HR leader and an HR leader successfully implementing Cloud-Based Computing. Data analysis from Round 1 generated lists where participants rated the importance of each characteristic in Questions 7 and 8, Round 2. Tables 25 and 26 display the frequency of each characteristic from Round 1, and analyzed using minimum, maximum, mean, and standard deviation. Appendix U (Table 38), Appendix V (Table 39), Appendix W (Table 40), and Appendix X (Table 41) display a comparison of means broken down by years the target company has been in business and years of management experience for each participant, respectively. No significant outliers from the mean occurred.

Table 25

Importance of Characteristics Indicative of a Successful HR Leader:

Characteristics	<i>f</i>	Min.	Max.	<i>M</i>	<i>SD</i>
Q7d Communication	5	4	5	4.83	0.39
Q7e Integrity/credibility	5	4	5	4.83	0.39
Q7a Knowledgeable (education/certification)	9	3	5	4.67	0.65
Q7b Coaching/empowering/influencing	9	4	5	4.58	0.52
Q7f Adaptability/flexibility	4	4	5	4.50	0.52
Q7c Strategic	6	2	5	4.50	1.00
Q7h Open-minded/approachable	4	4	5	4.42	0.52
Q7i People savvy/interpersonal skills	4	3	5	4.42	0.67
Q7r Relationship building	1	3	5	4.33	0.79
Q7g Business acumen	4	3	5	4.17	0.72
Q7q Confident	1	3	5	4.17	0.94
Q7o Initiative	2	3	5	4.00	0.74
Q7j Analytical/detail-oriented	3	3	5	3.92	0.69
Q7s Time management	1	2	5	3.83	0.84
Q7k Compassionate	3	2	5	3.75	1.22
Q7l Managing vision & purpose	3	2	5	3.75	0.97
Q7m Project/change management	3	2	5	3.67	0.89
Q7p Innovative/foresight	2	2	5	3.50	0.91
Q7n Technology Savvy	3	2	4	3.25	0.75

Note. Items are bolded noting a majority of participant agreement. *f* = frequency of the item from Round 1.

Table 26

Importance of Characteristics Indicative of a Successful HR Leader Successfully Implementing Cloud-Based Computing:

Characteristics	<i>f</i>	Min.	Max.	<i>M</i>	<i>SD</i>
Q8g Communication	3	4	5	4.58	0.52
Q8o Integrity/credibility	1	2	5	4.25	0.97
Q8r Time management	1	3	5	4.17	0.58
Q8q Problem solver	1	3	5	4.08	0.52
Q8i Project/change management	3	2	5	4.08	1.00
Q8f Analytical/detail-oriented	3	3	5	4.00	0.74
Q8k Confident	2	2	5	4.00	1.05
Q8e Innovative/foresight	4	3	5	4.00	0.74
Q8c Strategic	6	2	5	4.00	0.74
Q8d Adaptability/flexibility	5	3	5	3.92	0.52
Q8h People savvy	3	2	5	3.92	1.08
Q8j Coaching/empowering/influencing	2	2	5	3.83	0.84
Q8m Managerial courage	2	1	5	3.83	1.03
Q8b Business acumen	6	2	5	3.75	0.75
Q8l Knowledgeable (education/certification)	2	2	5	3.75	0.97
Q8n Open-minded/approachable	2	2	5	3.75	1.22
Q8a Tech Savvy	8	2	4	3.67	0.65
Q8p Managing vision and purpose	1	2	5	3.58	1.08

Note. Items are bolded noting a majority of participant agreement. *f* = frequency of the item from Round 1.

Question 9 of Round 2 asked participants to identify a percentage Cloud-Based Computing contributes to improving a list of select outcomes. Table 27 displays the list of outcomes analyzed with minimum, maximum, and mean.

Table 27

Percentage Cloud-Based Computing Contributes to the Following Outcomes:

Outcome	Min.	Max.	<i>M</i>
Absenteeism	0	75	22.50
Cost efficiency	20	20	55.83
Time efficiency	10	10	53.33
Employee performance	5	5	42.50
Individual HR employee performance	1	1	54.25
Overall HR department performance	2	2	61.83
Overall organizational performance	2	2	56.00

Responding to the Research Questions

This study was guided by six research questions answered through a series of two rounds of surveys and distributed to 14 participants. The general problem is the slow adoption of Cloud-Based Computing for efficiency in HR. The specific problem is that the literature does not provide with clarity how a more rapid adoption of Cloud-Based Computing will affect HR processes. The purpose of this study was to examine how the adoption of Cloud-Based Computing potentially affects HRM and organizational performance. The research questions were created to address key factors of leadership in HR, best practices for Cloud-Based Computing adoption, and the perceived effect of HR on organizational performance as it relates to the adoption and use of Cloud-Based Computing. The research questions guiding the study are:

RQ1: What are the Cloud-Based Computing tools that appear to be most effective for Human Resources?

RQ2: What are the impediments to adoption of Cloud-Based Computing in Human Resources?

RQ3: How does successful Cloud-Based Computing affect the performance of HRM?

RQ4: What leadership traits of successful Cloud-Based Computing adopters also contribute to HR performance?

RQ5: How does HR contribute to the overall performance of an organization?

RQ6: What are the implications of best practices in Cloud-Based Computing adoption within HR and to general leadership theory?

This study produced results that answered the research questions. Each research question is addressed with those results in the following sections.

Research Question 1 Analysis and Data Triangulation

The first research question asked, “What are the Cloud-Based Computing tools that appear to be most effective for Human Resources?” Participants indicated having experience using electronic systems for recruiting (57%), payroll (50%), benefits (40%), HRIS (40%), and interviewing (36%). On-site technology is currently used for recruiting (57%), benefits, hiring, performance management, and training and development (50%), and compensation/payroll, onboarding, and screening/interviewing (43%). Cloud-Based Computing is currently used for 50% of participants for undefined HR processes with compensation/payroll (43%), and time and attendance (36%) as the following two HR process most used with Cloud-Based Computing. Participants indicated respective target companies had plans to move to Cloud-Based Computing in the next year for onboarding (36%), training and development, and benefits (29%). Recruiting,

screening/interviewing, and compensation (21%) were listed as the next top priorities for change to Cloud-Based Computing within the next year.

Pilot participants indicated having experience using electronic systems for HRIS (80%) and recruiting (40%). Additionally, pilot participants indicated using on-site technology for recruiting, screening, and hiring while Cloud-Based Computing was most used for compensation/payroll, screening/interviewing, and training and development.

Research Question 2 Analysis and Data Triangulation

Research Question 2 asked, “What are the impediments to adoption of Cloud-Based Computing in Human Resources?” Questions 24 and 27 in Round 1 addressed this research question through open-ended questions. Responses generated a list of factors impeding adoption of Cloud-Based Computing at the respective target companies. Table 10 displays the list generated of reasons for not implementing Cloud-Based Computing in HR. The top 50% of responses include cost/budget, aversion to change, lack of technology awareness, security, executive fear or unfamiliarity, lack of user skill, and legacy systems function sufficiently. Table 13 displays a list of factors challenging the implementation of Cloud-Based Computing in HR at the respective companies. Responses with the most frequencies include lack of planning/scoping, lack of subject knowledge, fear/close-minded, ineffective training, lack of executive leadership support, and resistant to change.

Table 20 displays Round 2 responses where participants collectively identified cost/budget can impede the adoption of Cloud-Based Computing with a mean (*M*) of 5.50 on a 7-point Likert-type scale and standard deviation (*SD*) of 1.09. The next highest scored items include limited staff and resources with a mean of 4.58 and standard

deviation of 1.68, and other undefined organizational priorities ranking higher with a mean of 4.42 and standard deviation of 1.73. Lack of technology awareness ($M = 4.17$) and executive fear/unfamiliarity ($M = 4.08$) were also prominently listed as impediments.

The participants listed lack of planning ($M = 5.67$), budget ($M = 5.33$), ineffective training ($M = 5.25$), lack of subject knowledge ($M = 5.36$), hidden fees/costs ($M = 5.17$), lack of executive leadership support ($M = 5.08$), and lack of internal IT support ($M = 5.00$) as factors challenging the successful implementation of Cloud-Based Computing. Individual outliers occurred with participants within organizations in business between 21 to 25 years and participants with 10 or more years of management experience with standard deviation 1.25+/- than the overall standard deviation (see Appendices K & L). The high mean scores for cost/budget, limited staff and resources, and having other organizational priorities indicate the likely impediments for adoption of Cloud-Based Computing. Interestingly, lack of planning, budget, and ineffective training are identified as factors challenging successful implementation, two of which support the top three key impediments.

Appendix Y (Table 42) displays the correlation between reasons for not implementing Cloud-Based Computing and factors challenging implementation of Cloud-Based Computing. Spearman's Rho is presented where r_s = Spearman's Rho, and p = statistical criteria. Statistical significance was found between other priorities ranking higher and fear/close-minded ($r_s = .888, p = <.01$), and between limited staff and resources, and lack of vendor support ($r_s = .865, p = <.01$), lack of subject knowledge ($r_s = .864, p = <.01$), fear/close-minded ($r_s = .844, p = <.01$), and resistance to change ($r_s = .840, p = <.01$). Significant correlations were found between cost/budget and lack of

vendor support ($r_s = .860, p = <.01$), and between lack of technical awareness and fear/close-minded ($r_s = .823, p = <.01$). Additional significant correlations are reported between reasons for not implementing Cloud-Based Computing and characteristics of a successful HR leader (see Appendix Z, Table 43).

Research Question 3 Analysis and Data Triangulation

Research Question 3 asked, “How does successful Cloud-Based Computing affect the performance of HRM?” Questions 25, 26 and 29 in Round 1 addressed this research question through open-ended questions. Responses generated a list of reasons why Cloud-Based Computing was implemented at the respective target companies. Table 11 displays the list with the leading responses including accessibility and availability to application and data, budget/cost, and mobility of application and data. Table 12 displays a list of factors contributing to the successful implementation of Cloud-Based Computing in HR with the leading factors consisting of change management plan, implementation plan, IT support, senior leadership support, and training. Tables 15 and 16 display the effect of Cloud-Based Computing with high to critical effect on cost efficiency, time efficiency, HR individual’s performance, overall HR department performance, and organizational performance.

In Round 2, Table 30 displays responses where participants indicated Cloud-Based Computing contributed to increasing time and cost efficiency with a mean of 4.07 and standard deviation of .80, respectively, by an average of 52.73%. The next highest rated areas of contribution by HRM with Cloud-Based Computing include overall HR department performance with a mean of 4.0 ($SD = .93$), overall organizational performance with a mean of 3.86 ($SD = .83$), and HR individual performance with a

mean of 3.57 ($SD = 1.12$). The reasons for implementing Cloud-Based Computing for the increased performance in HRM (Table 21) include accessibility/availability to applications and data ($M = 5.17, SD = .94$), efficiency in productivity ($M = 4.92, SD = 1.00$), prioritizing specific HR processes as dictated by company and leadership ($M = 4.83, SD = 1.27$), and streamlining multiple company sites ($M = 4.75, SD = 4.75$). Improved customer experience ($SD = .79$) and mobility of application and data ($SD = 1.07$) had a mean of 4.67, respectively.

Research Question 4 Analysis and Data Triangulation

Research Question 4 asked, “What leadership traits of successful Cloud-Based Computing adopters also contribute to HR performance?” Table 8 displays a list of 19 characteristics indicative of a successful HR leader generated during Round 1 analysis. The leading characteristics include knowledgeable (education/certification), coaching/motivating/empowering, communication, strategic, business acumen, integrity/credibility, open-minded/approachable, and people savvy/interpersonal skills. Table 9 displays a second list of 18 characteristics of an HR Leader successfully implementing Cloud-Based Computing also generated during Round 1 analysis. The leading characteristics include technology savvy, strategic, business acumen, communication, analytical, foresight/innovative, people savvy, and project and change management.

In Round 2, participants used a 5-point Likert-type scale to rate the importance of characteristics indicative of a successful HR leader (Table 25) and of an HR leader successfully implementing Cloud-Based Computing (Table 26). The leading five characteristics of a successful HR leader include communication, integrity/credibility,

knowledgeable (education/certification), coaching/empowering/influencing, and adaptability/flexibility. The leading five characteristics of an HR leader successfully implementing Cloud-Based Computing include communication, integrity/credibility, time management, problem solver, and project/change management. Appendix AC displays a full comparison of participants' answers between the two lists of characteristics. The top five common characteristics between the two include communication ($M = 4.58$, $SD = .52$), integrity/credibility ($M = 4.25$, $SD = .97$), time management ($M = 4.17$, $SD = .58$), problem solver ($M = 4.08$, $SD = .52$), and project/change management ($M = 4.08$, $SD = 1.00$). The low standard deviation indicates a high level of agreement between participants.

Research Question 5 Analysis and Data Triangulation

Research Question 5 asks, "How does HR contribute to the overall performance of the organization?" Questions 28 and 29 in Round 1 addressed this research question through open-ended questions. Responses from Question 28 generated a list of best practices for adopting Cloud-Based Computing in HR. Table 14 displays the list of best practices generated during Round 1 analysis with the leading practices including efficient training for end users, creating and understanding a clear implementation plan, addressing security needs and concerns, and conducting a detailed needs analysis. Tables 18 and 19 display the effect of Cloud-Based Computing on select HR and organizational factors indicating high to critical effect on cost efficiency, time efficiency, HR individual's performance, overall HR department performance, and overall organizational performance.

In Round 2 participants were asked to rate the effect on select factors using a 5-point Likert-type scale. Participants identified Cloud-Based Computing in HR affected organizational performance ($M = 3.86$) through cost efficiency ($M = 4.07$), time efficiency ($M = 4.07$), overall HR department performance ($M = 4.00$), general employee performance ($M = 2.86$), and employee retention ($M = 2.57$). Participants rated reasons for implementing Cloud-based Computing in HR on a 7-point Likert-type scale of importance as increased accessibility and availability to applications and data ($M = 5.18$), efficiency of productivity ($M = 4.91$), mobility of application and data ($M = 4.64$), and budget/cost ($M = 4.18$).

Research Question 6 Analysis and Data Triangulation

Research Question 6 asked, “What are the implications of best practices in Cloud-Based Computing adoption within HR and general leadership theory?” Traditional Transformational leaders inspire followers towards realizing common goals (Wren, 1995), however Chen, Lin, Lin, and McDonough (2012) found transformational leadership positively influences technological innovation. Research Question 6 sought to identify possible links between characteristics between transformational leaders in HR as drivers of best practices for implementing Cloud-Based Computing. Question 28 (Table 17) regarding best practices for adopting Cloud-Based Computing in HR. Questions 21 (Table 8) and 22 (Table 9) address the leadership component of RQ6.

In Round 2 participants were asked to rate the importance of best practices for successfully implementing Cloud-Based Computing (Table 24). Descriptive statistics results show best practices for successfully implementing Cloud-Based Computing include creating and following a comprehensive implementation plan ($M = 4.50$, $SD =$

.80), creating a communication plan ($M = 4.50, SD = .67$), training plan for all end users ($M = 4.50, SD = .67$), implementing a feedback loop for ongoing improvements ($M = 4.17, SD = .72$), leadership buy-in and support ($M = 4.17, SD = 1.03$), addressing data security, and conducting detailed needs analysis ($M = 4.08, SD = 1.00$). Participants identified important HR leadership characteristics in Table 25 and HR leadership characteristics for successfully implementing Cloud-Based Computing are displayed in Table 26 as communication ($M = 4.58, SD = .52$), integrity/credibility ($M = 4.25, SD = .97$), time management ($M = 4.17, SD = .58$), problem solver ($M = 4.08, SD = .52$), and project and change management ($M = 4.08, SD = 1.00$).

Appendix AA (Table 44) displays the correlation between best practices for implementing Cloud-Based Computing and characteristics of an HR leader successfully implementing Cloud-Based Computing. Statistical significance was found between having a training plan for all end users and innovative/foresight ($r_s = .740, p = <.01$), and between all-in-one integration and open-minded/approachable ($r_s = .844, p = <.01$). Additional significant correlations are reported between factors contributing to successful implementation of Cloud-Based Computing and best practices for successfully implementing Cloud-Based Computing in HR (see Appendix AB, Table 45) and between reasons for not implementing Cloud-Based Computing and characteristics of a successful HR leader (see Appendix Z, Table 43).

Chapter Summary

Chapter 4 presented the data comprised from two rounds of this Delphi study. A pilot study was conducted with five participants to test SurveyMonkey® as the distribution instrument, validate the survey, and to ensure accuracy, reliability, and

anonymity of participants. Fourteen participants shared their informed opinions through Round 1 of the full-panel Delphi via open-ended and Likert-type scale questions. The results from Round 1 were analyzed and used to create the survey for Round 2. Round 2 consisted of Likert-type scale questions and attrition of three participants was experienced resulting in 12 active participants. Two rounds of surveys were needed to reveal sufficient information before repetitive data were obtained.

The objective of this Delphi study was to obtain a deeper understanding on how the adoption of Cloud-Based Computing affects HRM and organizational performance by addressing the six research questions guiding this study. The results revealed data necessary to answer the Research Questions. Participant's insights included identification of HR processes most effective with Cloud-Based Computing, key leadership traits of HR leaders implementing Cloud-Based Computing, impediments to successful implementation of, and best practices for, successfully implementing Cloud-Based Computing.

Chapter 5 includes theoretical triangulation, interpretation of findings, limitations of the study, and expands the results into conclusions and recommendations based on major themes of the study aligned to the Research Questions. The implications of this study's findings provide an understanding of the issues surrounding the effect of Cloud-Based Computing on Human Resource Management, human resource leadership characteristics and overall organizational performance. Chapter 5 includes a review of the study's methods as the foundation of a model for implementing Cloud-Based Computing and leadership profile for HR leaders effectively implementing technology.

These conclusions provide suggestions to human resource management leaders and for future research.

Chapter 5

Introduction

The purpose of this qualitative Delphi study was to explore the reasons HR leaders are slow to implement Cloud-Based Computing, characteristics between successful HR leaders and those successfully implementing Cloud-Based Computing, and how the implementation of Cloud-Based Computing affects HRM and organizational performance. Chapter 5 reiterates the research questions, interprets the results from the study, and compares the findings to literature reviewed in Chapter 2. This comparative analysis between literatures is intended to cross-examine the outcomes for validity. Discussions for implications to leadership, Human Resource Management, organizational performance, and the implementation of Cloud-Based Computing in HR are presented in this chapter. Finally, the chapter includes delimitations, limitations, recommendations for future research, and research summary.

Interpretation of Findings

This Delphi study consisted of two iterative survey rounds to a panel of 14 informed participants in HR with a minimum of 5 years of experience in HR. The questions led to discovery of factors challenging, and contributing to, successful implementation of Cloud-Based Computing, a comparative list of HR leadership characteristics, best practices for implementing Cloud-Based Computing, and potential affects to organizational and HRM performance through use of the technology. Findings derived from the study provide new information, and support existing information, to the HR field, leadership, Cloud-Based Computing adoption, and academia. The following is a discussion of each research question, findings, and related literature.

Research Question 1

The first research question asked, “What are the Cloud-Based Computing tools that appear to be most effective for HR?” According to Jones (2012), an integrated HR solution (Card & Sivak, 2015) including recruiting workforce planning, compensation, learning and development, career management, and succession management as a complete performance management system is top-of-mind with HR professionals (Shilpa & Gopal, 2011; Sienna-Cedar, 2015). Deloitte (2012b) indicates a cloud-based service model with “recruitment, screening, predictive analytics, performance management, payroll, and time and attendance” (p. 3), can help HR work more effectively. All study participants agreed to either having experience with electronic HR processes with on-site or cloud technologies with recruiting, payroll, benefits, HRIS, and interviewing rating the highest. The majority of participants were not innovators or early adopters and may be considered early majority in using Cloud-Based Computing for compensation/payroll, and time and attendance. Participants identified the potential Cloud-Based Computing tools that appeared to be immediately most effective for HR as compensation/payroll and, time and attendance.

