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Knowledge, Technical Skills, and Employability Skills Required of Accounting Graduates: Perceptions of Certified Public Accountants in Mississippi

Lisa Sandifer
University of Southern Mississippi

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KNOWLEDGE, TECHNICAL SKILLS, AND EMPLOYABILITY SKILLS
REQUIRED OF ACCOUNTING GRADUATES: PERCEPTIONS OF CERTIFIED
PUBLIC ACCOUNTANTS IN MISSISSIPPI

by

Lisa B. Sandifer

A Dissertation
Submitted to the Graduate School,
the College of Science and Technology,
and the Department of Human Capital Development
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May 2018

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May 2018

Approved by:

Dr. Dale L. Lunsford, Committee Chair
Assistant Professor, Human Capital Development

Dr. Cyndi H. Gaudet, Committee Member
Professor, Human Capital Development

Dr. Heather M. Annulis, Committee Member
Professor, Human Capital Development

Dr. H. Quincy Brown, Committee Member
Assistant Professor, Human Capital Development

Dr. Cyndi H. Gaudet
Chair, Department of Human Capital Development

Dr. Karen S. Coats
Dean of the Graduate School

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ABSTRACT

KNOWLEDGE, TECHNICAL SKILLS, AND EMPLOYABILITY SKILLS REQUIRED OF ACCOUNTING GRADUATES: PERCEPTIONS OF CERTIFIED PUBLIC ACCOUNTANTS IN MISSISSIPPI

by Lisa B. Sandifer

May 2018

Employers report recent college graduates are not prepared for the workforce and a skills gap exists (O'Bannon, 2016). Research indicates accounting graduates do not have the skills needed when entering the workforce (Altarawneh, 2016). The skills gap is costing companies money (Nanduri, 2017). Employers report extended job vacancies cost U.S. companies close to one million dollars annually (Nanduri, 2017). Also, the skills gap costs the U.S. economy an estimated \$160 billion per year (Fisher, 2014).

This research determined the knowledge, technical skills, and employability skills required of accounting graduates in the workforce as perceived by Mississippi CPAs and determined if recent accounting graduates possessed the knowledge and skills deemed important as perceived by CPA hiring managers. Also, this study determined the relationship between skills CPA hiring managers' perceived importance and accounting graduate acquisition of knowledge, technical skills, and employability skills.

This non-experimental, cross-sectional, explanatory study finds that Mississippi CPAs perceived that many of the knowledge and skill variables were important. Those skills deemed very important are critical thinking, analytical and problem solving, decision making, self-motivation/self-direction, and listening attentiveness. Employers indicate that accounting graduates only moderately possess most knowledge and skills.

The skills possessed by accounting graduates were professional attitude/professional demeanor, teamwork/group interaction, and computer skills/information technology skills. The relationship between perceived importance and perceived graduation acquisition indicates that 16 of the 25 knowledge items had significant, positive correlations, and two of the 16 skills items had significant, positive correlations. However, coefficients ranged from .211 to .411 which are considered small to medium effect (Field, 2013). Future research considerations include larger samples and other states.

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DEDICATION

Although I signed up for the dissertation journey, those in my life were brought into the process without their direct input. I am truly blessed by all those who stayed the course and helped me along the way through encouragement, patience, and prayers. This work is dedicated to Jesus, my savior, and family and friends. Susan, my life is better with you in it. Thank you for always being there for me. Kerri, your love and your family have made my life fuller. Lauren and Abbie, thank you for loving me and praying for me at all times. Abbie, thank you for helping me see the difference between the word “manger” and “manager” when I could not tell the difference! To my husband, I cannot believe that we did it! Your unwavering faith in me helped when I was tired and could not see the light. Thank you for your love and support! To my mom and dad, although they are no longer here, their love and encouragement made me think that I could do anything!

I have often said that God is good, He is in control, and He has a plan. I am truly blessed that His plan brought me to USM HCD, and helped me through the dissertation process.

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LIST OF ABBREVIATIONS

<i>AICPA</i>	American Institute of Certified Public Accountants
<i>CEO</i>	Chief Executive Officer
<i>CPA</i>	Certified Public Accountant
<i>EI</i>	Emotional Intelligence

CHAPTER I - INTRODUCTION

Human capital development is one of the United States' greatest challenges (Feroohar, 2014; Hershberg, 1996; Moretti, 2012; Wagner, 2008). As the United States has moved from an industrialized nation to one of innovation and technology, the workforce must meet the demands of the new knowledge economy (Moretti, 2012; Wagner, 2008). Human capital theory provides a background for the concept behind individuals gaining knowledge, skills, and abilities to provide an educated workforce (Becker, 1993; Moretti, 2012). However, employers indicate they cannot find employees with the right skills (O'Bannon, 2016). In particular, accounting employers indicate a gap exists between the skills needed and the skills accounting graduates possess (Deal, Eide, Morehead, & Smith, 2015).