Ikhlap, Khan, Mujtaba, and Sadiq (2012) focus on HRIS as the technology solution for HR. The processes reviewed and evaluated by study participants are available via Cloud-Based Computing solutions including HRIS as a Software-as-a-Service platform. Study participants agreed HRIS was an effective tool for HR and align with Indranil (2011) that Cloud-Based Computing solutions for payroll, compensation, recruitment, and performance management contributed to the efficiency of the HR

department. Kumar and Pandya (2012) found higher technology in specialized HR software and HRIS could lead to efficiency, effectiveness, and productivity in HR.

Gainey and Klass (2008) stated the tools that appear to be most effective for Human Resources are those that increase cost and time efficiency, overall HR department performance, and overall organizational performance to which participants also agree Cloud-Based Computing has a significant effect. Indicators would lead to the adopting Cloud-Based Computing tools that are currently used for some participants, and those that are planning to move to Cloud-Based Computing within the next year to 5 years, including compensation, time and attendance, benefits, screening and interviewing, recruiting, and onboarding.

Research Question 2

The second research question asked, “What are the impediments to adoption of Cloud-Based Computing in HR?” Deloitte (2012) reported HR professionals hold a traditional view of HR contributing to the slow adoption of technology, transformation of archaic processes, and a lack of alignment to business strategy. Five factors within the DOI framework influence the adoption of innovation including relative advantage, compatibility, complexity, observability, and trialability. It may be suggested that compatibility (Chen, Low, Wu, 2011; Wang et al., 2010), or the degree to which Cloud-Based Computing is consistent with existing business processes, values, and practices is an agreed point of impediment to adoption according to Deloitte (2012). Willcocks, Venters, and Whitely (2013) posit a large education gap exists about the value of Cloud-Based Computing. Participants in this study indicated lack of technology awareness and

subject knowledge as leading factors, in alignment with Deloitte (2012) and Whitley et al. (2013).

Dai, Yang, and Xing (2015) state security issues, network-transmission problems, and a lack of knowledgeable developers contribute to impediments of Cloud-Based Computing, to which Willcocks et al. (2013) also note. Data privacy is an ongoing concern and impediment to adoption (Shilpa & Gopal, 2011) of Cloud-Based Computing. Data concerns include privacy, data integrity and accessibility, internal employee access, lack of disaster recovery measures (Card & Sivak, 2014; Dutta et al., 2013; Geczy, Izumi, & Hasida, 2012) and availability (Aleem & Spratt, 2013).

Carcary, Conway, and Doherty (2015) found the leading drivers for moving processes to the cloud included cost reduction and mobility of data and devices (Staley & Gandi, 2014). Study participants identified the same drivers as reasons for implementing Cloud-Based Computing in HR. Additionally, Carcary et al. (2015) listed Internet connectivity (Chen, Low, & Wu, 2011) and trust in the service provider as the leading barriers to cloud adoption that were neither in agreement with this study, nor listed as contributing challenges for Cloud-Based Computing in U.S. based companies.

According to Lee Sears in the Human Resource Management International Digest (2012), “HR leaders in the future need to develop greater insight from employees, develop the means for bringing the insight and savviness into play within the organization, and find a voice to share the meaningful messages from all the insight” (p. 24). Organizational factors may contribute to impeding technology adoption including perceived financial cost, organizational culture, perceived resource availability, leadership behavior, and informal communication. Sareen and Subramanian (2012)

indicate a lack of planning as a limiting factor with implementing an effective change management strategy that considers user acceptance. Study participant's responses aligned in including limited staff and resources, lack of planning, budget, and lack of executive leadership support as contributing organizational factors.

Size of the organization was implied as a hindrance to technology adoption by study participants supporting that organizations further along in the maturity curve, and being a quantified organization, are higher in Cloud-Based Computing adoption than are smaller, less mature organizations (Bahli, Borgman, Heier, & Schweski, 2013; IBM, 2015; Sierra-Cedar, 2015). Bahli et al. (2013) found firm size to be inconclusive among Cloud-Based Computing adopters and non-adopters. Study participants indicate cost/budget as a leading barrier to adoption. This aligns with Whitley et al. (2013) who suggest the economic benefit could take significantly longer than anticipated by most organizations. However, IBM (2015) reports cost reduction and efficiency are concerns and adoption hindrances for organizations lower on the maturity curve. According to IBM (2015), organizations higher in the maturity curve are more focused on business growth as a contributing factor to realized Cloud-Based Computing.

Research Question 3

The third research question asked, "How does successful Cloud-Based Computing affect the performance of HRM?" Gibson (2012) posited adoption of Cloud-Based Computing is a competitive advantage for HR performance for organizations of all sizes and revenue. The ability to attract and attain top talent is a competitive advantage to which Cloud-Based Computing can be the means by which to achieve (Gibson, 2012) potentially improving HRM performance and of the overall organizational workforce.

Saleem (2012) posits transformation of HRM is required with the explosive evolution of technology. Compelling advantages to Cloud-Based Computing include reduction in expenses via minimal initial investment, monthly service plans, and decreased maintenance, and via increased operational agility through easy of accessibility, scalability and deployment (Gibson, 2012). Cloud-Based Computing may offer a unique opportunity to build competitive advantage in the HR function by providing accessibility to, and use of, big data for increased efficiency in HR performance (Gibson, 2012).

HRIS is a tool deliverable by means of Cloud-Based Computing and is found to have a significant impact on HRM. Ikhlap, Khan, Mujtaba, and Sadiq (2012) conducted a study of HRIS in Pakistan-based banks finding the HR function most dependent on technology. While Ankrah and Sokro (2012) found HRIS positively correlated to cost and timesaving, Ikhlap et al. (2012) found HRIS improved HR processes and resulted in timesaving however, did not find a link to cost savings, communication, or effective recruitment.

Gibson (2012) states Cloud-Based Computing frees HR from administrative tasks leaving more time to devote to decision-making and strategic endeavors (Ikhlap et al., 2012). Ankrah and Sokro (2012) posit improved decision-making with greater use of HRIS and indicate improved technology may positively affect efficiency of the HR function resulting in better HRM. However, Ikhlap et al. (2012) acknowledge HRIS is underutilized for HR strategic decision-making. Karimidizboni (2013) acknowledged the challenges of implementing technology and states the HR function must implement more advanced instruments and technology for enhanced HRM performance.

Implementing technology allowing the HR function to use data for better decision-making improves HRM through increased competitiveness, facilitated information processing, enhanced reporting, and global accessibility (Karimidizboni, 2013), to which participants agree accessibility, and availability to applications and data is crucial for implementing Cloud-Based Computing.

Participant identification of efficiency in productivity, improved customer experience, mobility, and global organizational expansion, as reasons for implementing Cloud-Based Computing, supports Kapoor and Sherif's (2012) position of using a globally accessible HRIS for HR efficiency. Participants agree the cost and time efficiency afforded by implementing Cloud-Based Computing improves performance of the HR employee, thus of the overall HR department, and provides value to the organization (Ankrah & Sokro, 2012; Gibson, 2012; Staley & Gandi, 2014). This sustains the position of Saleem (2012), and Kapoor and Sherif (2012) that HRIS significantly supports HRM. HRIS via Cloud-Based Computing may provide a globally accessible platform supporting and potentially improving HRM in organizations.

Research Question 4

The fourth research question asked, "What leadership traits of successful Cloud-Based Computing adopters also contribute to HR performance?" According to the TOE framework (Tornatzky & Fleisher, 1990), leadership style can be considered an organizational and environmental factor and compatibility characteristic that influences the adoption of innovation (Rogers, 2003). Loshali & Krishnan (2013) support Bass' definition of transformational leadership and aligned characteristics including charismatic, inspirational, individualized consideration, and intellectual stimulation. The

researchers also posit the characteristics support employee retention, productivity, and cost variables for improved organizational performance (2013). Leadership style is viewed as an independent variable in relation to the effect on technology adoption in HR and related outcomes.

Mueller (2007) and Polen (2009) indicate the success or failure of technology hinges on leadership support and an understanding of the technology complexity (Bahli et al., 2013) along with employee reaction to the implemented technology. Participants found leadership support a factor contributing to successful implementation and a lack of subject knowledge a challenge to implementing Cloud-Based Computing. Kumar and Pandya (2012) state technology is a critical driver of HR serving a strategic role and “changes the competencies required for success of HR professionals” (p. 112, para. 4). Study responses support the conclusion as participants found characteristics of a successful HR leader differed from those of an HR leader successfully implementing technology.

Study participants identified communication as a key characteristic for HR leaders implementing Cloud-Based Computing, additionally identifying effective communication and training plans as best practices. This supports Polen’s (2009) findings that the use, knowledge, and communication of e-technologies by HR professionals may contribute to success in HR. Gangwa, Hema, and Ramaswamy (2014) posit managers must train employees for Cloud-Based Computing for effective implementation and improved performance to accomplish organizational objectives.

Kraemer, Xu, and Zhu (2006) posit HR and IT develop the infrastructure for technology change and influence technology readiness and assimilation within the

organization (Mueller, 2009) making HR leaders core influencers of technology adoption (Michel, 2007; Vonk, Geertman, & Schot, 2007) and attitude of intention to use the new technology (Yusliza & Ramayah, 2011). Transformational leaders often encourage the use of technology to realize organizational vision and goals however, must consider the employee's perception of need and ease of use (Birasnav, Rangnekar & Dalpati, 2011; Purvis, Sambamurthy, & Zmud, 2001; Timmons, 2008).

A positive correlation between Transformational Leadership and strategic HRM exists, as transformational leaders are likely to create processes aligned with organizational goals through strategic practices of staffing, performance management, training, compensation, and rewards (Loshali & Krishnan, 2013). Chen, Lin, Lin, and McDonough (2012) found transformational leadership had a positive effect on technological innovation, however also reported an organization with a strong innovative culture fostered technological innovation, and may substitute for transformational leadership while maintaining a positive impact on technological innovation. Study participants recognize the effect of characteristics aligned with those of a successful transformational leader on implementation of Cloud-Based Computing and the resulting performance of HRM. This study may offer better insight to the perceived competencies required by successful HR leaders implementing Cloud-Based Computing.

Research Question 5

The fifth research question asked, "How does HR contribute to the overall performance of the organization?" Ferguson (2006) suggests the strategic alignment of HR to organizational goals through training, development, and employee engagement may positively affect organizational performance. A transformational leader emphasizes

development, growth, and an alignment of HR with organizational strategies required for effect on organizational performance and found a positive correlation between transformational leadership, strategic HR, and organizational performance (Loshali & Krishnan, 2013). One suggestion could be the increased operational agility of Cloud-Based Computing on HRM may also contribute to organizational performance.

Human Resource Management practices are expected to improve organizational performance (Huselid, 1995; Theriou & Chatzoglou, 2008) by using unique characteristics in HR specifically through knowledge management and organizational learning capability (2008). A majority of participants found accessibility and availability to applications and data a critical reason for implementing Cloud-Based Computing. The use of Cloud-Based Computing as a platform for knowledge management and organizational learning may enhance and contribute to the efficiency of HRM and overall organizational performance. Gainey and Klass (2008) report e-HR is often connected to improved delivery of HR services resulting in reduced costs, improved employee engagement, and greater strategic contribution by the HR function.

Sierra-Cedar (2015) confirmed the Value Chain Analysis model in linking HR technology adoption to talent and business outcomes finding organizations that adopt HR technologies experience improved financial performance from a Return on Equity than late majority and laggard organizations. Although study participants found Cloud-Based Computing to have a high to critical effect on overall organizational performance, a distinct link was not made as to specifically how Cloud-Based Computing influences this outcome.

Research Question 6

The sixth research question asked, “What are the implications of best practices in Cloud-Based Computing adoption within HR and general leadership theory?” Study findings derived from participant responses identified the Cloud-Based Computing solution should fit the organizations needs and culture. This aligns with Harper and Utey (2001) and Mueller (2009) who posit cultural attributes contribute to effective technology implementation by fostering behaviors such as trust, flexibility, and information sharing. Additionally, best practices identified by study participants included the creation of a communication plan and training for end users that may foster the previously listed behaviors. According to study participants, leadership buy-in and support, comprehensive implementation plan, communication, and adequate training are best practices for successfully implementing Cloud-Based Computing. This aligns with research presented by Shilpa and Gopal (2011) who stated prerequisites for implementing e-HRM including a commitment to change management (Sierra-Cedar, 2015), stakeholder buy-in, communication of value to end users, and adequate training.

Participants identified best practices for successfully implementing Cloud-Based Computing and challenges to implementation. The results align with Shilpa and Gopal’s (2011) list of challenges to implementing e-HRM including cost, aligning e-HRM to business requirements, security, data management, traditional mindset, customization required, training, return on investment, and monitoring feedback. Morgan (2000) and Yusliza and Ramayah (2011) indicated change management as a critical factor in new technology acceptance.

Study participants stated, fear, close-mindedness, and lack of executive leadership support, challenged the implementation of Cloud-Based Computing. This aligns with Deloitte (2012), Wang, Wang, and Yang (2010), and Bahli, Borgman, Heier, and Schweski's (2013) findings that lack of leadership support is a critical cause for the slow adoption rate (Babcock, 2010). Reasons for slow adoption of Cloud- Based Computing included traditional mindset and HR processes (Deloitte, 2012; Gibson, 2012).

A transformational leader influences the perceived usefulness and acceptance of new technology of the user (Schepers, Wetzels, & Ruyter, 2005). Obtaining executive and general leadership support while following a comprehensive implementation plan with transparent communication are suggested best practices from study participants that may increase the adoption rate of Cloud-Based Computing in HR. Bersin (2014) reports the four key factors for organizations successfully moving to Cloud-Based Computing solutions include integration, ease of use, enterprise strength, and support, and emphasizes key leadership support with the use of a comprehensive implementation plan, also supported by study participant responses.

Limitations

A pilot study was conducted to ensure accuracy and reliability of the results with suggested revisions included in the final surveys distributed to study participants. The modified Delphi study required two survey iterations to achieve validity. The validity for the population is a limitation because of the small sample sizes with a Delphi research design (Linstone & Turoff, 1975). While membership within LinkedIn forums was high and an open request for study participants submitted on multiple occasions, the response rate was low, and may not be fully representative of the HR community. However, the

study received responses from the amount of participants targeted and all organizations discussed were based in the United States.

The scope of this study was focused on informed participants in HR although leadership experience and level varied among participants. Limitations to generalizability and transferability may occur because of the small sample size of the Delphi research design and qualitative nature of the study (Lincoln & Guba, 1985). Items outside the control of the study included the timeframe of the study, holidays, participant availability, and participant's willingness to respond to requests to complete the surveys. Finally, researcher experience, interpretation, and bias could be limitations based on, bias, previous professional experience, or ideas.

Delimitations

The study was delimited to informed participants with a minimum of 5 years of experience in HR. The focus of this study was HR professionals and may be limited in generalizability to other industries. Further research may be required focusing on a specific sector, industry, or organizational department. The electronic distribution of surveys through SurveyMonkey® allowed for unrestricted access and disclosure from participants while ensuring minimal bias among participants.

Implications and Significance of the Findings

Implications and Significance for Implementing Cloud-Based Computing in HR

The study findings indicated leading consultancies, researchers and field practitioners agree Cloud-Based Computing is the predominant method of deployment for HR systems and services with mobile fast becoming the focus of design (Card & Sivak, 2015; Deloitte, 2012; Deloitte, 2011; Sierra-Cedar, 2015). Sierra-Cedar (2015)

expects the adoption of Cloud-Based Computing, subscription-based services to increase 58% by the end of 2016. According to study participants customized HR systems are more in-demand with low implementation success rates, while Cloud-Based Computing solutions success rates are higher, perhaps attributable to the onus of maintenance and customization on the service provider. Technology continues to play a critical role in HRM and despite reports from numerous researchers and consultancies, adoption of Cloud-Computing (Deloitte, 2012); continues to increase in forecast but lacks realization for most organizations (Géczy, Izumi, & Hasida, 2012; IBM, 2015; Sierra-Cedar, 2015).

Data security is among the top challenges for cloud adoption (Babcock, 2010; Farah, 2010; Géczy, Izumi, & Hasida, 2012; IBM, 2015; Indranil, 2012; Sierra-Cedar, 2015). Attempting to mitigate challenges of adoption, the informed participants of this study emphasized following a comprehensive implementation plan, communication, and training as leading factors in successful implementation of Cloud-Based Computing. End user support and training may increase the likelihood of better technology adoption (Ruyter et al., 2005). This may be accomplished through following a conceptual model for implementation and ensuring a strong, simplified communication to all stakeholders (Babcock, 2010). Based on innovation diffusion (Rogers, 1995) and technology-organization-environment (TOE) frameworks (Tornatzky & Fleischer, 1990), Kraemer et al. (2006) developed a model addressing seven factors for e-business assimilation. Results from this study identified factors aligning with each component of the model suggesting the model may be an effective method for cloud technology adoption.

According to this study and those of other researchers and consultancies, implementation of Cloud-Based Computing propels efficiency, effectiveness,

performance, and engagement (IBM, 2015; Sierra-Cedar, 2015). Organizational maturation challenges the organizational readiness for technology adoption (Bahli et al., 2013; IBM, 2015; Sierra-Cedar, 2015). In this study, most participants aligned with factors challenging adoption indicative of organizations slowly progressing through the maturity curve. A suggestion to HR leaders is to consider the technological readiness of the organization with consideration to maturation and organizational goals.

Implications and Significance for Leadership and Human Resource Management

Study participants identified characteristics indicative of successful HR leaders and of HR leaders successfully implementing Cloud-Based Computing. HR leaders hold a multidimensional role as employee advocate, strategic leader, administrative expert, and change agent (Fitz-enz, 2002; Ulrich, 1997) and must lead their social systems to new technological realizations (Rogers, 1995). The study results indicate the characteristics between a successful HR leader and one implementing new technology are the same however rated and emphasized differently. This study may contribute to the foundation of a new leadership model in consideration and inclusive of rapid technology growth in organizations.

Cultural resistance is a leading factor challenging technology adoption (IBM, 2015) to which HR leaders can navigate to invigorate productivity, effectiveness, flexibility, performance, and innovation (Florea, Goldbach, & Goldbach, 2011). Strategic organizational change requires effective decision-making by leaders (Bass, 2007). Human resource management theory includes various leadership styles, such as transformational leadership, identified in this study as preferable to implementing innovative technologies (Yukl, 2012). Encouraging innovating thinking and diverse

perspective, as provided by transformational leaders, from employees may encourage higher levels of technology acceptance (Ruyter et al., 2005). Kramer et al. (2006) suggested managers create an infrastructure to support new technology reinforced by study participant's responses that leaders must be knowledgeable of technology available and its alignment with departmental and organizational needs.

Recommendations for Future Research

This research study focused on identifying factors contributing to the slow adoption of Cloud-Based Computing, the potential effect on HRM processes, and contributes to clarifying literature. Additional research in the study of HR leadership and technology adoption, and contributing factors of Cloud-Computing on HRM and organizational performance is necessary. Further research may be conducted based on the information presented within this study. The current study consisted of 14 participants. A mixed-methods or quantitative study, with a larger sample fully representative of HR managers, could provide further confirmation of study outcomes and additional insight to the problem. Focusing the scope of the study on HR leadership characteristics during technology adoption, specifying the administrative or strategic HR factors affected by cloud technology, or targeting the dependent organizational performance variables may further validate, and increase generalizability and transferability of study results.

The transferability of the study findings could be further investigated and strengthened by surveying a larger sample of the population or specifying HR professionals in specific industries. Additionally, targeting a larger population of HR professionals with specific leadership or executive experience may provide insight to

perspectives and challenges faced when deciding upon or implementing Cloud-Based Computing. Triangulating the data in this way could identify themes, perceptions, or create the constructs of a new technology implementation model for HR leaders that may translate to other fields.

Isolating how communication of technological innovation such as Cloud-Based Computing is communicated, accepted, and adopted in the HR field may assist with mitigating challenges for future innovators and adopters. Another opportunity for research may include a quantitative study of the impediments to adoption in HR, and best practices or potential solutions for implementation and adoption of Cloud-Based Computing. Study participants identified extensive customizations to off-the-shelf HRMS solutions often contributed to poor or failed implementation. A quantitative study may include the types of HRMS, percentage of customization, extent of successful implementations and identification of impediments.

Mobility is fast becoming a primary reason for organizations to implement new technologies. In some cases, organizations are choosing incorporating mobile applications over replacing legacy systems. Future study efforts could include a mixed-methods study on mobility of HR systems, the benefit of mobility to the workforce and resulting organizational performance outcomes.

Conclusion

The objective of this modified Delphi study was to identify the perceived effect of Cloud-Based Computing in HRM performance and factors contributing to its slow adoption from a panel of HR informed participants. Through two rounds of surveys, the study attempted to provide insight to the effect of Cloud-Based Computing on HRM, an

underdeveloped area of research in the United States using data and theory triangulation. Some research has been conducted on the effect of Information Technology to HRM (Kinanga, 2012; Mishra & Akman, 2010); however, most is conducted with organizations or specific sectors in countries outside of the United States. In accordance with the Delphi method, a deeper understanding of the problem was gained and can be explored further in future research.

The study findings confirms, and extends, research conducted on the slow adoption of cloud technologies in HR (Bahli et al., 2013; Chen, Low, & Wu, 2011; Deloitte, 2011; Deloitte, 2012, Deloitte 2012b; IBM, 2015; Indranil, 2012; Sierra-Cedar, 2015; Wright, 2011). Results from this study included factors contributing to, and challenging, successful adoption of Cloud-Based Computing and cloud technology tools most effective for HR. Additionally, participants identified best practices for successful implementation and defined characteristics of HR leaders effectively adopting and implementing Cloud-Based Computing. Human resource leaders practicing transformational leadership may be most aligned with the characteristics of successful early technology adopters, and more likely to succeed leading employees and organizations to do the same. The study is significant because a gap in literature exists regarding Cloud-Based Technology adoption in the HR field and the results of this study may serve to assist academia, HR leaders implementing Cloud-Based Computing, and leadership in general. This study may be used to establish an HR technology leadership competency model or model of best practices for implementing Cloud-Based Computing in HR and potentially other fields.

Globalization requires standardization. The HR field is experiencing emerging issues of globalizing and standardizing processes and technologies. Organizations are at risk of technological inefficiency with globalization and high competition (Birasnav, Rangnekar, & Dalpati, 2011). Technological evolution is occurring faster than organizations can maintain, including the HR function, and requiring collaboration between HR and IT to improve HR practices (Stryve Advisors & The RBL Group, 2011).

Researchers and participants in this study identified outdated processes, fear, and close-mindedness as leading challenges to adopting new technologies in the HR field. The rate of adoption in the field diverges leaving the HR field with arbitrary practices, responsibilities, and limited strategic influence. As organizations continue to access global talent pools and expand customer reach, technology may alleviate these challenges increasing outcomes of organizational and strategic importance including performance, engagement, productivity, effectiveness, efficiency, and sustainability of the organization. Academicians and HR leaders may benefit from, and use the findings of, this study to extend future research and provide a more targeted perspective to HRM and organizational performance.

REFERENCES

- Abardeen Group (2012). *Click play: The value of video in recruitment*. Retrieved from <http://greenjobinterview.com>
- Adler, M. & Ziglio, E. (1996). *Gazing into the oracle: The Delphi method and its application to social policy and public health*. London: Jessica Kingsley Publishers.
- Agarwal, D., & Balasubramanian, R. (2012). Delphi technique – A review. *International Journal of Public Health Dentistry*, 3(2), 16-25.
- Al-Zoubi, M. I., (2013). Predicting e-business adoption through integrating the constructs of the Roger's diffusion of innovation theory combined with technology-organization-environment model. *International Journal of Advanced Computer Research*, 3(4), 63-73.
- Aladwan, K., Bhanugopan, R., D'Netto, B. (2015). The effects of human resource management practices on employees' organizational commitment. *International Journal of Organizational Analysis*, 23(3), 472-492. doi: 10.1108/IJO-11-2014-0822
- Aleem, A., & Sprott, C. R. (2013). Let me in the Cloud: Analysis of the benefit and risk assessment of Cloud platform. *Journal of Financial Crime*, 20(1), 6-24.
doi:10.1108/13590791311287337
- Aljabre, A. (2012). Cloud computing for increased business value. *International Journal of Business and Social Science*, 3(1), 234-239. Retrieved from <http://www.ijbssnet.com>

- Ankrah, E., & Sokro, E. (2012). Human resource information system as a strategic tool in human resource management. *Problems of Management in The 21st Century*, 56-15. Retrieved from <http://www.scientiasocialis.lt/pmc/>
- Anthes, G. (2010). Security in the Cloud: Cloud computing offers many advantages, but also involves security risks. *Communications of ACM*, 53(11), 16-18. Retrieved from <http://cacm.acm.org>
- Argawala, T. (2003). Innovative human resource practices and organizational commitment: an empirical investigation. *International Journal of Human Resource Management*, 14(2), 175-197.
- Armstrong, T., & Piotrowski, C. (2006). Current recruitment and selection practices. *North America Journal of Psychology*, 8(3), 489-496. Retrieved from <http://najp.8m.com>
- Arthur, D. (2004). *Fundamentals of Human Resources Management* (4th ed.). American Management Association: New York, NY.
- Ashbaugh, S., & Rowan, M. (2002). Technology for human resources management: Seven questions and answers. *Public Personnel Management*, 31(1), 7-20. Retrieved from <http://ppm.sagepub.com>
- Athale, R., Barde, M., Kamble, H. Mirajkar, N., & Singh, K. (2012). Implementation of private cloud using eucalyptus and an open source operating system. *International Journal of Computer Science*, 9(3), 360-364. Retrieved from <http://www.ijcsi.org>
- Avolio, B. J., & Yammarino, F. J. (2002). *Transformational and charismatic leadership: The road ahead*. San Diego, CA: Emerald.

- Babcock, C. (2010). *Management Strategies for the Cloud Revolution*. New York, NY: McGraw-Hill.
- Bahli, B., Borgman, H.P., Heier, H., & Schewski, F. (2013). Cloudrise: Exploring cloud computing adoption and governance with the TOE framework. *2013 46th Hawaii International Conference on System Sciences*. doi: 10.1109/HICSS.2013.132
- Banham, R. (2011). Assessing candidates by video. *HRO Today*, 10(2). Retrieved from <http://www.hrotoday.com/content/4828/smile-youre-camera>
- Balbaa, I. (2011). Software as a service offer differentiation based on suitability for particular business units (Doctoral dissertation). Retrieved from ProQuest Dissertations and Theses. (Document ID 881642521).
- Barusch, A., Gringeri, C., & George, M. (2011). Rigor in qualitative social work research: A review of strategies used in published articles. *Social Work Research*, 35(1), 11-19. Retrieved from <https://www.naswpress.org/publications/journals/swr.html>
- Bass, B. M., & Avolio, B. J. (1993). Transformational leadership and organizational culture. *Public*.
- Bassellier, G., Benbasat, I., & Reich, B. (2003). The Influence of Business Managers' IT Competence on Championing IT. *Information Systems Research*, 14(4), 317-336. Retrieved from <http://pubsonline.informs.org/journal/isre>
- Beakley, J. (2015). *Organizational leadership awareness of the hierarchical mum effect: A modified Delphi study*. University of Phoenix.
- Becker, B., Huselid, M., & Ulrich, D. (2001). *The HR scorecard, linking people, strategy, and performance*. Boston: Harvard Business School Press.

- Benvenuti, S. (2011). Making a Case for Change Management Theory to Support IS/IT Curriculum Innovation. *Issues in Informing Science & Information Technology*, 893-109. Retrieved from <http://www.informingscience.us/icarus/journals/iisit/>
- Bersin by Deloitte & Deloitte Consulting LLP, (2014). Global human capital trends 2014: Engaging the 21st-century workforce. Retrieved from http://d2mtr37y39tpbu.cloudfront.net/wp-content/uploads/2014/03/GlobalHumanCapitalTrends_2014.pdf
- Bersin, J. (2014). HR Technology for 2015: Ten big disruptions ahead. Bersin by Deloitte Perspective, 2014. Retrieved from <http://www.bersin.com/Practice/Detail.aspx?id=18207>
- Birasnav, M., Rangnekar, S., & Dalpati, A. (2011). Transformational leadership and human capital benefits: The role of knowledge management. *Leadership & Organization Development Journal*, 32(2), 106-126.
doi:10.1108/01437731111112962
- Bohlander, G., & Snell, S. (2013). *Managing human resources* (16th ed.). United States: South-Western, Cengage Learning.
- Bohnert, D., Ross, W. H. (2010). The influence of social networking web sites on the evaluation of job candidates. *Cyberpsychology, Behavior, and Social Networking*, 13(3), 341-347. doi: 10.1089/cyber.2009.0193
- Bourgeois, J., Pugmire, L., Stevenson, K., Swanson, N., & Swanson, B. (n.d.). The Delphi method: A qualitative means to a better future. Retrieved April 12, 2013 from <http://www.freequality.org/documents/knowledge/Delphimethod.pdf>

- Brandl, J., & Pohler, D. (2010). The human resource department's role and conditions that affect its development: Explanations from Austrian CEOs. *Human Resource Management, 49*(6), 1025-1046. doi:10.1002/hrm.20392
- Carcary, M., Conway, G., & Doherty, E. (2014). Migrating to the cloud. Examining the drivers and barriers to adoption of cloud computing by SMEs in Ireland: an exploratory study. *Journal of Small Business and Enterprise Development, 22*(3), 512-527. doi: 10.1108/JSBED-05-2013-0069
- Card, D. & Sivak, M. (2014). Human resources technology and service delivery trends in 2014: Executive summary research report. Retrieved from <http://www.hrotoday.com/association/wp-content/uploads/2014/01/hr-servicedeliverytrends.pdf>
- CedarCrestone, (2012). Lessons learned from going global: Two organization types outperform. Retrieved from http://www.cedarcrestone.com/annual_survey.
- Cegielski, C. G., Hazen, B., Jones-Farmer, A., Wu, Y. (2012). Adoption of cloud computing in supply chains. *International Journal of Logistics Management, 23*(2), 184-211. doi: 10.1108/09574091211265350
- Chen, M. Y., Lin, C. Y., Lin, H., & McDonough, E. F. (2012). Does transformational leadership facilitate technological innovation? The moderating roles of innovative culture and incentive compensation. *Asia Pacific Journal of Management, 29*(2), 239-264. doi:10.1007/s10490-012-9285-9

- Chen, Y., Low, C., & Wu, M. (2011). Understanding the determinants of Cloud computing adoption. *Journal of Industrial Management & Data Systems*, 111(7), p. 1006-1023. Retrieved from <http://www.emeraldgrouppublishing.com/products/journals/journals.htm?id=IMDS>
- Chi, N. W., Huang, T. C., Hsu, A. J. & Tsai, W. C. (2011). The effects of applicant résumé contents on recruiters' hiring recommendations: The mediating roles of recruiter fit perceptions. *Applied Psychology: An International Review*, 60(2), 231-254. doi: 10.1111/j.1464-0597.2010.00434.x
- Chiu, R., & Selmer, J. (2011). Are Human Resource professionals strategic business partners? Evidence from Hong Kong. *International Employment Relations Review*, 17(2), 75-95. Retrieved from <https://www.ilr.cornell.edu/ilrreview/>
- Christensen, L. B., Johnson, R. B., & Turner, L. A. (2011). *Research methods, design, and analysis* (11 ed.). Boston, MA: Allyn & Bacon.
- Cole, M. S., Field, H. S., Giles, W. F., & Harris, S. G. (2008). Recruiters' inferences of applicant personality based on résumé screening: Do paper people have a personality? *Journal of Business & Psychology*, 24, 5-18. doi: 10.1007/s10869-008-9086-9
- Collins, R., Domagalski, T. A., & Wright, E. W. (2011). Improving employee selection with a revised résumé. *Business Communication Quarterly*, 74(3), 272-286. doi:1177.1080569911413809

- Convertino, G. J. (2008). A perspective on current Human Resources practices by Human Resource executives at institutions of higher education (Doctoral dissertation). Retrieved from ProQuest Dissertations and Theses. (Document ID 304185797).
- Crenshaw, J. L. (2006). The use of video and audio technology in structured interviews: Effects on psychometric properties, group differences, and candidate perceptions (Doctoral dissertation). Retrieved from ProQuest Dissertations and Theses. (Document ID 304917654).
- Creswell, J. W. (2008). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research* (3rd ed.). Upper Saddle River, NJ: Merrill/Prentice Hall.
- Creswell, J. W. (2009). *Research design: Qualitative, quantitative, and mixed methods approaches* (3rd ed.). Thousand Oaks, CA: Sage Publications, Inc.
- Creswell, J. W. (2012). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research*. (4th ed.). Upper Saddle River, NJ: Pearson Education.
- Creswell, J. W. (2013). *Qualitative inquiry & research design: Choosing among five approaches* (3rd ed.). Thousand Oaks, CA: Sage Publications.
- Cyrus, A. (2010). A Systemic Approach to Human Resources Management. *Advances in Management*, 3(5), 16-19. Retrieved from <http://www.emeraldinsight.com/journals.htm?issn=0972-7981>
- Dai, L., Yang, H., & Xing, G. (2015). The construction of human resource management cloud service platform. *Intelligent Information Management*, 7(1), 1-6. doi: 10.4236/iim.2015.71001

- Dalkey, N. C. (1967). Delphi. A paper prepared for presentation to the Second Symposium on Long-Range Forecasting and Planning, Alamogordo, NM, October 11-12. Retrieved from <http://www.dtic.mil/get-tr-doc/pdf?AD=AD0679176>
- Dalkey, N. C. (1972). The Delphi method. An experimental study of group opinion. In N. C. Dalkey, D. L. Rourke, R. Lewis, & D. Snyder (Eds.). *Studies in the quality of life: Delphi and decision-making* (p. 13-54). Lexington, MA: Lexington Books.
- Dalkey, N. C., & Helmer, O. (1963). An experimental application of the Delphi method to the use of experts. *Management Science*, 9, 458-467.
- DeFelice, A. (2010). Cloud computing: what accountants need to know. *Journal of Accountancy*, October 2010, 50-55.
- Delbecq, A. L., Van de Ven, A. H., & Gustafson, D. H. (1975). *Group techniques for program planning: A guide to nominal group and Delphi processes*. Glenview, IL: Foresman.
- Deloitte, (2010). Talent edge 2020: Blueprints for the new normal. Retrieved from http://www.deloitte.com/assets/Dcom-UnitedStates/Local%20Assets/Documents/IMOs/Talent/us_talentedge2020_121710.pdf
- Deloitte, (2011). HR in the Cloud: It's inevitable. Retrieved from http://www.deloitte.com/assets/Dcom-UnitedStates/Local%20Assets/Documents/us_consulting_HCTrends_HRintheClouds_060611.pdf.

- Deloitte, (2012). HR transformation survey: A case for business driven HR. Retrieved from
http://public.deloitte.com/media/0524/us_bnet_HRTransformationSurvey_1207pdf.pdf
- Deloitte (2012b). Enabling HR service delivery. Retrieved from
<http://www2.deloitte.com/content/dam/Deloitte/global/Documents/HumanCapital/dttl-hc-chapter9-8092013.pdf>
- Denzin, N. K. (1978). *Sociological Methods*. New York, NY: McGraw Hill.
- Denzin, N. K., & Lincoln, Y. S. (2000). *Handbook of qualitative research*. Thousand Oaks, CA: Sage Publications.
- Dhamija, P. (2012). E-recruitment: a roadmap towards e- human resource management. *Researchers World*, 3(3), 33-39. Retrieved from
<http://search.proquest.com/docview/1034611782?accountid=35812>
- Dickson, D. R., & Nusair, K. (2010). An HR perspective: The global hunt for talent in the digital age. *Worldwide Hospitality and Tourism Themes*, 2(1), 86-93.
doi:10.1108/17554211011012612
- Dong, S., Kraemer, K., Xu, S. X., Zhu, K. (2006). Innovation diffusion in global contexts: Determinants of post-adoption digital transformation of European countries. *European Journal of Information Systems*, 15, 601-616.
doi:10.1057/palgrave.ejis.3000650
- Doyle, S. X., Pignatelli, C., & Florman, K. (1985). The Hawthorne legacy and the motivation of salespeople. *Journal of Personal Selling & Sales Management*, 5(2), 1.

- Dubinsky, J. (2003). Creating new views on learning: ePortfolios. *Business Communication Quarterly*, 66(4), 96-102. Retrieved from <http://www.jpssm.org>
- Dutta, A., Peng, G. C. A., & Choudhary, A. (2013). Risks in enterprise Cloud computing: the perspective of it experts. *The Journal of Computer Information Systems*, 53(4), 39-48. Retrieved from <http://www.iacis.org/jcis/jcis.php>
- Eisner, S. (2010). E-Employment? College and grad career building in a changing and electronic age. *American Journal of Business Education*, 3(7), 25-40. Retrieved from <http://journals.cluteonline.com/index.php/AJBE>
- Evuleocha, S. (2002). Implications of virtual interviews as a global recruitment tool. *The Second International Conference on Electronic Business*. Retrieved from <http://iceb.nccu.edu.tw/proceedings/2002/PDF/f183.pdf>.
- Ferguson, K. L. (2006). Human resource management systems and firm performance. (Order No. 3234243, University of Louisville). ProQuest Dissertations and Theses. Retrieved from <http://search.proquest.com/docview/305317100?accountid=35812>. (305317100).
- Ferris, G. R., Hall, A. T., Royle, M. T., & Martocchio, J. J. (2004). Theoretical development in the field of human resources management: Issues and challenges for the future. *Organizational Analysis*, 12(3), 231-254,339-341. Retrieved from <http://www.emeraldinsight.com/journals.htm?issn=1934-8835>
- Fields, R. K. (1995). Integrating technology with human resources. *Chief Executive*, (105),18. Retrieved from <http://search.proquest.com/docview/212066742?accountid=35812>

- Fisher, & Kaplan (2009). A rose by any other name: Identity and impression management in résumé. *Employee Responsibilities and Rights Journal* 21, 319-332. doi: 10.1007/s10672-009-9127-1
- Fitz-enz, J., & Davison, B., (2002). *How to measure human resources management* (3rd edition). New York: McGraw-Hill.
- Fletcher, P. A. (2005). *From personnel administration to business-driven human capital management: The transformation of the role of HR in the digital age*. Greutal and Stone (Eds.), *The Brave New World of eHR*. San Francisco, CA: Jossey-Bass.
- Florea, N. V., Goldbach, I. R., & Goldbach, F. C. (2011). Relationships between human resources management and organizational culture. *Proceedings of the European Conference on Management, Leadership & Governance*, 487-496.
- Gainey, T. W., & Klaas, B. S. (2008). The use and impact of e-HR: A survey of HR professionals. *People and Strategy*, 31(3), 50-55. Retrieved from <http://www.hrps.org/?page=peoplestrategy>
- Gangwar, H., Hema, D., & Ramaswamy, R., (2015). Understanding determinants of cloud computing adoption using an integrated TAM-TOE model. *Journal of Enterprise Information Management*, 28(1), 107-130. doi: 10.1108/JEIM-08-2013-0065
- Géczy, P., Izumi, N., & Hasida, K. (2012). Cloudsourcing: Managing Cloud adoption. *Global Journal of Business Research*, 6(2), 57-70. Retrieved from <http://www.journals.elsevier.com/journal-of-business-research/>

- Gibson, W., (2012). HR Cloud: Enabling a path for growth in the technology industry.
Retrieved from
http://www.deloitte.com/view/en_US/us/Services/consulting/technology-consulting/technology-strategy-architecture/Cloud-computing/9363f93faf0a6310VgnVCM3000001c56f00aRCRD.htm.
- Hall, E. (2009). The Delphi primer: Doing real-world or academic research using a mixed-method approach. In C. A. Lentz (Ed.), *The Refractive Thinker: Vol. 2: Research Methodology*, (p. 3-27). Las Vegas, NV: The Refractive Thinker® Press. Retrieved from: <http://www.RefractiveThinker.com/>
- Hall, E. B., & Jordan, E. A. (2013). Strategic and scenario planning using Delphi: Long-term and rapid planning utilizing the genius of crowds. In C. A. Lentz (Ed.), *The Refractive Thinker: Vol. II. Research Methodology* (3rd Ed.). (p. 103-123) Las Vegas, NV: The Refractive Thinker® Press. Retrieved from www.RefractiveThinker.com
- Harper, G. R., & Utley, D. R. (2001). Organizational culture and successful information technology implementation. *Engineering Management Journal*, 13(2), 11–15.
- Hater, J. J., & Bass, B. M. (1988). Supervisors' evaluations of subordinates' perceptions of transformational and transactional leadership. *Journal of Applied Psychology*, 73(4), 698–704. Retrieved from <http://www.apa.org/pubs/journals/apl/>
- Helmer, O. (1996). Analysis of the future: The Delphi method. The RAND Corporation. Santa Monica, CA. Retrieved from <http://www.rand.org/content/dam/rand/pubs/papers/2008/P3558.pdf>.