Postsecondary education is critically important in providing an educated workforce (Moretti, 2012; Schurman & Soares, 2010). Estimates project by the year 2020 two-thirds of all jobs will require postsecondary education (Feroohar, 2014). Moving into the new economy of knowledge, service, and innovation will require new skills (Finegold & Notabartolo, 2010; Schurman & Soares, 2010). Although technology is a key component of the new millennium, a wide range of skills is needed for success in the workforce (Schurman & Soares, 2010; Soergel, 2015; Strauss, 2016). Collaboration and teamwork are considered key components of the range of skills demanded by employers (Schurman & Soares, 2010; Strauss, 2016; Zureigat, 2015) where even very technical companies like IBM seek employees with technical and nontechnical skills (Lynn & Salzman, 2010; Mandilas, Kourtidis, & Petasakis, 2014). Technical skills represent skills needed to complete a specific task (BusinessDictionary, n.d.). Examples

of technical skills include a variety of job specific tasks such as a surgeon completing a surgery (Arora et al., 2011), an information technology professional providing data security (Florentine, 2015), or an accountant using knowledge of generally accepted accounting principles to complete an audit (Freedman, n.d.). Nontechnical skills represent skills transferable from job to job and include communication skills and teamwork skills (Kokemuller, n.d.). Nontechnical skills are often referred to as employability skills (Overtoom, 2000), and President Barack Obama recognizes that students should “possess 21st century skills like problem-solving and critical thinking, entrepreneurship and creativity” (“Obama Wants,” 2009, p. 1). Demand for a variety of skills affects not only educational institutions, but businesses as well. In the 21st century, employees are the differentiating factor for businesses (Huselid, Becker, & Beatty, 2005; Swanson & Holton, 2009).

Background

Employers report recent college graduates are not prepared for the workforce and a skills gap exists (Chegg, 2013; O’Bannon, 2016). Hiring managers indicate students lack general job readiness and students are not prepared for a job in their field of study (Chegg, 2013). However, students report feeling prepared (Chegg, 2013). Areas where differences are noted between the hiring managers’ perceptions and the students’ perception of preparedness relate to collaboration, teamwork, communication, and presentation skills (Chegg, 2013). Other employers indicate an inability to find qualified applicants or applicants lack the skills needed to perform the job well (Deloitte, 2011; Fischer, 2013; McCann, 2015; O’Bannon, 2016). According to a survey by The Accrediting Council for Independent Colleges, “hiring decision-makers say it’s difficult

to find the right applicants to fill open positions” (“New Study Highlights,” 2011, p. 1) and most applicants do not have the necessary skills and knowledge (“New Study Highlights,” 2011).

One area exists where students seem somewhat prepared for the workforce. Hiring managers and students both report students are prepared to use technical skills (Chegg, 2013). This result suggests educators are doing a good job alerting students of the technical skills needed for a particular course of study, but failing to emphasize the employability skills which employers seek (Bui & Porter, 2010; Klibi & Oussii, 2013).

While students may have technical skills, a comprehensive set of competencies are necessary for the workplace of the 21st century (Hart, 2015; Strauss, 2016). Employers assert not only is specific knowledge in the field of study needed, but a broad range of knowledge and skills are also needed for success in the workforce (Hart, 2015; Strauss, 2016). The skills deemed most important for the workplace include communication and teamwork skills, ethical decision-making, critical thinking, and applying knowledge to real-world situations (Hart, 2015). Furthermore, employers indicate lack of preparation of college graduates in these particular skill areas. Once again, students feel better prepared than the employers report. When employers were surveyed on 17 college learning outcomes, employers assigned students lower scores on every outcome for preparedness than scores self-reported by students, confirming a gap between employer and student perceptions of workforce preparedness (Hart, 2015).

Survey results from *Chronicle of Higher Education* and American Public Media’s *Marketplace* (Fischer, 2013) echo the results from Hart (2015). The survey of over 700 employers (Fischer, 2013) find employers seek graduates who can think critically and

communicate clearly. A survey of over 1,700 CEOs revealed the most important trait employers look for in employees is the ability to collaborate with others (IBM, 2012). Although many employers value degrees from a four-year college, employers assert many students were unprepared in a variety of areas from communication to decision-making and analytical skills (Fischer, 2013).