- Hollander, M. & Wolfe, D. A. (1973). *Nonparametric statistical methods*. New York, NY: Wiley.
- Howarth, B. (2009). What is Cloud computing? *CIO*. (13284045), 8.
- HRCI, (2014). History – Committed to a higher standard. Retrieved from <http://www.hrci.org/about-hrci/hr-certification-institute-overview/history-committed-to-a-higher-standard>.
- Hsu, C., & Sandford, B. A. (2007). The Delphi technique: Making sense of consensus. *Practical Assessment Research & Evaluation*, 12(10), 1-8. Retrieved from <http://pareonline.net>
- Human Resource Management International Digest, (2012). HR in the clouds. *Human Resource Management International Digest*, 20(3), 22-25. Retrieved from <http://dx.doi.org/10.1108/09670731211224348>
- Huselid, M.A. (1995). The impact of human resource management practices on turnover, productivity, and corporate financial performance. *Academy of Management Journal*, 38(3), 635-672.
- Huselid, M. A. (2011). Celebrating 50 Years: Looking back and looking forward: 50 years of Human Resource Management. *Human Resource Management*, 50(3), 309-312. doi:10.1002/hrm.20425
- Huselid, M. A., Jackson, S. E., & Schuler, R. S. (1997). Technical and strategic human resource management effectiveness as determinants of firm performance. *Academy of Management Journal*, 40(1), 171-188. doi: 10.2307/257025

- IBM, The Economist, & Intelligence Unit. (2015). Mapping the cloud maturity curve: Measuring organizational excellence in the new era of IT [White paper]. Retrieved from <http://www-01.ibm.com/common/ssi/cgi-bin/ssialias?subtype=WH&infotype=SA&htmlfid=KUL12355USEN&attachment=KUL12355USEN.PDF>.
- Ickes, L., Schullery, N.M., & Schullery, S.E. (2009). Employer preference for résumé and cover letters. *Business Communication Quarterly*, 72(2), 163-176. Retrieved from <http://www.sagepub.com/journalsProdDesc.nav?prodId=Journal201670>
- Ikhlap, K., Khan, A. F., Mujtaba, B. G., & Sadiq, U. (2012). The impact of information systems on the performance human resources department. *The Journal of Business Studies Quarterly* 3(4), p. 77-91. Retrieved from <http://jbsq.org>
- Indranil, B. (2011). Cloud computing and its impact on corporate HR Practices. *Advances in Management*, 4(12), 57-58. Retrieved from <http://www.emeraldinsight.com/journals.htm?issn=0972-7981>
- Ingham, J. (2013). The perfect storm comes to talent management. *Computer Weekly*, 14.
- Islam, Z. U., & Muhammad, I. A. (2011). Leadership and HRM: Evaluating new leadership styles for effective human resource management. *International Journal of Business and Social Science*, 2(15) Retrieved from <http://www.ijbssnet.com>
- Jackson, S. E., & Schuler, R. S. (1995). Understanding human resource management in the context of organizations and their environments. *Annual Review of Psychology*, 46(1), p. 237-64. Retrieved from <http://www.annualreviews.org/journal/psych>

- Jordan, J. L. (2002). Virtual human resources: Understanding external variables on technology acceptance and use. ProQuest Dissertations and Theses. Retrieved from <http://search.proquest.com/docview/305484613?accountid=35812>. (305484613).
- Jones, K. (2012). Session 220. Changes in the HRIS landscape: "Up in the Cloud." IHRIM Conference.
- Kapoor, B. & Sherif, J. (2012). Global human resources (HR) information systems. *Kybernetes*, 41(1/2), p. 229-238. Retrieved from <http://www.emeraldinsight.com/journals.htm?issn=0368-492X>
- Karimidizboni, R. (2013). Human Resources Information System. *Interdisciplinary Journal of Contemporary Research in Business*, 4(10), 1004-1017. Retrieved from <http://ijcrb.webs.com>
- Kaufman, B. E. (2012). Strategic human resource management research in the United States: A failing grade after 30 years? *Academy of Management Perspectives*, 26(2), 12-36. Retrieved from <http://aom.org/amp/>
- Kaur, A., & Rin Yahya, F., (2010). Competition for foreign talent in Southeast Asia. *Journal of the Asia Pacific Economy*. 15(1), 20-32. Retrieved from <http://www.tandfonline.com/toc/rjap20/current>
- Khawaja, K. F., & Qaisar, S. (2012). Cloud computing: Network/security threats and countermeasures. *Interdisciplinary Journal of Contemporary Research in Business*, 3(9), 1323-1329.

- Kinanga, R. (2012). Understanding why human resource function is lagging behind in information technology adoption. *Journal of Human Resources Management Research*, 2012, 1-11.
- Kirchner, N. (2014). *A qualitative study of the cultural intelligence model for developing global leaders*. University of Phoenix.
- Kraemer, K. L., Xu, S., Zhu, K. (2006). The process of innovation assimilation by firms in different countries: A technology diffusion perspective on e-business. *Management Science*, 52, 1557-1576.
- Krefting, L. (1991). Rigor in qualitative research: The assessment of trustworthiness. *American Journal of Occupational Therapy*, 45(3), 214-222.
- Kridel, M. S. (2006). Human "resources" and technology: A double-edged sword. *Infotech Update*, 15(1), 1-3.
- Kumar, M., & Pandya, S. (2012). Leveraging Technology towards HR Excellence. *Information Management & Business Review*, 4(4), 205-216. Retrieved from <http://www.ifrnd.org/JournalDetail.aspx?JournalID=1>
- Lake, H. (2006). Learning to compete: The performance effect of human resource management and work organization in the South Indian garment industry. Fletcher School of Law and Diplomacy (Tufts University). Doctoral Dissertation. Retrieved from ProQuest. 304918839.
- Latham, V. M., & Luman, C. (2009). Video interviewing – Spearheading a fundamental shift in talent acquisition. *IHRIM Journal*, 8(6), 15-25.

- Laurano, M. (2014). Three reasons to move your HR to the cloud. Analyst Insight by Aberdeen Group (white paper). Retrieved from <http://aberdeen.com/research/8816/ai-cloud-human-resources/content.aspx>
- Lavie, D. (2006). Capability reconfiguration: An analysis of incumbent responses to technological change. *Academy of Management*, 31(1), 153-174.
- Lee, I. A. (2008). Relationship between the use of information technology (IT) and performances of human resources management (HRM). (Order No. 3308932, Alliant International University, San Diego). ProQuest Dissertations and Theses, 354-n/a. Retrieved from <http://search.proquest.com/docview/304833325?accountid=35812>. (304833325).
- Leedy, P. D., & Ormrod, J. E., (2010). *Practical research: Planning and design* (9th ed.). Upper Saddle River, NJ: Prentice Hall.
- Leshem, S., & Trafford, V. (2007). Overlooking the conceptual framework. *Innovations in Education and Teaching International*, 44(1), 93-105. doi: 10.1080/14703290601081407
- Liao, H., & Chuan, A. (2007). Transforming service employees and climate: A multi-source examination of transformational leadership in building long-term service relationships. *Journal of Applied Psychology*, 92, 1006-1019. Retrieved from <http://www.apa.org/pubs/journals/apl/>
- Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic Inquiry*. Sage Publications, Newbury Park, CA.
- Linstone, H. & Turoff, M. (1975). *The Delphi Method: Techniques and Applications*. London, UK: Addison-Wesley.

- Linying, D., Heshan, S., & Yulin, F. (2007). Do perceived leadership behaviors affect user technology beliefs? An examination of the impact of project champions and direct managers. *Communications of the Association for Information Systems, 19*, p. 655-679. Retrieved from <http://aisel.aisnet.org/cais/>
- Lombardi, M. (2014). HCM Trends 2014: Developing a critical eye for talent. Aberdeen Group white paper. Retrieved from <http://v1.aberdeen.com/launch/report/benchmark/8785-RA-Human-Capital-Management.asp>
- Lombardi, M., & Laurano, M. (2014). Human capital trends 2013: It's brave new world. Aberdeen Group (white paper). Retrieved from <http://v1.aberdeen.com/launch/report/benchmark/8101-RA-human-capital-management.asp>
- Loo, R. (2002). The Delphi method: A powerful tool for strategic management. *Policing: An International Journal of Police Strategies & Management, 25*(4), 762-769.
- Loshali, S., & Krishnan, V. R. (2013). Strategic human resource management and firm performance: Mediating role of transformational leadership. *Journal of Strategic Human Resource Management, 2*(1), 9-19. Retrieved from <http://search.proquest.com/docview/1478029522?accountid=35812>
- Madu, B. (2009). An examination of the competencies required in the transformation of the human resources professional to an executive management strategic partner in the 21st century. Dissertation, Capella University, 2009. ProQuest. UMI #:3366453

- Manyak, T., & Udechukwu, I., (2009). Job applicants' perceptions of résumé versus employment application forms in the recruitment process in a public organization. *Public Personnel Management*, 38(4), 79-96. Retrieved from <http://ppm.sagepub.com>
- Marler, J. H. (2012). Strategic human resource management in context: A historical and global perspective. *Academy of Management Perspectives*, 26(2), 6-11. Retrieved from <http://aom.org/amp/>
- Marx, J. (2011). Take charge of your online brand. *Strategic Finance*, 1, 17-18. Retrieved from http://www.imanet.org/resources_and_publications/strategic_finance_magazine.aspx
- Maslak, L. L. (2008). The senior Human Resource leader as a strategic business partner: A story of voice (Doctoral dissertation). Retrieved from ProQuest Dissertations and Theses. (Document ID 304831448)
- McGrath, C., & Zell, D. (2001). The future of innovation diffusion research and its implications for management: A conversation with Everett Rogers. *Journal of Management Inquiry*, 10(4), 386-391. Retrieved from <http://jmi.sagepub.com>
- Meijering, J. V., Kampen, J. K., & Tobi, H. (2013). Quantifying the development of agreement among experts in Delphi studies. *Technological Forecasting and Social Change*, 80, 1607-1614. Retrieved from <http://www.sciencedirect.com/science/article/pii/S0040162513000048>

- Michel, L. (2007). Understanding decision making in organizations to focus its practices where it matters. *Measuring Business Excellence*, 11, 33-45. doi: 10.1108/13683040710740916
- Miller, D. C., & Salkind, N. J. (2002). *Handbook of Research Design and Social Measurement* (6th ed.). Thousand Oaks, CA: Sage Publishing, Inc.
- Miron, A., Osoian, C., & Zaharie, M., (2011). Career management tools: Curriculum vitae design. *Managerial Challenges of the Contemporary Society*, (2), 210-213. Retrieved from <http://www.econ.ubbcluj.ro/mccs/>
- Mishra, A., & Akman, I. (2010). Information technology in human resource management: An empirical assessment. *Public Personnel Management*, 39(3), 271-290. Retrieved from <http://ppm.sagepub.com>
- Morgan, L. (2000). Technology: The changing role of human resources. *ACA News*, 43(3), 16-22.
- Morris, M., & Revels, M.A., (2012). Technology impacts in organizational recruitment and retention. *Franklin Business & Law Journal*, 2012(1), 61-69. Retrieved from <http://www.franklinpublishing.net/franklinbusinesslaw.html>
- Mueller, C. A. (2009). Influence of transformational leadership style on decision-making style and technology readiness: A correlational study. (Order No. 3399500, University of Phoenix). ProQuest Dissertations and Theses, 151. Doc ID 305129018.
- Muenstermann, B., Alexander, v. S., Laumer, S., & Eckhardt, A. (2010). The performance impact of business process standardization: HR case study insights. *Management Research Review*, 33(9), 924-939. doi:10.1108/01409171011070332

- Murray, J. W., & Hammons, J. O. (1995a). Delphi: A versatile methodology for conducting qualitative research. *The Review of Higher Education*, 18(4), 423-436.
- Murray, J. W., & Hammons, J. O. (1995b). Assessing the managerial and leadership ability of community college administrative personnel. *Community College Journal of Research and Practice*, 19(3), 207-216.
doi:10.1080/1066892950190303
- Nadler, L. & Nadler, Z., (1990). *The handbook of human resource development*. United States & Canada: John Wiley & Sons, Inc.
- Nahavandi, A. (2011). *The art and science of leadership* (6th ed.). Upper Saddle River, NJ: Pearson.
- Nair, R. (2011). Essential conversations: Executive perceptions of the Human Resources leader as a strategic business partner (Doctoral dissertation). Retrieved from ProQuest Dissertations and Theses. (Document ID 877975126)
- Neil, J. S., & Rasmussen, K. (Eds.) (2007). *Encyclopedia of Measurement and Statistics*. Thousand Oaks, CA.: Sage Publications, Inc.
- Neuman, W. L. (2009). *Social research methods: Qualitative and quantitative approaches* (7th ed.). Boston, MA: Allyn & Bacon.
- Obeidat, B. (2012). The relationship between human resource information system (HRIS) functions and human resource management (HRM) functionalities. *Journal of Management Research*, 4(4), 192-211. doi:10.5296/jmr.v4i4.2262
- Obeidat, M. A., & Turgay, T. (2013). Empirical analysis for the factors affecting the adoption of cloud computing initiatives by information technology executives. *Journal of Management Research*, 5(1), 152-178.

- Okoli, C. & Pawlowski, S. D. (2004). The Delphi method as a research tool: An example, design considerations and applications. *Information & Management*, 42, 15-29.
Retrieved from <http://www.journals.elsevier.com/information-and-management/>
- Overman, S. (2002). Well-designed self-service saves time, money. *HR News*, 21(12), 2-4.
- Oliveira, T., & Martins, M. F. (2011). Literature review of information technology adoption models at firm level. *Electronic Journal of Information Systems Evaluation*, 14(1), 110-121. Retrieved from <http://www.ejise.com/main.html>
- Patton, M. Q. (2002). *Qualitative research and evaluation methods*. (3rd ed.) Thousand Oaks: Sage Publications.
- Peshkin, A. (1993). The goodness of qualitative research. *Educational Researcher*, 22(2), 23-29.
- Polen, L. L. (2009). Perceptions of electronic technology impacts upon Human Resource professionals (Doctoral dissertation). Retrieved from ProQuest Dissertations and Theses. (Document ID 305123782)
- Polit, D. F., & Beck, C. T. (2010). Generalization in quantitative and qualitative research: Myths and strategies. *International Journal of Nursing Studies*, 47, 1451-1458.
doi:10.1016/j.ijnurstu.2010.06.004
- Prabhu, N. K., Ph D. (2011). Human resource management at the crossroads. The *International Business & Economics Research Journal*, 10(8), 23-34. Retrieved from <http://www.berjournal.com>

- Price, B., & Walker, C. (2009). Guidance on conducting a literature search and reviewing mixed literature. *Nursing Standard*, 23(24), 43-9; quiz 50, 52. Retrieved from <http://rcnpublishing.com/journal/ns>
- Purvis, R. L., Sambamurthy, V. V., & Zmud, R. W. (2001). The Assimilation of Knowledge Platforms in Organizations: An Empirical Investigation. *Organization Science*, 12(2), 117-135. Retrieved from <http://pubsonline.informs.org>
- Qaisar, S. & Khawaja, K. F., (2012). Cloud-computing: Network/Security threats and countermeasures. *Interdisciplinary Journal of Contemporary Research in Business*. 3(9), 1323-1329.
- Rader, D. (2012). How Cloud computing maximizes growth opportunities for a firm challenging established rivals. *Strategy & Leadership*, 40(3), 36-43.
doi:10.1108/10878571211221202
- Rickborn, C. (2012). Cloud computing will kill the resumé, and that's a good thing. *TechCrunch*. Retrieved from <http://techcrunch.com/2012/04/15/rip-paper-resumes/>
- Rogers, E. M. (2003). *Diffusion of Innovations* (5th ed.). New York, NY: Free Press.
- Ross, P. (2011). How to keep your head above the Clouds: Changing ICT worker skill sets in a Cloud computer environment. *Employment Relations Record*, 11(1), 62-74. Retrieved from <http://www.pera.net.au/page6.php>
- Rowe, G. & Wright, G. (1999). The Delphi technique as a forecasting tool: Issues and analysis. *International Journal of Forecasting*, 15(4), 353-375. Retrieved from <http://www.journals.elsevier.com/international-journal-of-forecasting/>

- Ruta, C. (2005). The application of change management theory to HR portal implementation in subsidiaries of multinational corporations. *Human Resource Management, 44*(1), 35-53. doi:10.1002/hrm.20039
- Saleem, I. (2012). Impact of adopting HRIS on three tiers of HRM: Evidence from Developing Economy. *Business Review, 7*(2), 96-105.
- Salkind, N. J. (2003). *Exploring research* (5th ed.). Upper Saddle River, NJ: Prentice Hall.
- Saniewski, L.L. (2011). The impact of leadership on employee retention. Retrieved from ProQuest. 3462491.
- Sareen, P., & Subramanian, K. V. (2012). E-HRM: A strategic review. *International Journal of Human Resource Studies, 2*(3), 119-n/a. doi:10.5296/ijhrs.v2i3.2100
- Savaneviciene, A., Stankeviciute, Z. (2012). HRM and performance linkage: the role of line managers. *Economics and Management, 17*(1), 390-396.
- Schepers, J., Wetzels, M., & Ruyter, K. (2005). Leadership styles in technology acceptance: Do followers practice what leaders preach? *Managing Service Quality, 15*(6), 496-508. Retrieved from <http://www.emeraldgrouppublishing.com/products/journals/journals.htm?id=msq>
- Shank, G. D. (2006). *Qualitative research: A personal skills approach*. Upper Saddle River, NJ: Prentice Hall.
- Shilpa, V., & Gopal, R. (2011). The implications of implementing electronic-human resource management (e-HRM) systems in companies. *Journal of Information Systems and Communication, 2*(1), 10-29. Retrieved from <http://www.bioinfopublication.org/journal.php?opt=azjou&jouid=BPJ0000271>

- SHRM Special Expertise Panels (2014). Future Insights: The top trends for 2014 according to SHRM's HR subject matter expert panels. Retrieved from <https://www.shrm.org/Research/Documents/13-0724%202014%20Panel%20Trends%20Report%20v3.pdf>.
- SHRM Research Spotlight. (2011). Social networking websites and staffing. Retrieved from http://www.shrm.org/Research/SurveyFindings/Documents/Social%20Networking%20Flyer_Staffing%20Conference_FINAL1.pdf
- SHRM (2012). Job description: Human Resource Business Partner. Society for Human Resource Management. Retrieved from www.shrm.org/TemplatesTools/Samples/JobDescriptions?Pages/HumanResourcesBusinessPartner.aspx.
- Sierra-Cedar, (2015). 2014-2015 HR systems survey: HR technologies, deployment approaches, integration, metrics, and value (17th ed.). Retrieved from http://www.sierra-cedar.com/wp-content/uploads/sites/12/2014/11/Sierra-Cedar_2014-2015_HRSystemsSurveyWhitePaper.pdf
- Simon, M.K. (2010). *Dissertation & scholarly research: A practical guide to start & complete your dissertation, thesis, or formal research project (2nd ed.)*. Cottage Grove, OR: Dissertation Success, LLC.
- Skiba, D. J. (2011). Are you computing in the Clouds? Understanding Cloud computing. *Nursing Education Perspectives*, 32(4), 266-8. Retrieved from <http://www.nln.org/nlnjournal/>

Skulmoski, G. J., Hartman, F. T., & Krahn, J. (2007). The Delphi method for graduate research. *Journal of Information Technology Education*, 6, 1-21. Retrieved from <http://jite.org>

Smith, J. A., Flowers, P., & Larkin, M. (2009). *Interpretive Phenomenological Analysis*. Thousand Oaks, CA: Sage Publications, Inc.

Society for Human Resource Management (SHRM), (2011). SHRM workplace forecast: The top workplace trends according to HR professionals. Retrieved from https://www.shrm.org/Research/FutureWorkplaceTrends/Documents/11-0014WPF_Posting_6.pdf

Society for Human Resource Management (SHRM), (2012). Future insights: The top trends for 2012 according to SHRM's HR subject matter expert panels. Retrieved from http://www.shrm.org/Research/FutureWorkplaceTrends/Documents/11-0622%20Workplace%20panel_trends_symp%20v4.pdf.

Society for Human Resource Management (SHRM), (2014). Mission and history. Retrieved from <https://www.shrm.org/about/history/Pages/default.aspx>.

Society of Human Resource Management, (2014). Glossary of Human Resource Terms. Retrieved from <http://www.shrm.org/templatestools/glossaries/documents/glossary%20of%20human%20resources%20terms.pdf>

- Spaulding, A. C. (2011). *Human resource management systems: The search for quality and effectiveness in healthcare delivery*. (Order No. 3487791, The Texas A&M University System Health Science Center). *ProQuest Dissertations and Theses*, 176. Retrieved from <http://search.proquest.com/docview/913523233?accountid=35812>. (913523233).
- Sprague, R. (2011). Invasion of the social networks: Blurring the line between personal life and the employment relationship. *University Of Louisville Law Review*, 50(1), 1-34. Retrieved from <https://www.law.louisville.edu/students/lawreview>
- Stanley, B., & Pope, D. (2000). Self-service lessons. *HR Magazine*, 45(5), 155-164.
- Starner, T. (2011). HR and the Cloud. *Human Resource Executive Online*. Retrieved from <http://www.hreonline.com/HRE/printstory.jsp?storyId=533339055>
- Sternberger, W. B. (2002). The changing role of the human resource profession: The transformation of the HR function from an administrative, transactional orientation into a strategic business partnership. (Union Institute and University). *ProQuest Dissertations and Theses*, 122-122 p. Retrieved from <http://search.proquest.com/docview/305457033?accountid=35812>. (305457033).
- Staley, D., & Gandi, M. (2014). Moving HR to the cloud? Navigate key barriers to boost success. Retrieved from http://www.pwc.com/en_US/us/increasing-it-effectiveness/publications/assets/moving-hr-to-the-cloud.pdf
- Strauss, G. (2001). HRM in the USA: correcting some British impressions. *International Journal of Human Resource Management*, 12(6), 873-897.
doi:10.1080/09585190110063138

- Strauss, S. G., Parker, A. M., Bruce, J. B., & Dembosky, J. W. (2009, April). The group matters: A review of the effects of group interaction on processes and outcomes in analytic teams. RAND Corporation. Document: WR580. Retrieved from http://www.rand.org/content/dam/rand/pubs/working_papers/2009/RAND_WR580.pdf
- Stiles, P. G., & Petrila, J. (2011). Research and confidentiality: Legal issues and risk management strategies. *Psychology, Public Policy, and Law*, 17(3), 333-356. doi: 10.1037/a0022507
- Storey, J. (1995). Is HRM catching on? *International Journal of Manpower*, 16(4), 3. Retrieved from <http://search.proquest.com/docview/231901653?accountid=35812>
- Stryve Advisors & The RBL Group, (2011). Capitalizing on today's technologically talented organization. Retrieved from http://rblip.s3.amazonaws.com/Institute/institute_white_papers/Capitalizing%20on%20Today%27s%20Technologically%20Talented%20Organization%20-%20Final%20Report.pdf
- Subramanian, B. (2012). The disruptive influence of Cloud computing and its implications for adoption in the pharmaceutical and life sciences industry. *Journal of Medical Marketing*, 12(3), 192-203. doi:10.1177/1745790412450171
- The résumé: A dinosaur? (2011). *Financial Executive*, 27(3), 12-13.
- Theriou, G. N., & Chatzoglou, P. D. (2008). Enhancing performance through best HRM practices, organizational learning and knowledge management. *European Business Review*, 20(3), 185-207. doi:10.1108/09555340810871400

- Thurmond, V. A. (2001). The point of triangulation. *Journal of Nursing Scholarship*, 33(3), 253-258.
- Timmins, E. M. (2008). Leadership characteristics of human resource professionals: Factors that influence leadership style. (Order No. 3320356, Capella University). ProQuest Dissertations and Theses, 116-n/a. Retrieved from <http://search.proquest.com/docview/193991204?accountid=35812>. (193991204).
- Toldi, N. L. (2010). Job applicant reactions to the use of video interviewing as a selection tool (unpublished master's thesis, Pennsylvania State University). Retrieved from Wiley Online Library <http://onlinelibrary.wiley.com/doi/10.1002/ert.20351/>
- Tornatzky, L G., & Fleischer, M. (1990). *The processes of technological innovation*. Lexington Books: Lexington, MA.
- Turoff, M. (1970). "The design of a policy Delphi." *Technological forecasting and social change*, 2, 149-171.
- Tyson, S. (1995). *Strategic prospects for HRM*. London, England: Institute of Personnel and Development.
- Ullah, M. (2010). A Systematic Approach of Conducting Employee Selection Interview. *International Journal of Business & Management*, 5(6), 106-112. Retrieved from <http://www.ccsenet.org/journal/index.php/ijbm>
- Ulrich, D., (1997). *Human resource champions: The next agenda for adding value and delivering results*. Harvard Business Review Press: Boston, MA.
- Ulrich, D. (2010). The long view. *T + D*, 64(8), 68-69. Retrieved from <http://search.proquest.com/docview/744495514?accountid=35812>

- Ulrich, D., & Brockbank, W. (2005). *HR value proposition*. Boston: Harvard Business School Press.
- Vonk, G., Geertman, S., & Schot, P. (2007). New technologies stuck in old hierarchies: The diffusion of geo-information technologies in Dutch public organizations. *Public Administrative Review*, 67(4), 745-756. Retrieved from [http://onlinelibrary.wiley.com/journal/10.1111/\(ISSN\)1540-6210](http://onlinelibrary.wiley.com/journal/10.1111/(ISSN)1540-6210)
- Wang, D. S., & Shyu, C. L. (2007). Will the strategic fit between business and HRM strategy influence HRM effectiveness and organizational performance? *International Journal of Manpower*, 29(2), 92-110.
doi:10.1108/01437720810872677
- Wang, Y M., Wang, Y. S., & Yang, Y F. (2010). Understanding the determinants of RFID adoption in the manufacturing industry. *Technological Forecasting and Social Change*, 77, 803-815.
- Weiss, M.A., (2011). The use of social media sites data by business organizations in their relationship with employees. *Journal of Internet Law*, 8, 16-27. Retrieved from http://www.aspenpublishers.com/product.asp?catalog_name=Aspen&product_id=SS10942904&cookie%5Ftest=1
- Willcocks, L.P., Venters, W., & Whitley, E. A., (2013) Cloud sourcing and innovation: slow train coming? A composite research study. *Strategic Outsourcing: An International Journal*, 6(2), 184-202. Retrieved from <http://dx.doi.org/10.1108/SO-04-2013-0004>

- Wilcox, J. (1997). The evolution of human resources technology. *Management Accounting*, June 1997, 3-5. Retrieved from <http://www.journals.elsevier.com/management-accounting-research/>
- Willis, J. W. (2007). *Foundations of qualitative research: Interpretive and critical approaches*. Thousand Oaks, CA: Sage.
- Wren, D. A. (2005). *The History of Management Thought*. United States: Hoboken, NJ: John Wiley & Sons, Inc.
- Wren, J. T. (1995). *The leader's companion: Insights on leadership through the ages*. New York: The Free Press.
- Wright, A.D. (2011). Cloud computing and security. Society for Human Resource Management. Retrieved from <http://www.shrm.org/hrdisciplines/technology/articles/pages/Cloudsecurity.aspx>.
- Wright, P. M., Gardner, T. M., Moynihan, L. M., & Allen, M. R. (2005). The relationship between HR practices and firm performance: examining causal order. *Personnel Psychology*, 58(2), 409-446. Retrieved from [http://onlinelibrary.wiley.com/journal/10.1111/\(ISSN\)1744-6570](http://onlinelibrary.wiley.com/journal/10.1111/(ISSN)1744-6570)
- Xiaoya, L., Marler, J. H., & Zhiyu, C. (2012). Strategic Human Resource Management in China: East Meets West. *Academy Of Management Perspectives*, 26(2), 55-70. Retrieved from <http://aom.org/amp/>
- Yeh, C. (2012). Cloud computing and human resources in the knowledge era. *Human Systems Management*, 31(3/4), 165-175. Retrieved from <http://www.iospress.nl/journal/human-systems-management/>

- Yost, P. R., Mclellan, J. R., Ecker, D. L., Chang, G. C., Hereford, J. M., Roenicke, C. C., . . . Winberg, Y. L. (2011). HR interventions that go viral. *Journal of Business and Psychology, 26*(2), 233-239. doi:10.1007/s10869-011-9227-4
- Yukl, G. (2006). *Leadership in organizations* (6th ed.). Upper Saddle River, NJ: Pearson.
- Yusliza, M. Y., & Ramayah, T. T. (2011). Explaining the Intention to Use Electronic HRM among HR Professionals: Results from a Pilot Study. *Australian Journal of Basic & Applied Sciences, 5*(8), 489-497.
- Zakaria, N. (2013). Enhancing organizational performance of Malaysian SMEs through human resource management (HRM) practices and organizational innovative capability: a proposed framework. *Journal of Global Entrepreneurship, 5*(1), 56-82.
- Zakaria, N., Zainal, S.R., & Nasurdin, (2011). Investigating the role of human resource management practices on the performance SME: A conceptual framework. *Journal of Global Management, 3*(1), 1-20.
- Zeitlin, J. (1987). From labour history to the history of industrial relations. *Economic History Review, 40*(2), 159-184.

Appendix A

Request for Permission to Recruit Participants from LinkedIn Forums

Hello,

Thank you for taking the time to read this message. My name is Tracy Celaya, I am a doctoral candidate at University of Phoenix in the Management and Organizational Leadership program. I am currently preparing for my doctoral study on the impact of Cloud-based technologies on Human Resource Management Performance and am targeting informed HR professionals and HR leaders. I am writing to request permission to post a link to the study questionnaire in the forum for group members to volunteer as participants. The study participants will remain anonymous and must not reveal their respective organizations and anticipate conducting the study late this spring. I would be happy to forward a copy of the questionnaire for your review.

Part of my study process is ensuring I receive written approval from the group administrator, I appreciate any assistance you can provide!

Best regards,
Tracy A. Celaya

Appendix B

Permission to Recruit Participants from AZ SHRM LinkedIn Forum

Messages **3** Invitations **3**

Reply Forward Archive Delete Report Spam

RE: Doctoral Study

 **Gail S. Weidman, MM/HRM, SPHR** · Global Diversity & Employee Rights Affirmative Action Specialist at Boeing

To: Tracy Celaya | MBA | PMP

Date: January 16, 2014

You replied to this message:

Hi Tracy,

Happy New Year!! Things are going great! Things have been crazy for me too. I completely understand.

Yes, I know a lot of HR external colleagues. I sit on the AZSHRM as well as the AZilg boards. If you send me the link to your survey, I will reach out to my resources.

You asked about the AZSHRM linkedin group.....Monika no longer manages that site. If you provide the link, I can try to post on the site for you.....and/or reach out to my network via email. Let me know. I can also reach out to the AZSHRM local chapter presidents to ask them to send to their network to assist.

I will do what I can for you. Please email your message and link to my personal email -- [REDACTED] I would recommend that you detail the email with your intent for the information, etc. I am sure you will get bites from my network.

Gail

Appendix C

Permission to Recruit Participants from LinkedIn Group 2 Forum



PREMISES, RECRUITMENT AND NAME (PRN) USE PERMISSION



Please complete the following by check marking any permissions listed here that you approve, and please provide your signature, title, date, and organizational information below. If you have any questions or concerns about this research study, please contact the University of Phoenix Institutional Review Board via email at IRB@phoenix.edu.

I hereby authorize Tracy Celaya, a student of University of Phoenix, to use the premises (facility identified below) to conduct a study entitled The Effect of Cloud-Based Computing on Human Resource Management Performance: A Delphi Study.

I hereby authorize Tracy Celaya, a student of University of Phoenix, to recruit subjects for participation in a study entitled The Effect of Cloud-Based Computing on Human Resource Management Performance: A Delphi Study. .

I hereby authorize Tracy Celaya, a student of University of Phoenix, to use the name of the facility, organization, university, institution, or association identified above when publishing results from the study entitled The Effect of Cloud-Based Computing on Human Resource Management Performance: A Delphi Study. .



Title

Location AZ HR Connections LinkedIn Forum

Messages **3**

Invitations **3**

Reply

Forward

Archive

Delete

Report Spam

RE: Request for Access



Christopher Dupree · Senior Account Manager, Client Services Coordinator

To: Tracy Celaya | MBA | PMP

Date: February 6, 2014

Hi Tracy,

That's fine..just request it through the group and I'll approve. Let me know when you do so that I can go and approve it.

On 02/05/14 7:56 PM, Tracy Celaya | MBA | PMP wrote:

Hello Christopher,

Thank you for taking the time to read this message. My name is Tracy Celaya, I am a doctoral candidate at University of Phoenix in the Management and Organizational Leadership program. I am currently preparing for my doctoral study on the impact of cloud-based technologies on Human Resource Management Performance and am targeting informed HR professionals and HR leaders. I am writing to request permission to post a link to the study questionnaire in the forum for group members to volunteer as participants. The study participants would remain anonymous and are not asked to reveal their respective organizations and anticipate conducting the study late this spring. I would be happy to forward a copy of the questionnaire for your review.

Part of my proposal process is ensuring I receive written approval from the group administrator from where I will request study participants, any assistance you can provide is greatly appreciated!

Best regards,
Tracy A. Celaya

Appendix D

Permission to Recruit Participants from LinkedIn Group 3 Forum

Messages **3** Invitations **3**

Reply Forward Archive Delete Report Spam

RE: Request for Approval - AZSHRM

 **Monika Masciangelo** · President & Founder at Vantage Management Solutions
To: Tracy Celaya | MBA | PMP
Date: February 6, 2014

Hello Tracy,

Please feel free to post the link on the group page. I believe we are set to an open group so you should be able to become a member and post your link. Let me know if you have any additional questions.

Thanks,

-Monika-

On 02/05/14 8:23 PM, Tracy Celaya | MBA | PMP wrote:

Hello Monika,

Thank you for taking the time to read this message. My name is Tracy Celaya, I am a doctoral candidate at University of Phoenix in the Management and Organizational Leadership program. I am currently preparing for my doctoral study on the impact of cloud-based technologies on Human Resource Management Performance and am targeting informed HR professionals and HR leaders. I am writing to request permission to post a link to the study questionnaire in the forum for group members to volunteer as participants. The study participants would remain anonymous and are not asked to reveal their respective organizations and anticipate conducting the study late this spring. I would be happy to forward a copy of the questionnaire for your review.

Part of my proposal process is ensuring I receive written approval from the group administrator from where I will request study participants. any assistance you can provide is

Appendix E

Informed Consent for Full Delphi Study Participants



Informed Consent: Participants 18 years of age and older

Dear [PARTICIPANT NAME],

My name is Tracy Celaya and I am a student at the University of Phoenix working on a Doctorate in Management of Organizational Leadership degree. I am conducting a research study entitled The Effect of Cloud-Based Computing on Human Resource Management Performance: A Delphi Study. The purpose of the research study is to understand the reasons HR leaders are slow to implement Cloud-Based Computing and potentially identify how Cloud-Based Computing influences Human Resource Management (HRM), HR effectiveness, and potentially the overall performance of the organization.

This study is a Delphi research design consisting of two or three rounds of internet-based surveys with a panel of a minimum of 12 informed participants. As an informed participant of this study you must have a minimum of 5 years experience in HR. Surveys will be securely distributed via SurveyMonkey.com and will not include any video or audio recording. Your participation will involve approximately 1 to 1½ hours of your time. The anticipated amount of time for the completion of each round is approximately 20-30 minutes and each survey must be completed within one week of receiving the survey link. In the first round, you will be asked to provide free-response answers to questions regarding your opinions on technologies for Human Resources, HRM performance, and HR leadership characteristics. In the second round, you will be asked to rate the responses using a Likert-type scale. If sufficient information is not obtained, a third round survey may be distributed.

Your identity will be coded to ensure anonymity. Only the researcher will have access to this code further securing the confidentiality of your identity. Your participation in this study is voluntary. You can choose to withdraw from the study at any time without any penalty or loss of benefits. The results of the research study may be published but your identity will remain confidential and your name will not be disclosed to any outside party.

All data will be kept in a locked, fireproof safe for a period of three years and accessible only to the researcher. Participant identity codes will be kept separate from the research data in a locked, fireproof safe and accessible only to the researcher. At the end of the three-year period, all documentation containing data key codes, participant codes, and research data will be shredded and hard drives will be erased, formatted, and destroyed.

In this research, there are no foreseeable risks to you.

Although there may be no direct benefit to you, a possible benefit from your participation is the outcome of this study may benefit HR professionals better understand the effect of Cloud-based computing on HRM performance and may help HR leaders in identifying characteristics of HR leaders having successfully implemented Cloud-Based Computing, building a business case for moving forward in their own organizations with Cloud-based technologies, and may provide a model for implementing Cloud-based technologies.

If you have any questions about the research study, please call me at (xxx) xxx-xxxx or email xxxxx@xxxxx.com. For questions about your rights as a study participant, or any concerns or complaints, please contact the University of Phoenix Institutional Review Board via email at IRB@phoenix.edu.

As a participant in this study, you should understand the following:

1. As an informed participant of this study you must have a minimum of 5 years experience in HR.
2. You may decide not to be part of this study or you may want to withdraw from the study at any time. If you want to withdraw, you can do so without any problems.
3. Your identity will be kept confidential.
4. Tracy Celaya, the researcher, has fully explained the nature of the research study and has answered all of your questions and concerns.
5. The researcher, Tracy Celaya, will develop a way to code the data to assure that your name is protected.
6. Data will be kept in a secure and locked area. The data will be kept for three years, and then destroyed.
7. The results of this study may be published.

“By signing this form, you agree that you understand the nature of the study, the possible risks to you as a participant, and how your identity will be kept confidential. When you sign this form, this means that you are 18 years old or older and that you give your permission to volunteer as a participant in the study that is described here.”

I accept the above terms. I do not accept the above terms. (CHECK ONE)

Signature of the interviewee _____ Date _____

Signature of the researcher _____ Date _____

Appendix F

Round 1 Questionnaire

The Adoption of Cloud-Based Computing on Human Resource Management Performance: A Delphi Study

Please answer the following questions for a company where you have prolonged experience. This “target” company could be your current company, or another company you know very well. Some questions will be about the target company, others will not necessarily be company specific.