Employability Skills, Emotional Intelligence, and Human Capital Development

In addition to technical and basic skills needed for the workplace, other skills are required (Altarawneh, 2016). Overtoom (2000) refers to these skills as employability skills and states that “employability skills are transferable core skill groups that represent essential functional and enabling knowledge, skills, and attitudes required by the 21st century workplace” (p. 1). These skills are also referred to as generic skills (Altarawneh, 2016) or soft skills (Bailey & Mitchell, 2006; Ngoo, Tiong, & Pok, 2015). Many fields see the need for employability skills development: management (Weber, Finley, Crawford, & Rivera, 2009); training and development (Sahni, 2011); information technology, computer programmers and project managers (Bailey & Mitchell, 2006; Bogdan & Malgorzata, 2011; McMurtrey, Downey, Zeltman, & Friedman, 2008; Muzio, Fisher, Thomas, & Peters, 2007); healthcare (Jelphs, 2006); hospitality industry (Spowart, 2011); retail (Nickson, Warhurst, Commander, Hurrell, & Cullen, 2012); engineering (Balaji & Somashekar, 2009); and accounting (Ahadiat & Martin, 2015; Altarawneh, 2016; Bui & Porter, 2010; Chaker & Abdullah, 2011; de Lange, Jackling, & Gut, 2006; Gray & Murray, 2011; Weaver & Kulesza, 2013, 2014) note the need for the development of employability skills. Thus, varieties of jobs demand an expanded skill set.

Accounting employers demand employability skills in the workplace (Bui & Porter, 2010). Although many people think accountants need only technical skills, nothing could be further from the truth (Bui & Porter, 2010). Accounting employers want accounting graduates who can use employability skills (Deal, et al., 2015). Accounting employers desire entry-level accounting graduates who can think critically, multitask, work hard, provide good customer service, get along with others, and have a willingness to continue to learn (Deal et al., 2015). While accounting graduates need technical skills (Bui & Porter, 2010; Deal et al., 2015), employability skills are becoming more important for accountants (Ahadiat & Martin, 2015; Altarawneh, 2016; Bui & Porter, 2010; Chaker & Abdullah, 2011; Deal et al., 2010; de Lange, Jackling, & Gut, 2006; Gray & Murray, 2011; Weaver & Kulesza, 2013, 2014).

Many would say that soft skills and employability skills are interrelated (Overtoom, 2000), and these softer skills are needed to get along with bosses, co-workers, and clients (Goleman, 1995). Some of the employability skills desired by employers relate to emotional intelligence (Daff, de Lange, & Jackling, 2012). Furthermore, emotional intelligence has proven to increase workforce performance (Mayer, Roberts, & Barsade, 2008) even in accountants (Goleman, Boyatzis, & McKee, 2013). Thus, emotional intelligence is a key component of employability skills.

Employability skills and emotional intelligence are closely related. Emotional intelligence theory was proposed by Salovey and Mayer (1990) and popularized by Daniel Goleman (1995) in a book titled *Emotional Intelligence*. Goleman (1995) describes emotional intelligence as knowing what one is feeling, being able to control one's emotions, understanding what another person is feeling and dealing with those

emotions. Based on research summarized in Mayer, Roberts, and Barsade (2008), emotional intelligence “is a predictor of significant outcomes across diverse samples in a number of real-world domains. It [emotional intelligence] predicts social relations, workplace performance, and mental and physical well-being” (p. 527). As workforce development relates directly to workforce performance, emotional intelligence is a key component of a qualified workforce (Mayer et al., 2008). Many skills deemed important by employers fit within the categories of emotional intelligence and employability skills (Daff et al., 2012), signaling that employers demand employability skills and emotional intelligence in their employees (Mayer et al., 2008). Major accounting firms are demanding emotional intelligence in their employees (Ernst & Young, n.d.). Ernst and Young is one of the big four international accounting firms in the world (Louwers, Ramsay, Sinason, Strawser, & Thibodeau, 2014). In describing what Ernst and Young looks for in future employees on their website, the skills include teamwork and the ability to get along with people from diverse backgrounds and building relationships (Ernst & Young, n.d.). These skills fit into the “the ability to manage relationships” (Goleman, 1995, p. xv) of emotional intelligence and the interpersonal skills of employability skills (Daff et al., 2012). Therefore, employees who possess strong interpersonal skills, employability skills, and emotional intelligence are key to a strong and competitive workforce (Goleman et al., 2013).

The development of human capital in knowledge, technical skills, and employability skills is vital for the economic success of the United States in the 21st century (Moretti, 2012). Human capital theory suggests that education is a key factor in developing the workforce (Becker, 1993). According to Becker (1993), “education and

training are the most important investments in human capital” (p. 17). Research suggests that even small increases in the skill of the workforce can have large effects on the country (Hanushek, Woessmann, Schleicher, Duval, & Jakubowski, 2010). Human capital theory is a component theory of human resource development (Swanson & Holton, 2009). One definition of *human resource development* (HRD) “is the process of increasing the knowledge, the skills, and the capacities of all the people in the society” (Harbison & Myers, 1964, p. 2). As this definition implies, HRD includes the training and development of individuals and nations (Paprock, 2006). Wang (2009) concurs that HRD takes place at the “individual, group, organization, and even national level” (p. 403). Swanson and Holton (2009) include training and development as an integral part of their definition of HRD. Thus, developing the skills of the workforce is necessary for individuals, societies and nations (Wang, 2009). Workforce planning models include an element of analyzing the workforce and identifying skills gaps (Wang, 2009).

In summary, employers note a skills gap (Siriwardane, Hu, & Low, 2014), and in many instances, employees remain unaware they are not meeting the demands of the employer (Chegg, 2013). Some research suggests employees possess the technical skills, but lack the employability skills demanded in the workforce (Chegg, 2013).

Employability skills are demanded in many areas of the workforce including accounting (Altarawneh, 2016; Nickson et al., 2012). Furthermore, employability skills link to emotional intelligence (Daff et al., 2012) and employers demand these skills (Goleman et al., 2013).

Demand for College Graduates, Skills Gap and Cost of Skills Gap

The demand for college graduates continues to increase, and the predicted demand is that by 2018, 63% of jobs will require some college education (Carnevale, Smith, & Strohl, 2010). College graduates are in demand (Torres, 2015), and estimates are by 2018 a shortage of approximately three million too few college graduates will exist (Carnevale et al., 2010). These statistics are favorable for those who attend college, especially the accounting major (AICPA, 2015a; Bureau of Labor Statistics, 2014; Carnevale et al., 2010; Cohn, 2015). One of the fastest growing industries is professional and business services (Carnevale et al., 2010). The number of accounting graduates hired in 2014 increased by 7% as compared to 2013 (AICPA, 2015a; Cohn, 2015). The *Bureau of Labor Statistics 2014-2015 Occupational Handbook* predicts a 13% growth in the demand for accountants and auditors from 2012 through 2022 (Bureau of Labor Statistics, 2014) and the demand for accounting graduates is at an all-time high (Baysden, 2013).

However, research indicates accounting graduates do not have the skills needed when entering the workforce (Altarawneh, 2016; Awayiga, Onumah, & Tsamenyi, 2010; Bui & Porter, 2010; Kavanagh & Drennan, 2008; Massey, 2011). Corporate executives and managers in the financial field indicate entry-level management accounting and finance professionals' lack technical and non-technical skills (McCann, 2015). Chief financial officers find it challenging to locate employees with the skills needed to fill professional-level positions in accounting and auditing, financial analysis, compliance, and business services (Robert Half, 2015).

The skills gap is costing companies money (Nanduri, 2017). Employers report extended job vacancies cost U.S. companies close to one million dollars annually (Nanduri, 2017) with many vacancies extending more than 12 weeks (Nanduri, 2017). U.S. executives report the skills gap result in less investment in U.S. companies (Adecco, 2017). Other effects of the skills gap include the following problems.

- Suffering product development
- Companies missing out on growth opportunities due to lack of skilled labor
- Suffering company profits (Adecco, 2017).

While there is a cost to companies due to loss of revenue from the skills gap, employers report problems with productivity and work quality related to job vacancies (“Companies Losing Money,” 2014). The skills gap can affect current employees. Employers report the following problems due to the skills gap.

- Lower morale due to employees shouldering heavier workloads
- Work does not get done
- Delays in delivery times
- Declines in customer service
- Lower quality of work due to employees being overworked
- Employees are less motivated
- Employees making more mistakes, resulting in lower quality of work
- Higher turnover because employees are overworked (“Companies Losing Money,” 2014)

While the skills gap affects companies and employees, the skills gap also affects the economy. The skills gap cost the U.S. economy an estimated \$160 billion per year (Fisher, 2014). As companies are unable to increase output, their revenues and profits are reduced; individuals that are unemployed or underemployed do not spend as much (Fisher, 2014). This cycle has a tremendous impact on the U.S. economy (Fisher, 2014; Kaplan, 2017). The skills gap is substantial and filling the needs of employers is paramount (Fisher, 2014; Kaplan, 2017).

Overall, the demand for college graduates continues to increase (Bidwell, 2014; Carnevale et al., 2010) and includes the demand for accounting graduates (AICPA, 2015a; Cohn, 2015). Employers report that accounting graduates do not have the skills needed for the workforce (Deal et al., 2015). The cost associated with the skills gap is tremendous (Fisher, 2014; Nanduri, 2017).

Problem Statement

Human capital development is an important endeavor for individuals, communities, and societies (Moretti, 2012). An educated workforce is one of the driving factors in the knowledge economy (Moretti, 2012). In 2016, college graduates find the best job market since 2007 (Piazzola, 2016). Although hiring prospects are increasing, finding qualified employees remains challenging (Weisenthal, 2016). The dearth of qualified employees is a challenge facing accounting employers. Employers require employees that possess critical thinking skills, financial analysis skills, and oral and written communication skills; yet, many recent graduates lack these skills (Deal et al., 2015) and jobs go unfilled. The consequence, employers lose profits and incur costs

associated with the skills gap (Fisher, 2014; Nanduri, 2017); and businesses and the economy suffer due to the skills gap (Fisher, 2014; Kaplan, 2017).