Participant Qualifiers (informed HR participant):

1. Please provide the Participant Code from the email you received. [FREE-FORM]
2. Gender of HR Participant: Male or Female
3. How many years of HR experience do you have? (None, 5 years or less, 6-9 years, 10-14 years, 15 or more years.)
4. How many years of HR management experience do you have? (None, 5 years or less, 6-9 years, 10-14 years, 15 or more years.)
5. How many years of HR executive experience do you have? (None, 5 years or less, 6-9 years, 10-14 years, 15 or more years.)
6. Have you worked with electronic HR systems before?
7. What electronic HR systems have you used? (HRIS, CRM, Payroll, Benefits, Screening, Recruiting, Interviewing, Other)
8. The National Institute of Standards & Technology (NIST) defines Cloud-Based Computing as a model for enabling ubiquitous, convenient, on-demand network access to a shared pool of configurable computing resources (e.g., networks, servers, storage, applications, and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction. Three service models include Software-as-a-Service (SaaS), Infrastructure-as-a-Service (IaaS), and Platform-as-a-Service (PaaS). Have you worked with Cloud-Based Computing in HR? [Yes, No]
9. Which Cloud-Based Computing systems have you worked with? [FREE-FORM]
10. What best represents your level within the company? (individual contributor, manager of individual contributors, director of managers, executive, other [please specify] _____)

Company Demographics:

1. Is the target company based in the United States?
2. In what industry is the target company involved? (education, manufacturing, retail, business, science, social services/community, healthcare, legal, agricultural/fishing/forestry, construction, technology, engineering, arts/entertainment, food/service, maintenance, personal care, transportation, production, other (____ Fill-In ____))
3. Approximately how many people does the company employ? (0-100, 100-500, 500-1000, 1000-5000, 5000-10000, 10000+)
4. How long has the company been in business? (<5, 10, 15, 20, 25, 30 or more.)
5. What are the approximate gross sales of the company? (under \$50,000, \$50k-\$100k, \$100k-\$500k, \$500k-\$1M, \$1M-\$10M, \$10M-\$50M, \$50M-\$100M, \$100M-\$1B, \$1B+, Unknown, Prefer not to answer).

Round 1 Survey Questions:

1. In what ways does the target company currently conduct electronic HR processes? [FREE-FORM]

2. Which of the following HR processes does the target company use onsite technology?

- a. Compensation/Payroll
- b. Benefits
- c. Recruiting
- d. Screening/Interviewing
- e. Hiring
- f. Onboarding
- g. Training & Development
- h. Time & Attendance
- i. Workforce & Succession Planning
- j. Employee Labor Relations
- k. Diversity & Inclusion
- l. Performance Management
- m. Predictive Analysis
- n. Other (Please Specify)

3. Which of the following processes does the target company currently use Cloud-Based Computing?

- a. Compensation/Payroll
- b. Benefits
- c. Recruiting
- d. Screening/Interviewing
- e. Hiring
- f. Onboarding
- g. Training & Development
- h. Time & Attendance
- i. Workforce & Succession Planning
- j. Employee Labor Relations
- k. Diversity & Inclusion
- l. Performance Management
- m. Predictive Analysis
- n. Other (Please Specify)

4. Which of the following HR processes does the target company plan to move to Cloud-Based Computing?

Please answer which HR processes does the target company currently conduct using onsite technology: (Onsite technology refers to a company owned and operated computer system)	Currently Using	Within 1 year	Within 5 years	No Plans	Unknown
--	--------------------	------------------	-------------------	-------------	---------

-
- Compensation**
 - Benefits**
 - Recruiting**
 - Screening/Interviewing**
 - Hiring**
 - Onboarding**
 - Learning/Training**
 - Workforce/Succession Planning**

Employee Labor Relations
Diversity/Inclusion/Engagement
Performance Management
Predictive Analytics
Other (Write-in)

5. Please list which HR processes are currently accessible via mobile devices at the target company:

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.

6. Please list five to seven characteristics you believe are important for successful HR leaders, in general, for companies:

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.

7. Of the characteristics you listed above for HR leaders, which three do you think contribute the most to a successful HR leader who is adopting Cloud-Based Computing?

- 1.
- 2.
- 3.

8. List any additional characteristics, not listed above, which you think contribute to a successful HR leader who is adopting Cloud-Based Computing.
9. List the top three to five reasons why the target company *has not* implemented Cloud-Based Computing for HR processes?
 - 1.
 - 2.
 - 3.
 - 4.
 - 5.
10. List the top three to five reasons why the target company *has* implemented Cloud-Based Computing for HR processes?
 - 1.
 - 2.
 - 3.
 - 4.
 - 5.
11. What three to five factors contribute to *successful implementation* of Cloud-Based Computing for HR processes?
 - 1.
 - 2.
 - 3.
 - 4.
 - 5.
12. What three to five factors have challenge or *limit a successful implementation* of Cloud-Based Computing for HR processes?
 - 1.
 - 2.
 - 3.
 - 4.
 - 5.

12. What do you consider best practices of Cloud-Based Computing adoption in HR?

- 1.
- 2.
- 3.
- 4.
- 5.

13. What effect do you think using Cloud-Based Computing has on the following?

None Low Moderate High Critical

Absenteeism
Employee Retention
Cost Efficiency
Time Efficiency
Overall Employee Performance
HR Individual's Performance
Overall HR Department
Performance
Overall Organizational
Performance

13. In your experience, what percentage of off-the-shelf Human Resources Technology Systems (HRTS) are customized? (Please only enter a whole number without the percent [%] sign. The sum should equal no more than 100.

- a. HRTS with very little modification (10% or less is customized): [FREE-FORM]
- b. HRTS with some modification (25% or less is customized): [FREE-FORM]
- c. HRTS with significant modification (25% or more is customized): [FREE-FORM]

14. For each of the three categories of customization listed in the previous question, what percent of the systems do you estimate were successfully implemented? (Please only enter a whole number without the percent [%] sign).
- a. HRTS with very little modification (10% or less is customized): [FREE-FORM]
 - b. HRTS with some modification (25% or less is customized): [FREE-FORM]
 - c. HRTS with significant modification (25% or more is customized): [FREE-FORM]
15. In your experience with the target company, what percentage of Cloud-Based Computing systems are successfully implemented? (Please only enter a whole number without the percent [%]). [FREE-FORM]

Appendix G

Round 2 Questionnaire

The Adoption of Cloud-Based Computing on Human Resource Management Performance: A Delphi Study

Thank you for participating in this survey! This is the second (and likely the final) round for this examination regarding how the adoption of Cloud-Based Computing affects HRM and organizational performance. Please respond with a company you know well in mind from the previous survey.

Please note the information you provide is based on your opinion and experience, there are no right or wrong answers.

The Delphi approach builds on the knowledge gained from the first round. Therefore, it is very important to have each participant complete the next round. You will see an indication of how many participants from Round 1 listed a specific category. The factors with the most occurrences from Round 1 are listed first so you can use that in your assessment of the ranking Round 2.

Your feedback is greatly appreciated!

1. Please provide the participant code from the email you received: [FREE-FORM]
2. Rate the likelihood of the following reasons for not implementing Cloud-Based Computing at the target company.

Definitely Not	Very Probably Not	Probably Not	Possibly	Probably	Very Probably	Definitely
<ol style="list-style-type: none"> a. Cost/budget (9 occurrences) b. Lack of technology awareness (5 occurrences) c. Security (4 occurrences) d. Aversion to change (5 occurrences) e. Executive fear/unfamiliarity (3 occurrences) f. Legacy systems function sufficiently (3 occurrences) g. Lack of user skill (1 occurrence) h. HR processes not defined (1 occurrence) i. Company culture (1 occurrence) j. HR concerned about people not technology (1 occurrence) k. Limited staff & resources (1 occurrence) l. Other priorities rank higher (1 occurrence) m. Outsourcing HR processes (1 occurrence) n. Small company size (1 occurrence) o. Other (please specify) 						

3. Rate the likelihood of the following reasons for implementing Cloud-Based Computing at the target company.

Definitely Not	Very Probably Not	Probably Not	Possibly	Probably	Very Probably	Definitely

a.	Accessibility/availability to the application & data (5 occurrences)
b.	Budget/cost (3 occurrences)
c.	Mobility of application & data (3 occurrences)
d.	Business priority (2 occurrences)
e.	Efficiency in productivity (2 occurrences)
f.	Global expansion as business strategy (2 occurrences)
g.	Consistency of information (1 occurrence)
h.	Encourage technology awareness & ability (1 occurrence)
i.	Improved customer experience (1 occurrence)
j.	Ability to implement a phased approach to cloud (1 occurrence)
k.	Prioritizing specific HR processes as dictated by company & leadership (1 occurrence)
l.	Security (1 occurrence)
m.	Streamlining multiple company sites (1 occurrence)
n.	Technical agility (1 occurrence)
o.	Other (please specify)

4. Rate how likely the following factor are in contributing to the successful implementation of Cloud-Based Computing.

Definitely Not	Very Probably Not	Probably Not	Possibly	Probably	Very Probably	Definitely
a. Change management plan (8 occurrences) b. Implementation plan (7 occurrences) c. Senior leadership support (5 occurrences) d. Training (5 occurrences) e. Communication (4 occurrences) f. IT support (4 occurrences) g. Security (3 occurrence) h. Understanding of technology available (3 occurrence) i. Vendor support (3 occurrence) j. Ease of use (2 occurrence) k. Solid business case (2 occurrence) l. Cost effective (1 occurrence) m. Metrics for success (1 occurrence) n. Pressure from leadership (1 occurrence) o. Scalability (1 occurrence) p. Other (please specify)						

5. Rate how likely the following factors are to challenge the implementation of Cloud-Based Computing.

Definitely Not	Very Probably Not	Probably Not	Possibly	Probably	Very Probably	Definitely
a. Lack of planning/scoping (7 occurrences) b. Lack of subject knowledge (6 occurrences) c. Fear/Close-minded (4 occurrences) d. Ineffective training (4 occurrences) e. Lack of executive leadership support (3occurrences) f. Budget (2 occurrences) g. Lack of vendor support (2 occurrence) h. Low employee adoption (2 occurrence) i. Resistant to change (2 occurrence) j. Security (2 occurrence) k. Company Culture (1 occurrence) l. Disaster Recovery (1 occurrence) m. Hidden fees/costs (1 occurrence) n. Lack of internal IT support (1 occurrence) o. Vendor selection (1 occurrence) p. Other (please specify)						

6. Rate the importance of the following best practices for implementing Cloud-Based Computing in Human Resources.

Not Important Very Probably Not	Somewhat Important	Moderately Important	Very Important	Critical
<ul style="list-style-type: none"> a. Create & follow a comprehensive implementation plan (11 occurrences) b. Training plan for all end users (9 occurrences) c. Address data security (access/accuracy/backup) (6 occurrences) d. Conduct detailed needs analysis (5 occurrences) e. Leadership buy-in & support (3 occurrences) f. Create a communication plan (2 occurrences) g. Ensure scalability (2 occurrence) h. All-in-one integration (1 occurrence) i. Cost efficiency (1 occurrence) j. Hire a professional consultant (1 occurrence) k. Implement a feedback loop for ongoing improvements (1 occurrence) l. Solution should fit company culture & needs (1 occurrence) m. Other (please specify) 				

7. Rate the importance of the following characteristics of a successful HR leader.

Not Important Very Probably Not	Somewhat Important	Moderately Important	Very Important	Critical
<ul style="list-style-type: none"> a. Knowledgeable (education/certification) (9 occurrences) b. Coaching/Empowering/Influencing (9 occurrences) c. Strategic (6 occurrences) d. Communication (5 occurrences) e. Integrity/Credibility (5 occurrences) f. Adaptability/Flexibility (4 occurrences) g. Business Acumen (4 occurrences) h. Open-minded/Approachable (4 occurrences) i. People savvy/Interpersonal skills (4 occurrences) j. Analytical/Detail-oriented (3 occurrences) k. Compassionate (3 occurrences) l. Managing Vision & Purpose (3 occurrences) m. Project/Change Management (3 occurrences) n. Tech Savvy (3 occurrences) o. Initiative (2 occurrences) p. Innovative/Foresight (2 occurrences) q. Confident (1 occurrence) r. Relationship Building (1 occurrence) s. Time Management (1 occurrence) t. Other (please specify) 				

8. Rate the importance of the following characteristics of HR leader successfully implementing Cloud-Based Computing.

Not Important Very Probably Not	Somewhat Important	Moderately Important	Very Important	Critical
<ul style="list-style-type: none"> a. Tech Savvy (8 occurrences) b. Business Acumen (6 occurrences) c. Strategic (6 occurrences) d. Adaptability/Flexibility (5 occurrences) e. Innovative/Foresight (4 occurrences) f. Analytical/Detail-oriented (3 occurrences) g. Communication (3 occurrences) h. People Savvy (3 occurrences) i. Project/Change Management (3 occurrences) j. Coaching/Empowering/Influencing (2 occurrences) k. Confident (2 occurrences) l. Knowledgeable (education/certification) (2 occurrence) m. Managerial Courage (2 occurrences) n. Open-minded/Approachable (2 occurrences) 				

- | |
|--|
| <ul style="list-style-type: none">o. Integrity/Credibility (1 occurrence)p. Managing Vision & Purpose (1 occurrence)q. Problem Solver (1 occurrence)r. Time Management (1 occurrence)s. Other (please specify) |
|--|

9. What percentage do you think Cloud-Based Computing contributes to improving the following (Please only enter a whole number with the percent [%] sign.)
- a. Absenteeism [FREE-FORM]
 - b. Cost Efficiency [FREE-FORM]
 - c. Time Efficiency [FREE-FORM]
 - d. Employee Performance [FREE-FORM]
 - e. Individual HR Employee Performance [FREE-FORM]
 - f. Overall HR Department Performance [FREE-FORM]
 - g. Overall Organizational Performance [FREE-FORM]

Appendix H

Introduction Letter for Full Delphi Study

Hello [PARTICIPANT NAME],

My name is Tracy Celaya and I am a student at the University of Phoenix working on a Doctor of Management in Organizational Leadership degree. I would like to thank you for your contribution in this study, *The Effect of Cloud-Based Computing on Human Resource Management Performance: A Delphi Study*. The purpose of this study is to perform an intense examination regarding how the adoption of Cloud-Based Computing affects HRM and organizational performance.

As a participant in this study, you can expect two to three rounds of surveys to obtain sufficient information. In the first round of questions you will be asked to provide free-response answers to most questions and to rate answers on a Likert-type scale for other questions regarding your opinion. Please note the information you provide is based on your opinion and experience, there are no right or wrong answers. The data from Round 1 will contribute to the development of the Round 2 questionnaire. A third round of questions may be considered if more information is needed.

Surveys for the Delphi study are securely administered through SurveyMonkey.com. Your identity and all answers provided to survey questions would be coded to ensure privacy and maintain confidentiality. Only the researcher will have access to the codes further securing your identity. Your participation in this study is voluntary and there are no foreseeable risks to you. If you choose to withdraw from the study you may do so at any time without penalty or loss of benefit to yourself. Please email me at xxxxxxxx@me.com notifying me of your decision to withdraw. Non-response to the surveys will also be considered voluntary withdrawal from the study. The results of the study may be published but your identity will remain confidential and not disclosed to any outside party.

All data will be kept in a locked, fireproof safe for a period of three years and accessible only to the researcher. Participant identity codes will be kept separate from the research data in a locked, fireproof safe and accessible only to the researcher. At the end of the three-year period, all documentation containing data key codes, participant codes, and research data will be shredded and hard drives will be erased, formatted, and destroyed.

Although there may be no direct benefit to you, a possible benefit of your participation is the outcome may benefit HR professionals better understand the effect of Cloud-based computing on HRM performance and may help HR leaders in identifying characteristics of HR leaders having successfully implemented Cloud-Based Computing, building a business case for moving forward in their own organizations with Cloud-based technologies, and may provide a model for implementing Cloud-based technologies.

The full length of the study may take between 4 to 8 weeks and total 1½ hours of your time. You will have one week to complete each round of the survey. The first round of questions is accessible from [DATE] until [DATE] via SurveyMonkey® using the link at the bottom of this letter.

I sincerely appreciate your participation and am happy to answer any questions you may have about the study or research. You can email me at xxxxx@xxxxx or call me at (xxx) xxx-xxxx.

Just a reminder, this Delphi study works with informed participants. The minimum requirements for this study are 5 years of HR experience. If you know someone who may qualify to be a part of this study, you may forward my email address (xxxxx@xxxxx) so they may contact me directly.

Kind regards and much appreciation,
Tracy Celaya

STUDY LINK: [Insert study link here]

Appendix I

Introduction Letter for Pilot Study

Hello [PARTICIPANT NAME],

My name is Tracy Celaya and I am a student at the University of Phoenix working on a Doctor of Management in Organizational Leadership degree. I would like to thank you for your contribution in this pilot study, The Effect of Cloud-Based Computing on Human Resource Management Performance: A Delphi Study. The purpose of this study is to conduct an intense examination regarding how the adoption of Cloud-Based Computing affects HRM and organizational performance.

As a participant in this pilot study, you can expect two rounds of surveys to obtain sufficient information. A third round of questions may occur if more information is necessary. I am asking you to provide your confidential opinion on the content, wording, structure, and focus of the pilot survey. The length of the study may take between 2 to 4 weeks and one hour of your time. Surveys for the pilot Delphi study are administered securely through SurveyMonkey.com. The first round of questions is accessible until [DATE] via SurveyMonkey using the link at the bottom of this letter.

I sincerely appreciate your participation and am happy to answer any questions you may have about the study or research. You can email me at xxxxx@xxxxx or call me at (xxx) xxx-xxxx.

Thank you,

Tracy Celaya

STUDY LINK: [Insert study link here]

Appendix J

Informed Consent for Pilot Study Participants



Informed Consent: Participants 18 years of age and older

Dear [PARTICIPANT NAME],

My name is Tracy Celaya and I am a student at the University of Phoenix working on a Doctorate in Management of Organizational Leadership degree. I am conducting a pilot research study entitled The Effect of Cloud-Based Computing on Human Resource Management Performance: A Delphi Study. The purpose of the research study is to understand the reasons HR leaders are slow to implement Cloud-Based Computing and potentially identify how Cloud-Based Computing influences Human Resource Management (HRM), HR effectiveness, and potentially the overall performance of the organization.

This pilot study is a Delphi research design consisting of two or three rounds of internet-based surveys with a panel of a minimum of 3 participants. As an informed participant of this study you must have a minimum of 5 years experience in HR. Surveys will be securely distributed via SurveyMonkey.com and will not include any video or audio recording. Your participation will involve approximately 1 hour of your time. The anticipated amount of time for the completion of each of each round is approximately 20-30 minutes and must be completed within one week of receiving the survey link. In the first round, you will be asked to provide free-response answers to questions regarding your opinions on technologies for Human Resources, HRM performance, and HR leadership characteristics. In the second round, you will be asked to rate the responses using a Likert-type scale. If sufficient information is not obtained a third round survey may be distributed.

Your identity will be coded to ensure anonymity. Only the researcher will have access to this code further securing the confidentiality of your identity. Your participation in this study is voluntary. You can choose to withdraw from the study at any time without any penalty or loss of benefits. The results of the research study may be published but your identity will remain confidential and your name will not be disclosed to any outside party.

All data will be kept in a locked, fireproof safe for a period of three years and accessible only to the researcher. Participant identity codes will be kept separate from the research data in a locked, fireproof safe and accessible only to the researcher. At the end of the three-year period, all documentation containing data key codes, participant codes, and research data will be shredded and hard drives will be erased, formatted, and destroyed.

In this research, there are no foreseeable risks to you. Although there may be no direct benefit to you, a possible benefit from your participation in this study is the outcome of this study may benefit HR professionals better understand the effect of Cloud-based computing on HRM performance and may help HR leaders in identifying characteristics of HR leaders having successfully implemented Cloud-Based Computing, building a business case for moving forward in their own organizations with Cloud-based technologies, and may provide a model for implementing Cloud-based technologies.

If you have any questions about the research study, please call me at (xxx) xxx-xxxx or email xxxxx@xxxxx. For questions about your rights as a study participant, or any concerns or complaints, please contact the University of Phoenix Institutional Review Board via email at IRB@phoenix.edu.

As a participant in this study, you should understand the following:

1. As an informed participant of this study you must have a minimum of 5 years experience in HR.
2. You may decide not to be part of this study or you may want to withdraw from the study at any time. If you want to withdraw, you can do so without any problems.
3. Your identity will be kept confidential.
4. Tracy Celaya, the researcher, has fully explained the nature of the research study and has answered all of your questions and concerns.
5. The researcher, Tracy Celaya, will develop a way to code the data to assure that your name is protected.
6. Data will be kept in a secure and locked area. The data will be kept for three years, and then destroyed.
7. The results of this study may be published.