Purpose of the Research

The purpose of this study is to determine the perceptions of CPAs of the importance of knowledge, technical skills, and employability skills required of accounting graduates in the workforce. This study also determines CPA hiring managers' perceptions of the importance of the knowledge, technical skills, and employability skills of recent graduates and the acquisition of the knowledge, technical skills, and employability skills of recent accounting graduates in the workforce. This study determines the relationship of CPA hiring managers' perceived importance and the accounting graduate acquisition of the knowledge, technical skills, and employability skills required of accounting graduates in the workforce.

Significance of the Study

Providing an educated workforce is imperative (Moretti, 2012). Human capital theory indicates individuals and societies benefit from an educated workforce (Moretti, 2012; Sweetland, 1996). Understanding “the *state* [emphasis added] of the skill, dexterity, and judgment” (p. 3) of the individual affects the workforce (Smith, 1776). As the “knowledge and service economy” (Schurman & Soares, 2010, p. 141) emerges, workers must not only have a postsecondary education, but a wide range of skills. Furthermore, evidence suggests that even a small increase in the skill of the workforce can have great impacts on the economy and “economies with more human capital (measured by cognitive skills) innovate at a higher rate than those with less human capital, implying nations with larger human capital in their workers keep seeing more

productivity gains” (Hanushek, Woessmann, Schleicher, Duval, & Jakubowski, 2010, p. 10). Knowing which skills are needed is relevant in the knowledge economy (Schurman & Soares, 2010). The current study is significant because it provides relevant information regarding the requisite knowledge, technical skills, and employability skills needed by accounting graduates when entering the workforce (Sullivan, 2011).

Those who will benefit from this study are numerous. As those in workforce training and development become aware of the skills demanded by the employers, they may be able to better prepare the accounting graduates for the workforce. If that is the case, then the general economy may be impacted as the accounting graduates will be better prepared for the workforce (Fisher, 2014; Hanushek et al., 2010; Kaplan, 2017). Employers may benefit as the accounting graduates will be better prepared for the job (Schurman & Soares, 2010; Kaplan, 2017). The accounting graduate may benefit, as they may be better prepared to enter the job market (Chegg, 2013). Those in workforce training and development will benefit, as this research will inform them as to the particular knowledge and skills needed by accounting graduates when entering the workforce (AICPA, 2016a).

Research Objectives

The objectives of this study focus on the perceptions of CPAs of the knowledge, technical skills, and employability skills required of accounting graduates in the workforce and perceptions of CPAs hiring managers of the knowledge, technical skills, and employability skills possessed by recent accounting graduates in the workforce. This study includes the following research objectives:

- RO1: Describe the demographic characteristics of participants, including gender, education level, certifications held, place of employment, size of employer, title/position, years at job, and age.
- RO2: Describe CPAs perceived importance of the knowledge, technical skills, and employability skills required of accounting graduates in the workforce.
- RO3: Describe CPA hiring managers' perceived importance of the knowledge, technical skills, and employability skills required of accounting graduates.
- RO4: Describe CPA hiring managers' perceived accounting graduate acquisition of the knowledge, technical skills, and employability skills.
- RO5: Determine the relationship between CPA hiring managers' perceived importance and accounting graduate acquisition of the knowledge, technical skills, and employability skills.

Conceptual Framework

The conceptual framework provides an illustration of the relationships of the underpinning theoretical framework of workforce development, which includes human capital theory (Becker, 1993), emotional intelligence (Goleman, 1995) and employability skills (Overtoom, 2000). These theories inform workforce development about the knowledge, technical skills, and employability skills required of accounting graduates in the workforce. The framework represents the perceptions of CPAs of the importance of the knowledge, technical skills, and employability skills required of recent accounting graduates in the workforce. CPAs who have hired recent accounting graduates are a subset of the CPAs. The perceptions of this subset are separately identified, as employers are a key stakeholder group in the employment of accounting graduates (Bui & Porter,

2010; Jones & Abraham, 2009). The framework shows the perceptions of CPAs with new hires of the knowledge, technical skills, and employability skills possessed by recent accounting graduates. Finally, the framework illustrates the intent of this study to determine the relationship between the CPAs' with new hires perceptions of the importance of the knowledge, technical skills, and employability skills and the CPAs' with new hires perceptions of the skills possessed by recent accounting graduates.

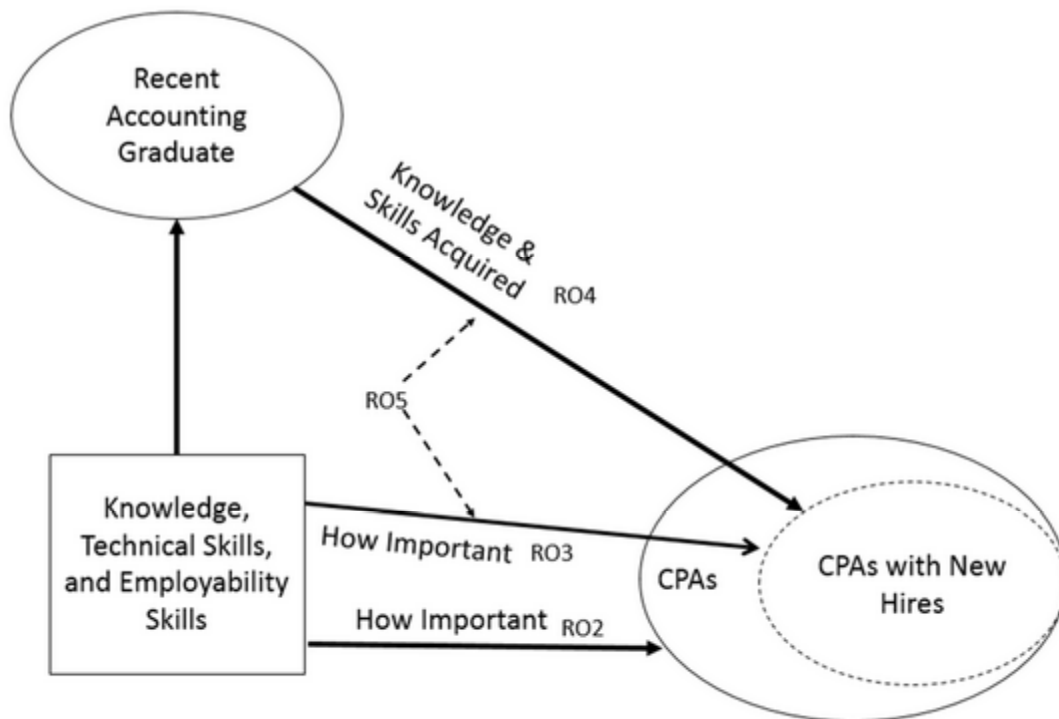


Figure 1. Conceptual Framework

Definition of Key Terms

The following definitions are relevant to this study. For the purposes of this research, the following definitions will be used:

Critical thinking – “purposeful, self-regulatory judgment which results in interpretation, analysis, evaluation, and inference, as well as explanation of the evidential,

conceptual, methodological, criteriological, or contextual considerations upon which that judgment is based” (Facione, 1990, p. 3).

Emotional Intelligence – is an idea developed by Daniel Goleman (1995) which was developed from the work of Salovey and Mayer (Goleman, 1995). The key components of emotional intelligence deal with an individual understanding their own emotions, managing those emotions, understanding those emotions in others and managing those emotions in dealing with others (Goleman, 1995).

Employability Skills – “are transferable core skill groups that represent essential functional and enabling knowledge, skills, and attitudes required by the 21st century workplace” (Overtoom, 2000, p. 1).

Human Capital – is a term originally coined by Theodore Schultz (1961) and more fully developed by Gary Becker (1993). Human capital refers to the economic value of an individual’s knowledge, skills, and abilities (Schultz, 1961). Human capital can also refer to a population (Becker, 1993).

Technical Skills – are skills used in a particular line of work that enables an individual to complete a specific task (Businessdictionary.com, n.d.).

Summary

Developing human capital is imperative in meeting the demands of the economy and education is a key component in providing a workforce ready for jobs available in the 21st century (Moretti, 2012). However, employers indicate the lack of availability of employees with the right skills (Weisenthal, 2016). The skills gap is affecting businesses and the economy (Fisher, 2014; Nanduri, 2017). Employers report that the extended job openings cost U.S. companies one million dollars a year (Nanduri, 2017). And the skills

gap affects the economy at an estimated cost of \$160 billion per year (Fisher, 2014). This study explores the knowledge, technical skills, and employability skills required of accounting graduates in the workforce. The results of this research provide clear direction for those in workforce training and development on those items of most importance that should be developed in accounting graduates. By knowing what knowledge and skills should be developed, those charged with workforce development and human capital development are informed to the demands of employers.

CHAPTER II - REVIEW OF THE LITERATURE

This chapter provides a review of literature beginning with an overview of broad studies related to accounting and accounting education, and research conducted by the AICPA. This chapter will then examine empirical research conducted by those outside of the United States related to accounting skills. Then, a review the empirical literature in the United States related to accounting skills will be presented. Finally, this chapter provides a review of literature supporting the conceptual framework for this research, which are human capital theory, employability skills, and emotional intelligence.