“By signing this form, you agree that you understand the nature of the study, the possible risks to you as a participant, and how your identity will be kept confidential. When you sign this form, this means that you are 18 years old or older and that you give your permission to volunteer as a participant in the study that is described here.”

I accept the above terms. **I do not accept the above terms.** **(CHECK ONE)**

Signature of the interviewee _____ Date _____

Signature of the researcher _____ Date _____

Appendix K

Table 28: Responses for Round 2, Question 2 Regarding Reasons for not Implementing Cloud-Based Computing in HR displaying the mean and standard deviation broken down by years the target company has been in business.

	<i>n</i>	Cost/ budget	Other priorities	Lack of technology awareness	Limited staff & resources	Executive fear/ unfamiliar ity	Aversion to change	Outsourc- ing HR process	Company culture	Legacy systems function	Small company size	Security
Overall <i>M</i>	12	5.50	4.42	4.17	4.58	4.08	3.92	3.67	3.58	3.58	3.58	3.42
Overall <i>SD</i>	12	1.09	1.73	1.27	1.68	1.24	1.62	1.97	1.16	1.78	2.07	1.38
Target Co. <5 yrs. old	2											
<i>M</i>		6.00	3.50	5.00	4.00	4.50	4.50	4.00	2.00	4.50	4.00	2.50
<i>SD</i>		0.00	1.50	2.00	2.00	1.50	1.50	2.00	1.00	2.50	2.00	1.50
Target Co. 5-10	2											
<i>M</i>		5.00	3.50	3.50	4.50	3.00	3.50	4.50	3.50	4.00	5.00	4.00
<i>SD</i>		1.00	0.50	0.50	1.50	0.00	0.50	2.50	0.50	0.00	1.00	0.00
Target Co. 11-15	1											
<i>M</i>		4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
<i>SD</i>		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Target Co. 21-25	1											
<i>M</i>		7.00	7.00	6.00	7.00	3.00	3.00	1.00	4.00	4.00	7.00	1.00
<i>SD</i>		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Target Co. 30+	6											
<i>M</i>		5.50	4.67	3.83	4.50	4.50	4.00	3.67	4.00	3.00	2.33	3.83
<i>SD</i>		0.96	1.70	0.69	1.38	1.12	1.91	1.49	1.00	1.73	1.37	1.07
Total <i>N</i>	12											

Appendix L

Table 29: Responses for Round 2, Question 2 Regarding Reasons for not Implementing Cloud-Based Computing in HR displaying the mean and standard deviation broken down by years of management experience of participants.

		Cost/ budget	Other priorities	Lack of technology awareness	Limited staff & resources	Executive fear/ unfamiliarity	Aversion to change	Outsour- ing HR process	Company culture	Legacy systems function	Small company size	Security
	<i>M</i>	5.25	4.75	4.75	4.50	5.00	4.75	4.00	3.00	5.00	3.75	3.25
	<i>SD</i>	0.83	0.43	1.48	1.12	1.22	1.30	1.41	1.22	1.58	1.79	1.30
Yrs. of Mgmt. <5	5											
	<i>M</i>	5.00	3.60	3.60	4.20	3.60	3.00	4.20	3.60	2.60	3.60	3.40
	<i>SD</i>	0.89	1.36	0.49	1.17	0.80	0.89	2.14	0.49	1.36	1.62	0.49
Yrs. of Mgmt. 10-14	2											
	<i>M</i>	7.00	7.00	5.00	7.00	4.00	5.00	2.50	5.00	4.00	4.00	3.50
	<i>SD</i>	0.00	0.00	1.00	0.00	1.00	2.00	1.50	1.00	0.00	3.00	2.50
Yrs. of Mgmt. 15+	1											
	<i>M</i>	6.00	2.00	3.00	2.00	3.00	3.00	2.00	3.00	2.00	2.00	4.00
	<i>SD</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total N	12											

Appendix M

Table 30: Responses for Round 2, Question 3 Regarding Reasons for Implementing Cloud-Based Computing in HR displaying the mean and standard deviation broken down by years the target company has been in business.

	<i>n</i>	Accessibility/ availability to application & data	Efficiency in productiv- ity	Prioritizing specific HR processes as dictated by company & leadership	Streamlin- ing multiple company sites	Improved customer experience	Mobility of Applicatio n	Consistency of information	Technical agility	Budget /Cost	Ability to implement a phased approach to cloud	Security
Overall <i>M</i>	12	5.17	4.92	4.83	4.75	4.67	4.67	4.50	4.42	4.25	4.17	4.08
Overall <i>SD</i>	12	0.94	1.00	1.27	1.82	0.78	1.07	1.31	0.90	1.22	1.11	1.31
Target Co. <5 yrs. old	2											
<i>M</i>		6.00	5.50	6.00	5.00	4.50	5.50	6.00	4.50	5.00	4.00	4.00
<i>SD</i>		0.00	0.50	0.00	2.00	0.50	1.50	1.00	0.50	1.00	1.00	1.00
Target Co. 5-10	2											
<i>M</i>		5.50	5.00	5.00	5.00	4.00	5.00	4.00	5.00	4.50	4.00	5.50
<i>SD</i>		0.50	1.00	0.00	1.00	0.00	0.00	0.00	1.00	1.50	0.00	1.50
Target Co. 11-15	1											
<i>M</i>		4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
<i>SD</i>		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Target Co. 21-25	1											
<i>M</i>		4.00	4.00	3.00	7.00	4.00	4.00	4.00	3.00	3.00	3.00	3.00
<i>SD</i>		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Target Co. 30+	6											
<i>M</i>		5.17	5.00	4.83	4.33	5.17	4.50	4.33	4.50	4.17	4.50	3.83
<i>SD</i>		0.90	1.00	1.34	1.80	0.69	0.96	1.37	0.76	1.07	1.26	1.07
Total <i>N</i>	12											

Appendix N

Table 31: Responses for Round 2, Question 3 Regarding Reasons for Implementing Cloud-Based Computing in HR displaying the mean and standard deviation broken down by years of management experience of participants.

		Accessibility/ availability to application & data	Efficiency in productive -ity	Prioritizing specific HR processes as dictated by company & leadership	Streamlin -ing multiple company sites	Improved customer experience	Mobility of Applica- tion	Consist- ency of informa- tion	Technical agility	Budget/ cost	Ability to implement a phased approach to cloud	Security
Yrs. of Mgmt.												
<5	5											
	<i>M</i>	5.00	5.40	4.80	5.20	4.80	4.60	4.80	5.00	4.40	4.60	4.60
	<i>SD</i>	0.89	1.02	0.75	0.75	0.75	0.49	0.75	0.63	1.02	0.49	1.36
Yrs. of Mgmt.												
6-9	4											
	<i>M</i>	5.25	4.75	4.50	3.75	4.25	5.50	4.00	4.00	4.75	3.25	3.25
	<i>SD</i>	0.83	0.83	1.12	2.17	0.43	1.12	1.87	0.71	1.30	0.83	0.83
Yrs. of Mgmt.												
10-14	2											
	<i>M</i>	5.00	4.00	5.00	6.50	5.00	3.50	4.50	3.50	3.00	4.50	4.00
	<i>SD</i>	1.00	0.00	2.00	0.50	1.00	0.50	0.50	0.50	0.00	1.50	1.00
Yrs. of Mgmt.												
15+	1											
	<i>M</i>	6.00	5.00	6.00	3.00	5.00	4.00	5.00	5.00	4.00	5.00	5.00
	<i>SD</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total <i>N</i>	12											

Appendix O

Table 32: Responses for Round 2, Question 4 the Likelihood of the Following Factors in Contributing to the Implementation of Cloud-Based Computing, displaying the mean and standard deviation, and broken down by years the target company has been in business.

	<i>n</i>	Communica- -tion	Training	IT Support	Implementa- -tion plan	Senior leadership support	Change mgmt plan	Ease of use	Cost effective	Solid business case	Metrics for success	Vendor support	Security
Overall <i>M</i>	12	6.17	6.33	6.08	6.17	6.25	6.08	5.92	5.75	5.75	5.67	5.67	5.58
Overall <i>SD</i>	12	1.34	0.98	1.08	1.03	0.97	1.16	1.16	1.14	1.29	1.44	1.15	1.08
Target Co. <5 yrs. old	2												
<i>M</i>		7.00	7.00	6.00	6.00	5.50	6.00	6.00	6.00	6.50	5.50	6.00	4.50
<i>SD</i>		0.00	0.00	0.00	1.00	0.50	1.00	1.00	0.00	0.50	1.50	1.00	0.50
Target Co. 5-10	2												
<i>M</i>		6.50	6.50	6.50	6.50	6.50	6.50	5.50	6.50	5.50	7.00	5.50	6.00
<i>SD</i>		0.50	0.50	0.50	0.50	0.50	0.50	1.50	0.50	1.50	0.00	1.50	1.00
Target Co. 11-15	1												
<i>M</i>		4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
<i>SD</i>		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Target Co. 21-25	1												
<i>M</i>		7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	6.00	7.00	7.00	5.00
<i>SD</i>		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Target Co. 30+	6												
<i>M</i>		6.00	6.33	6.17	6.33	6.67	6.17	6.17	5.50	5.83	5.33	5.67	6.17
<i>SD</i>		1.41	0.75	1.07	0.75	0.47	1.07	0.69	1.12	1.21	1.25	0.75	0.69
Total <i>N</i>	12												

Appendix P

Table 33: Responses for Round 2, Question 4 the Likelihood of the Following Factors in Contributing to the Implementation of Cloud-Based Computing, displaying the mean and standard deviation, and broken down by years of management experience of participants.

	<i>n</i>	Communica- -tion	Training	IT Support	Implementa- -tion plan	Senior leadership support	Change mgmt plan	Ease of use	Cost effective	Solid business case	Metrics for success	Vendor support	Security
Overall <i>M</i>	12	6.17	6.33	6.08	6.17	6.25	6.08	5.92	5.75	5.75	5.67	5.67	5.58
Overall <i>SD</i>	12	1.34	0.98	1.08	1.03	0.97	1.16	1.16	1.14	1.29	1.44	1.15	1.08
Target Co. <5 yrs. old	5												
<i>M</i>		5.60	6.00	5.80	6.20	6.40	6.00	5.40	5.40	5.40	5.60	5.00	5.40
<i>SD</i>		1.74	1.26	1.47	1.17	1.20	1.10	1.20	1.02	1.36	1.20	0.89	1.02
Yrs. of Mgmt. 6-9	4												
<i>M</i>		6.25	6.25	6.00	6.00	6.00	6.00	6.25	5.50	5.50	4.75	6.00	5.75
<i>SD</i>		0.43	0.43	0.00	0.71	0.00	1.22	0.83	1.12	1.12	1.30	1.00	1.09
Yrs. of Mgmt. 10-14	2												
<i>M</i>		7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	6.50	7.00	7.00	6.00
<i>SD</i>		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.50	0.00	0.00	1.00
Yrs. of Mgmt. 15+	1												
<i>M</i>		7.00	7.00	6.00	5.00	5.00	5.00	5.00	6.00	7.00	7.00	5.00	5.00
<i>SD</i>		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total <i>N</i>	12												

Appendix Q

Table 34: Responses for Round 2, Question 5 the Likelihood of the Following Factors in Challenging the Implementation of Cloud-Based Computing, displaying the mean and standard deviation, and broken down by years the target company has been in business.

	<i>n</i>	Lack of planning/ scoping	Budget	Lack of subject knowledge	Hidden fees/ costs	Ineffective training	Lack of executive leadership support	Lack of internal IT support	Lack of vendor support	Vendor Selection	Fear/close-minded	Disaster recovery
Overall <i>M</i>	12	5.67	5.25	5.17	5.25	5.08	5.25	4.83	4.92	4.58	4.58	4.50
Overall <i>SD</i>	12	1.56	1.36	1.59	1.42	1.62	1.76	1.34	1.08	1.24	1.51	1.51
Target Co. <5 yrs. old	2											
<i>M</i>		7.00	4.00	5.50	4.50	7.00	5.00	5.00	5.00	3.50	4.50	5.00
<i>SD</i>		0.00	0.00	1.50	0.50	0.00	1.00	1.00	1.00	0.50	1.50	2.00
Target Co. 5-10	2											
<i>M</i>		5.50	5.00	4.00	4.00	4.00	5.50	4.50	5.00	4.50	4.00	4.50
<i>SD</i>		1.50	0.00	1.00	1.00	0.00	1.50	0.50	1.00	0.50	0.00	1.50
Target Co. 11-15	1											
<i>M</i>		4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
<i>SD</i>		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Target Co. 21-25	1											
<i>M</i>		7.00	7.00	7.00	7.00	7.00	6.00	4.00	6.00	4.00	7.00	4.00
<i>SD</i>		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Target Co. 30+	6											
<i>M</i>		5.33	5.67	5.33	5.83	4.67	5.33	5.17	4.83	5.17	4.50	4.50
<i>SD</i>		1.49	1.37	1.49	1.21	1.49	2.05	1.57	1.07	1.34	1.50	1.38
Total <i>N</i>	12											

Appendix R

Table 35: Responses for Round 2, Question 5 the Likelihood of the Following Factors in Challenging the Implementation of Cloud-Based Computing, displaying the mean and standard deviation, and broken down by years of management experience of participants.

	<i>n</i>	Lack of planning/ scoping	Budget	Lack of subject knowledge	Hidden fees/ costs	Ineffective training	Lack of executive leadership support	Lack of internal IT support	Lack of vendor support	Vendor Selection	Fear/close -minded	Disaster recovery
Yrs. of Mgmt. <5	5											
	<i>M</i>	4.80	5.00	4.60	4.80	3.60	4.80	4.60	4.60	4.60	3.60	3.80
	<i>SD</i>	1.47	1.10	1.36	1.33	0.49	2.23	1.36	0.80	1.02	0.80	1.33
Yrs. of Mgmt. 6-9	4											
	<i>M</i>	5.75	5.00	5.25	5.25	5.50	5.50	5.00	4.75	4.25	5.00	5.50
	<i>SD</i>	1.30	1.22	1.48	1.09	1.12	0.87	1.00	0.83	1.09	0.71	1.12
Yrs. of Mgmt. 10-14	2											
	<i>M</i>	7.00	7.00	7.00	7.00	7.00	6.50	5.50	6.50	5.50	7.00	5.00
	<i>SD</i>	0.00	0.00	0.00	0.00	0.00	0.50	1.50	0.50	1.50	0.00	1.00
Yrs. of Mgmt. 15+	1											
	<i>M</i>	7.00	4.00	4.00	4.00	7.00	4.00	4.00	4.00	4.00	3.00	3.00
	<i>SD</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	1											
Total <i>N</i>	2											

Appendix S

Table 36: Responses for Round 2, Question 6 the Importance of the Following Best Practices for Implementing Cloud-Based Computing, displaying the mean and standard deviation, and broken down by years the target company has been in business.

	<i>n</i>	Create a communication plan	Create and follow a comprehensive implementation plan	Leadership buy-in & support	Address data security (access/accuracy/backup)	Training plan for all end users	Implement feedback loop for ongoing improvements	Conduct detailed needs analysis	Ensure scalability	Cost efficiency	Solution should fit company culture & needs	All-in-one integration	Hire a professional
Overall <i>M</i>	12	4.42	4.58	4.17	4.25	4.33	4.17	3.92	3.83	3.83	3.75	3.67	2.67
Overall <i>SD</i>	12	0.79	0.67	1.03	0.75	0.98	0.72	1.16	0.94	1.03	1.48	1.30	1.56
Target Co. <5 yrs. old	2												
<i>M</i>		5.00	5.00	4.00	4.00	5.00	4.00	4.50	4.00	2.50	2.50	2.50	2.00
<i>SD</i>		0.00	0.00	1.00	0.00	0.00	0.00	0.50	1.00	0.50	1.50	1.50	1.00
Target Co. 5-10	2												
<i>M</i>		3.50	4.50	4.50	5.00	4.50	3.50	2.50	4.00	4.00	3.00	3.50	1.00
<i>SD</i>		0.50	0.50	0.50	0.00	0.50	0.50	0.50	0.00	1.00	2.00	1.50	0.00
Target Co. 11-15	1												
<i>M</i>		5.00	3.00	5.00	4.00	4.00	3.00	4.00	3.00	4.00	3.00	3.00	3.00
<i>SD</i>		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Target Co. 21-25	1												
<i>M</i>		4.00	5.00	4.00	5.00	5.00	5.00	4.00	4.00	5.00	5.00	3.00	1.00
<i>SD</i>		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Target Co. 30+	6												
<i>M</i>		4.50	4.67	4.00	4.00	4.00	4.50	4.17	3.83	4.00	4.33	4.33	3.67
<i>SD</i>		0.76	0.47	1.15	0.82	1.15	0.50	1.21	1.07	0.82	0.75	0.75	1.25
Total <i>N</i>	12												

Appendix T

Table 37: Responses for Round 2, Question 6 the Importance of the Following Best Practices for Implementing Cloud-Based Computing, displaying the mean and standard deviation, and broken down by years of management experience of participants.

	<i>n</i>	Create a communication plan	Create and follow a comprehensive implementation plan	Leadership buy-in & support	Address data security (access/accuracy/backup)	Training plan for all end users	Implement feedback loop for ongoing improvements	Conduct detailed needs analysis	Ensure scalability	Cost efficiency	Solution should fit company culture & needs	All-in-one integration	Hire a professional
Overall <i>M</i>	12	4.42	4.58	4.17	4.25	4.33	4.17	3.92	3.83	3.83	3.75	3.67	2.67
Overall <i>SD</i>	12	0.79	0.67	1.03	0.75	0.98	0.72	1.16	0.94	1.03	1.48	1.30	1.56
Yrs. of Mgmt. <5	5												
<i>M</i>		4.20	4.20	4.20	4.20	3.60	3.80	3.20	3.40	3.60	3.20	3.80	3.00
<i>SD</i>		0.98	0.75	1.17	0.75	1.02	0.75	1.17	1.02	0.80	1.33	1.17	1.41
Yrs. of Mgmt. 6-9	4												
<i>M</i>		4.50	4.75	4.25	4.00	4.75	4.25	4.50	4.25	3.75	3.75	3.25	2.00
<i>SD</i>		0.50	0.43	0.83	0.71	0.43	0.43	0.87	0.43	1.09	1.64	1.48	1.22
Yrs. of Mgmt. 10-14	2												
<i>M</i>		4.50	5.00	4.50	5.00	5.00	5.00	4.50	4.50	5.00	5.00	4.00	3.00
<i>SD</i>		0.50	0.00	0.50	0.00	0.00	0.00	0.50	0.50	0.00	0.00	1.00	2.00
Yrs. of Mgmt. 15+	1												
<i>M</i>		5.00	5.00	3.00	4.00	5.00	4.00	4.00	3.00	3.00	4.00	4.00	3.00
<i>SD</i>		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total <i>N</i>	12												
Yrs. of Mgmt. <5	5												
<i>M</i>		4.20	4.20	4.20	4.20	3.60	3.80	3.20	3.40	3.60	3.20	3.80	3.00
<i>SD</i>		0.98	0.75	1.17	0.75	1.02	0.75	1.17	1.02	0.80	1.33	1.17	1.41

Appendix U

Table 38: Responses for Round 2, Question 7 the Importance of the Following Characteristics of a Successful HR Leader, displaying the mean and standard deviation, and broken down by years the target company has been in business.