Comprehensive Studies of Skills Needed by Accountants in the Workforce

Human capital development is an important endeavor for individuals, societies and nations (Moretti, 2012). Education is a key contribution to the development of human capital (Becker, 1993; Schultz, 1961; Sweetland, 1996). Those who are more highly educated have higher earnings (Becker, 1993). This fact holds true for the accounting graduates (Robert Half, 2016a). There is a demand for accounting graduates (AICPA, 2015a) and salaries are increasing for accounting graduates (Robert Half, 2016a). However, employers have indicated that they cannot find employees with the right skills (Deal et al., 2015). Thus, accounting education and accounting graduates have been studied and recommendations have been made regarding the need for changes to the curriculum to respond to the changes in the world today (Accounting Education Change Commission, 1990; Albrecht & Sack, 2000; Awayiga et al., 2010; Bedford et al., 1986; Bui & Porter, 2010; Chaker & Abdullah, 2011; Cory & Pruske, 2012; Gray & Murray, 2011; Jackling & de Lange, 2009; Jones & Abraham, 2009; Kavanagh & Drennan, 2008; Weaver & Kulesza, 2013, 2014; Wells, Gerbic, Kranenburg, & Bygrave,

2009). Some studies have suggested that accounting educators have not adequately prepared accounting students for the workplace (Albrecht & Sack, 2000). Albrecht and Sack (2000) in *Accounting Education: Charting Course through a Perilous Future* looked at numerous aspects in the United States relating to accounting education, the business environment, perceptions of accounting practitioners and accounting educators, and improvement of accounting education. Although this research was published in 2000, many of the drivers of change regarding technology and globalization ring true today (Awayiga et al., 2010; Bui & Porter, 2010; Cory & Pruske, 2012; Jones & Abraham, 2009; Kavanagh & Drennan, 2008; Weaver & Kulesza, 2013, 2014). Practitioners are of particular interest in the Albrecht and Sack (2000) study, because practitioners hire accounting graduates. Albrecht and Sack found that the average practitioner rated the following as those skills that should have the most priority in education: written communication, analytical/critical thinking, oral communications, computing technology and teamwork (p. 56, Skills Table). In comparing this to the results of the average faculty ratings most of the same items are included except faculty did not include teamwork in their top five areas of priority. Many researchers have found that teamwork is an important skill needed by accounting graduates (Kavanagh & Drennan, 2008; Milliron, 2012; Weaver & Kulesza, 2013). Faculty indicated that those that should receive priority were analytical/critical thinking, written communications, oral communications, computing technology and decision-making (Albrecht & Sack, 2000, p. 56, Skills Table). The researchers asked faculty and practitioners to rate skills as to which are most important and should be given priority in developing with the scale from 1 (*no priority*) to 5 (*top priority*). The mean was computed for each of the items

and Table 1 summarizes the top five responses of each group. Based on the analysis, Albrecht and Sack (2000) found that 20 of the 22 skills on the list had an average of 3 or higher. The researchers interpret this as only two items (salesmanship and foreign language) should have no priority (Albrecht & Sack, 2000). Another part of the research related to the content knowledge that was most important. With a rating scale of 1 (*not important*) and 4 (*very important*), the averages were calculated and Table 2 presents the top five areas for the practitioner and faculty. The practitioner and faculty agree on the importance for most content knowledge areas. Albrecht and Sack noted there were seven areas the practitioners felt were more important than faculty. These content areas were “broadening-type courses” (p. 52). Because practitioners were demanding a broader knowledge base, the CPA exam was changed in 2004 to include a new part called business environment and concepts which tests broad business knowledge (VanZante, 2003).

Table 1

Skill Level of Importance

Note: Adapted from Accounting education: Charting the course through a perilous future, by W. S. Albrecht and R. J. Sack, 2000, p.

Skill	Practitioner	Faculty
Written communications	4.32	4.39
Analytical, critical thinking	4.29	4.53
Oral communications	4.27	4.22
Computing technology	4.07	4.10
Teamwork	4.02	3.81
Decision making	3.96	4.03

56, Skills Table. Copyright 2000 by the American Accounting Association.

Table 2

Content Knowledge Level of Importance

Topic	Practitioner	Faculty
Financial accounting	3.57	3.74
Information systems	3.56	3.54
Finance	3.28	3.36
Taxes	3.28	3.30
Auditing/assurance services	3.06	3.13
Managerial accounting	3.05	3.25

Note: Adapted from *Accounting Education: Charting the course through a perilous future*, by W. S. Albrecht and R. J. Sack, 2000. P.

52, Topic Table. Copyright 2000 by the American Accounting Association.