	<i>n</i>	Integrity/ credi- bility	Comm- unication	Strategic	Coaching/ empowering/ influencing	Know- ledge -able (educ /cert)	Adapt- ability/ Flexi- bility	People Savvy/ Interper- sonal skills	Open- minded/ approach -able	Relation- -ship building	Business acumen	Confident	Initiative
Overall <i>M</i>	12	4.92	4.75	4.50	4.67	4.58	4.50	4.42	4.42	4.25	4.17	4.08	4.00
Overall <i>SD</i>	12	0.29	0.45	1.00	0.49	0.67	0.52	0.67	0.51	0.87	0.72	1.08	0.74
Target Co. <5 yrs. old	2												
<i>M</i>		5.00	5.00	4.50	4.50	4.50	4.50	4.00	4.00	5.00	4.50	4.50	3.50
<i>SD</i>		0.00	0.00	0.50	0.50	0.50	0.50	0.00	0.00	0.00	0.50	0.50	0.50
Target Co. 5-10	2												
<i>M</i>		5.00	4.50	5.00	4.00	4.00	4.50	4.50	4.50	4.50	4.00	4.00	4.00
<i>SD</i>		0.00	0.50	0.00	0.00	1.00	0.50	0.50	0.50	0.50	0.00	1.00	1.00
Target Co. 11-15	1												
<i>M</i>		5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	4.00
<i>SD</i>		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Target Co. 21-25	1												
<i>M</i>		5.00	5.00	5.00	5.00	4.00	4.00	5.00	4.00	5.00	4.00	5.00	5.00
<i>SD</i>		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Target Co. 30+	6												
<i>M</i>		4.83	4.67	4.17	4.83	4.83	4.50	4.33	4.50	3.67	4.00	3.67	4.00
<i>SD</i>		0.37	0.47	1.21	0.37	0.37	0.50	0.75	0.50	0.75	0.82	1.11	0.58
Total <i>N</i>	12												

Appendix V

Table 39: Responses for Round 2, Question 7 the Importance of the Following Characteristics of a Successful HR Leader, displaying the mean and standard deviation, and broken down years of management experience of participants.

	<i>n</i>	Integrity/ credi- bility	Comm- unication	Strategic	Coaching/ empowering/ influencing	Know- ledge- able (educ /cert)	Adapt- ability/ Flexi- bility	People Savvy/ Interper- sonal skills	Open- minded/ approach- able	Relation- ship building	Business acumen	Confident	Initiative
Overall <i>M</i>	12	4.92	4.75	4.50	4.67	4.58	4.50	4.42	4.42	4.25	4.17	4.08	4.00
Overall <i>SD</i>	12	0.29	0.45	1.00	0.49	0.67	0.52	0.67	0.51	0.87	0.72	1.08	0.74
Yrs. of Mgmt. <5	5												
<i>M</i>		5.00	4.60	4.00	4.80	4.40	4.40	4.40	4.60	3.80	4.00	3.80	3.80
<i>SD</i>		0.00	0.49	1.26	0.40	0.80	0.49	0.80	0.49	0.75	0.89	1.17	0.75
Yrs. of Mgmt. 6-9	4												
<i>M</i>		4.75	4.75	5.00	4.25	4.75	5.00	4.25	4.25	4.25	4.25	4.00	4.00
<i>SD</i>		0.43	0.43	0.00	0.43	0.43	0.00	0.43	0.43	0.83	0.43	1.00	0.71
Yrs. of Mgmt. 10-14	2												
<i>M</i>		5.00	5.00	5.00	5.00	4.50	4.00	5.00	4.50	5.00	4.50	5.00	4.50
<i>SD</i>		0.00	0.00	0.00	0.00	0.50	0.00	0.00	0.50	0.00	0.50	0.00	0.50
Yrs. of Mgmt. 15+	1												
<i>M</i>		5.00	5.00	4.00	5.00	5.00	4.00	4.00	4.00	5.00	4.00	4.00	4.00
<i>SD</i>		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total <i>N</i>	12												
Yrs. of Mgmt. <5	5												
<i>M</i>		5.00	4.60	4.00	4.80	4.40	4.40	4.40	4.60	3.80	4.00	3.80	3.80
<i>SD</i>		0.00	0.49	1.26	0.40	0.80	0.49	0.80	0.49	0.75	0.89	1.17	0.75

Appendix W

Table 40: Responses for Round 2, Question 8 the Importance of the Following Characteristics of a Successful HR Leader Successfully Implementing Cloud-Based Computing, displaying the mean and standard deviation, and broken down by years the target company has been in business.

	<i>n</i>	Communication	Integrity/ credibility	Project/ change mgmt.	Analytical/ detailed	Confident	Innovative/ foresight	People savvy	Problem solver	Time mgmt.	Strategic
Overall <i>M</i>	12	4.42	4.25	4.17	4.08	4.00	4.00	4.17	3.92	4.00	4.00
Overall <i>SD</i>	12	0.67	0.97	0.94	0.67	1.04	0.74	0.94	0.79	0.60	0.74
Target Co. <5 yrs. old	2										
<i>M</i>		4.50	4.50	4.50	4.50	4.50	4.00	4.50	4.00	3.50	4.00
<i>SD</i>		0.50	0.50	0.50	0.50	0.50	0.00	0.50	0.00	0.50	0.00
Target Co. 5-10	2										
<i>M</i>		4.50	3.50	4.00	3.50	4.00	4.00	4.00	4.00	4.00	4.50
<i>SD</i>		0.50	1.50	1.00	0.50	1.00	0.00	1.00	0.00	0.00	0.50
Target Co. 11-15	1										
<i>M</i>		4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
<i>SD</i>		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Target Co. 21-25	1										
<i>M</i>		5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	4.00
<i>SD</i>		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Target Co. 30+	6										
<i>M</i>		4.33	4.33	4.00	4.00	3.67	3.83	4.00	3.67	4.00	3.83
<i>SD</i>		0.75	0.75	1.00	0.58	1.11	0.90	1.00	0.94	0.58	0.90
Total <i>N</i>	12										

Appendix X

Table 41: Responses for Round 2, Question 8 the Importance of the Following Characteristics of a Successful HR Leader Successfully Implementing Cloud-Based Computing, displaying the mean and standard deviation, and broken down by years of management experience of participants.

	<i>n</i>	Communication	Integrity/ credibility	Project/ change mgmt.	Analytical/ detailed	Confident	Innovative/ foresight	People savvy	Problem solver	Time mgmt.	Strategic
Overall <i>M</i>	12	4.42	4.25	4.17	4.08	4.00	4.00	4.17	3.92	4.00	4.00
Overall <i>SD</i>	12	0.67	0.97	0.94	0.67	1.04	0.74	0.94	0.79	0.60	0.74
Yrs. of Mgmt. <5	5										
<i>M</i>		4.20	3.80	4.40	3.80	4.00	3.80	4.00	3.60	3.80	4.40
<i>SD</i>		0.75	1.17	0.49	0.40	0.89	0.75	0.63	1.02	0.40	0.49
Yrs. of Mgmt. 6-9	4										
<i>M</i>		4.75	4.50	4.25	4.50	4.00	4.00	4.25	4.00	4.00	4.00
<i>SD</i>		0.43	0.50	0.83	0.50	1.22	0.71	1.30	0.00	0.00	0.00
Yrs. of Mgmt. 10-14	2										
<i>M</i>		4.50	5.00	3.50	4.00	4.00	4.50	4.50	4.50	5.00	3.00
<i>SD</i>		0.50	0.00	1.50	1.00	1.00	0.50	0.50	0.50	0.00	1.00
Yrs. of Mgmt. 15+	1										
<i>M</i>		4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	3.00	4.00
<i>SD</i>		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total <i>N</i>	12										
Yrs. of Mgmt. <5	5										
<i>M</i>		4.20	3.80	4.40	3.80	4.00	3.80	4.00	3.60	3.80	4.40
<i>SD</i>		0.75	1.17	0.49	0.40	0.89	0.75	0.63	1.02	0.40	0.49
Yrs. of Mgmt. 6-9	4										

Appendix Y

Spearman's Rho Correlation Analysis

Table 42: Spearman's Rho of Reasons for not Implementing Cloud-Based Computing (Table 20) and Factors Challenging Implementation of Cloud-Based Computing (Table 23).

Reasons for not implementing CBC	Factors challenging implementation of CBC														
	Q5a	Q5b	Q5c	Q5d	Q5e	Q5f	Q5g	Q5h	Q5i	Q5j	Q5k	Q5l	Q5m	Q5n	Q5o
Q2a	.732**	.779**	.625*	.568	.697*	.512	.860**	.456	.567	.244	.133	.259	.534	.457	.379
Q2b	.519	.777**	.823**	.380	.607*	.203	.720**	.375	.678*	.258	.162	.532	.409	.381	-.044
Q2c	.091	-.258	.041	-.029	.206	-.032	.014	.394	.178	-.018	.534	.015	-.191	.032	.434
Q2d	.538	.370	.663*	.477	.441	-.228	.443	.397	.715**	.249	.455	.393	-.107	.271	-.060
Q2e	.335	.607*	.567	.168	.485	-.096	.320	.006	.271	.216	.167	.655*	.280	.494	.059
Q2f	.490	.299	.665*	.348	.288	-.369	.339	.261	.750**	.464	.229	.431	-.188	-.070	-.499
Q2g	-.396	-.109	-.194	-.493	-.033	.036	-.242	-.125	-.380	-.358	-.048	.077	.083	.045	.074
Q2h	.123	.470	.418	-.084	.510	.654*	.486	.736**	.401	.122	.194	-.015	.369	.253	.541
Q2i	.291	.447	.497	-.047	.655*	.515	.463	.793**	.464	.220	.368	.125	.281	.286	.657*
Q2j	-.334	.169	.083	-.188	-.047	.534	-.019	.192	-.134	-.155	-.287	-.173	.489	-.085	.383
Q2k	.632*	.864**	.844**	.280	.795**	.375	.865**	.644*	.840**	.584*	.291	.446	.359	.442	.190
Q2l	.427	.809**	.888**	.287	.680*	.540	.650*	.537	.647*	.672*	.300	.725**	.717**	.472	.230
Q2m	.360	.442	.264	-.208	.702*	-.061	.427	.300	.300	.185	.516	.410	-.155	.661*	.196
Q2n	-.004	-.032	.154	.114	-.104	-.015	.280	.090	.356	-.033	-.030	-.081	-.049	-.247	-.375

Note. * $p < .05$. ** $p < .01$. Bold rows and columns reflect the top factors as displayed in Tables 23 and 26. Significant items are bolded and shaded

Appendix Z

Table 43: Spearman's Rho of Reasons for not Implementing Cloud-Based Computing (Table 20) and Characteristics of a Successful HR leader (Table 25).

Reasons for not implementing CBC	Characteristics of a successful HR leader																		
	Q7a	Q7b	Q7c	Q7d	Q7e	Q7f	Q7g	Q7h	Q7i	Q7j	Q7k	Q7l	Q7m	Q7n	Q7o	Q7p	Q7q	Q7r	Q7s
Q2a	-.447	.231	.347	.034	.204	-.329	.348	-.231	.133	.552	.134	.351	.544	.002	.125	.389	.212	.172	-.037
Q2b	-.569	-.078	.699*	-.068	.034	.332	.541	-.336	.008	.313	-.070	.249	.229	.084	-.036	-.143	.230	.133	-.137
Q2c	.407	.079	.223	-.279	.035	.026	.165	.238	.040	-.351	.465	-.030	-.064	.367	0.00	-.102	-.185	.074	.032
Q2d	-.204	-.151	.510	-.367	.033	.199	.456	-.252	-.260	-.296	-.109	-.115	-.051	-.043	-.439	-.437	-.055	.279	.181
Q2e	.099	.079	.534	-.140	.035	.651*	.630*	-.026	-.086	.215	-.110	.122	.254	.151	-.092	-.299	.111	-.029	.152
Q2f	-.470	-.229	.588*	-.405	.270	.302	.362	-.280	-.130	-.170	-.194	-.287	-.177	-.102	-.249	-.485	.159	.485	.165
Q2g	.199	-.029	.199	.156	-.272	.609*	.188	.088	.054	.031	.228	.443	-.029	.586*	.226	-.052	-.023	-.326	-.367
Q2h	-.223	.284	.406	-.068	-.068	-.152	.217	.077	.352	.154	.381	.242	.253	.024	.252	.445	.080	-.145	-.124
Q2i	.053	.400	.540	-.282	.071	-.026	.366	.187	.333	.112	.499	.147	.272	.173	.279	.370	.025	-.058	.032
Q2j	.233	.506	.028	.268	-.167	-.025	-.079	.253	.476	.352	.225	.226	.249	.010	.511	.456	.099	-.319	-.085
Q2k	-.607*	.099	.680*	-.263	.296	-.024	.527	-.099	.213	.276	.093	.031	.359	-.195	0.000	.103	.306	.221	.071
Q2l	-.138	.199	.708*	.099	.099	.294	.596*	.074	.353	.586*	.285	.219	.415	.138	.416	.312	.472	.256	.340
Q2m	-.311	-.301	.521	-.431	.033	.395	.594*	-.100	-.271	-.238	.065	.123	.059	.176	-.419	-.284	-.078	-.102	-.138
Q2n	-.759**	-.428	.160	.033	.033	-.099	-.141	-.302	.014	-.105	-.161	-.073	-.211	-.142	-.158	-.351	.102	.129	-.483

Note. * $p < .05$. ** $p < .01$. Bold rows and columns reflect the top factors as displayed in Tables 23 and 28. Significant items are bolded and shaded.

Appendix AA

Table 44: Spearman’s Rho of Best Practices for Implementing Cloud-Based Computing in HR (Table 24) and Characteristics of an HR Leader Successfully Implementing Cloud-Based Computing (Table 26).

Best practices	Characteristics of HR leader successfully implementing CBC																	
	Q8a	Q8b	Q8c	Q8d	Q8e	Q8f	Q8g	Q8h	Q8i	Q8j	Q8k	Q8l	Q8m	Q8n	Q8o	Q8p	Q8q	Q8r
Q6a	.413	.110	-.171	-.132	.082	.286	.117	.319	0.00	.098	.423	.145	0.00	.027	.756**	.032	.132	-.146
Q6b	.249	-.024	-.160	.622*	.740**	.428	.223	.684*	-.120	.382	.365	.085	.288	.158	.460	.262	.577*	-.002
Q6c	-.132	.027	.205	.439	.488	-.108	-.207	.218	-.147	.050	.175	-.100	.398	.135	.375	-.138	.570	.113
Q6d	.241	.159	-.278	.197	.271	.325	.026	.112	-.129	-.006	-.129	-.044	0.00	-.076	.236	.126	.329	.113
Q6e	.241	.058	-.067	.067	.055	.055	.053	.305	-.084	.076	.488	.266	.223	.375	.711**	-.037	-.067	-.036
Q6f	.433	.238	-.304	.160	.214	.311	.056	.329	.019	.261	.327	.529	.288	.391	.406	.357	-.160	-.292
Q6g	.019	.141	.048	.378	.503	.216	.077	.374	.047	-.025	.194	-.157	.193	.094	.537	-.095	.436	.115
Q6h	.265	-.069	-.190	.059	.176	-.070	.101	.212	-.343	.163	.299	.711**	.627*	.844**	.541	.033	-.059	-.110
Q6i	.149	-.113	-.139	.325	.499	.036	.051	.261	-.406	.233	.135	.329	.540	.530	.442	.077	.568	.360
Q6j	-.073	.021	-.185	.341	.176	-.246	-.151	-.217	-.440	.048	-.261	.496	.631*	.499	-.037	.140	.099	.061
Q6k	.186	.018	-.256	.035	.186	.149	.160	.049	-.243	.141	.048	.197	.205	.049	.541	.156	.492	.395
Q6l	.207	-.172	-.251	.037	.163	0.000	.130	.065	-.482	.143	.062	.328	.338	.333	.484	.038	.424	.334

Note. * $p < .05$. ** $p < .01$. Bold rows and columns reflect the top factors as displayed in Tables 27 and 29. Significant items are bolded and shaded.

Appendix AB

Table 45: Spearman's Rho for Factors Contributing to the Successful Implementation of Cloud-Based Computing (Table 22) and Best Practices for Implementing Cloud-Based Computing (Table 24).

Success Factors	Best Practices											
	Q6a	Q6b	Q6c	Q6d	Q6e	Q6f	Q6g	Q6h	Q6i	Q6j	Q6k	Q6l
Q4a	.604*	.148	.628*	.110	.355	-.280	.671*	-.107	.134	-.452	.416	.192
Q4b	.591*	.125	.533	.006	.457	-.088	.643*	.122	.106	-.272	.412	.170
Q4c	.509	.112	.576*	-.041	.375	-.074	.577*	.372	.344	-.086	.433	.320
Q4d	.591*	.268	.393	-.025	.172	.143	.420	.121	-.125	-.098	.300	.004
Q4e	.322	.110	.140	-.080	-.079	.005	.159	-.069	-.274	-.026	.243	-.060
Q4f	.140	-.115	.229	-.179	-.052	-.262	.131	.146	.122	.074	.361	.245
Q4g	.307	.184	.213	.167	.156	-.017	.274	.743**	.597*	.438	.533	.740**
Q4h	.355	.270	.268	.146	.206	.192	.347	.849**	.579*	.511	.488	.631*
Q4i	.731**	.573	.370	.231	.459	.149	.552	.348	.376	-.169	.596*	.509
Q4j	.789**	.575	.460	.373	.498	.128	.672*	.377	.483	-.081	.741**	.633*
Q4k	.836**	.660*	.567	.208	.408	.266	.490	.573	.433	.105	.572	.586*
Q4l	.246	.523	.489	-.047	.030	-.220	.301	.204	.412	.042	.396	.443
Q4m	.365	.357	.703*	-.376	.054	-.257	.177	.412	.415	-.016	.242	.404
Q4n	.377	.537	.734**	.157	.449	.188	.710**	.189	.391	.047	.324	.150
Q4o	.490	.534	.849**	.221	.556	.063	.871**	.218	.447	-.011	.400	.260

Note. * $p < .05$. ** $p < .01$. Bold rows and columns reflect the top factors as displayed in Tables 25 and 27. Significant items are bolded and shaded.

Appendix AC

Comparison of Leadership Characteristics

Q7

Importance of Characteristics Indicative of a Successful HR Leader:

Characteristics	f	Mean	Std. Dev.
Communication	5.00	4.83	0.39
Integrity/credibility	5.00	4.83	0.39
Knowledgeable (education/certification)	9.00	4.67	0.65
Coaching/empowering/ influencing	9.00	4.58	0.52
Adaptability/flexibility	4.00	4.50	0.52
Strategic	6.00	4.50	1.00
Open- minded/approachable	4.00	4.42	0.52
People savvy/ interpersonal skills	4.00	4.42	0.67
Business acumen	4.00	4.17	0.72
Initiative	2.00	4.00	0.74
Analytical/detail- oriented	3.00	3.92	0.69
Time Management	1.00	3.83	0.84
Compassionate	3.00	3.75	1.22
Managing vision & purpose	3.00	3.75	0.97
Project/change management	3.00	3.67	0.89
Innovative/foresight	2.00	3.50	0.91
Technology Savvy	3.00	3.25	0.75

Q8

Importance of Characteristics Indicative of a Successful HR Leader Successfully Implementing Cloud-Based Computing:

Characteristics	f	Mean	Std. Dev.
Communication	3	4.58	0.52
Integrity/credibility	1	4.25	0.97
Time management	1	4.17	0.58
Problem solver	1	4.08	0.52
Project/change management	3	4.08	1.00
Analytical/detail-oriented	3	4.00	0.74
Confident	2	4.00	1.05
Innovative/foresight	4	4.00	0.74
Strategic	6	4.00	0.74
Adaptability/flexibility	5	3.92	0.52
People Savvy	3	3.92	1.08
Coaching/empowering/ influencing	2	3.83	0.84
Managerial courage	2	3.83	1.03
Business acumen	6	3.75	0.75
Knowledgeable (education/certification)	2	3.75	0.97
Open-minded/ approachable	2	3.75	1.22
Technology Savvy	8	3.67	0.65
Managing vision & purpose	1	3.58	1.08

AUTHOR BIOGRAPHY

Dr. Tracy Celaya earned her Bachelor of Science in Information Technology in 2001, and Master of Business Administration in 2010, from University of Phoenix. In 2015, she earned a Doctorate of Management in Organizational Leadership from University of Phoenix. She is a certified Project Management Professional (PMP)® and Certified Performance Consultant.

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