Another organization that has performed ongoing research into the knowledge, skills, and competencies CPAs should possess is the AICPA (1998, 2011, 2014, 2015b, 2015c, 2016a). The AICPA is the national organization of Certified Public Accountants (CPA). In 1998, the AICPA conducted unprecedented research to create *The CPA Vision Project 2011 and Beyond*. Part of this research included 177 forums where 3,353 CPAs participated in determining the top five values, services and competencies of CPAs (AICPA, 1998). The top five competencies were determined to be communication and leadership skills, strategic and critical thinking skills, focus on customer, client and market, interpretation of converging information, and technologically adept (AICPA, 1998). The skills identified by Albrecht and Sack (2000) as having importance by practitioner and faculty, and those skills deemed as the top five competencies by the AICPA in 1998 were mostly in agreement. Terminology may be slightly different, but the skills seem closely aligned. However, the practitioners noted that teamwork was important (Albrecht & Sack, 2000), and the AICPA (1998) research did not include teamwork as a top five competency.

In 1999, the AICPA developed a core competencies' framework (Bolt-Lee & Foster, 2003). According to Bolt-Lee and Foster (2003), the purpose of developing this framework was to address issues in accounting education. This framework contained three primary components. Those components were functional competencies, personal competencies, and broad business perspective. The functional competencies were those “technical competencies most closely aligned with the value contributed by accounting professionals” (Bolt-Lee & Foster, 2003, p. 37). These core competencies developed in 1999 are still included on the AICPA website as follows:

1. Functional competencies – technical competencies most closely aligned with the value contributed by accounting professionals (decision modeling, risk analysis, measurement, reporting, research, leverage technology to develop and enhance functional competencies);
2. Personal competencies – individual attributes and values (professional demeanor, problem solving and decision making, interaction, leadership, communication, project management, leverage technology to develop and enhance personal competencies);
3. Broad business perspective – perspectives and skills relating to understanding of internal and external business contexts (strategic/critical thinking, industry/sector perspective, international/global perspective, resource management, legal/regulatory perspective, marketing/client focus, leverage technology to develop and enhance a broad business perspective). (AICPA, n.d.)

A more recent project of the AICPA was the *CPA Horizons 2025 Report* (AICPA, 2011). This report focused on the trends that currently affect and will impact CPAs over the next fifteen years (AICPA, 2011). This report examined the core purpose, values, competencies and services of CPAs based on surveys from 5,133 participants, in-person forums of 500 participants, focus groups with 30 participants, online discussions, and interviews with 15 regulators and thought leaders (AICPA, 2011, p. 12). According to the CPA Vision Project, the core competencies are seen as “a unique combination of human skills, knowledge, and technology that provides value and results to the user. Enhancing our core competencies is key to sustaining a competitive and differential

advantage in the marketplace” (AICPA, 2011, p. 8). The core competencies identified were communications skills, leadership skills, critical-thinking and problem-solving skills, anticipating and serving evolving needs, synthesizing intelligence to insight, and integration and collaboration (AICPA, 2011). The results of the AICPA 2011 research provide differences from prior research of the 1998 AICPA study. Integration and collaboration (AICPA, 2011) suggest that teamwork and collaborating with others are key competencies needed in the workforce.

In 2012, the Pathways Commission on Accounting Higher Education issued a comprehensive study titled *Charting a National Strategy for the Next Generation of Accountants*. This study was a joint project between the American Accounting Association, an organization for accounting academics, and the AICPA (Pathways Commission, 2012). Many objectives were identified for this project; one of them included constructing a foundational body of knowledge with the initial step of assembling accounting competencies (Pathways Commission, 2012). To do this, the Commission “reviewed information from multiple sources, including IFAC [International Federation of Accountants], NASBA [National Association of State Boards of Accountancy], AICPA, the IMA [Institute of Management Accountants], and the IIA [Institute of Internal Auditors] among others” (Chapter 7, p. 3). Based on their analysis, the Pathways Commission (2012) identified three divisions of accounting competencies of “technical knowledge, professional skills, and professional integrity, responsibility, and commitment” (Chapter 7, p. 3).

The results of the Pathways Commission (2012) regarding the competencies were from a review of sources, not seeking the input of those in the workforce. Over 150

competencies were listed from the results of their review (Pathways Commission, 2012, Chapter 7, pp. 3-8). Which are most important from the employer in the workforce?

This question is not answered from their review.

In 2014, the AICPA issued an invitation to comment on proposed changes to the CPA exam (AICPA, 2014). The AICPA has responsibility to develop and grade the uniform CPA exam which is taken by candidates as part of the process to be licensed as a CPA (Louwers et al., 2014). “The CPA examination provides reasonable assurance to the boards of accountancy that individuals who pass possess the level of technical knowledge and skills necessary for initial licensure. Admitting only qualified individuals into the profession protects the public interest” (AICPA, 2014, p. 4). Because of the changing workforce and demands on accountants in the global environment, the AICPA Board of Examiners conducted research to determine if additional areas should be added or changed on the CPA exam (AICPA, 2014). The CPA exam currently includes four parts (Louwers et al., 2014) which are auditing and attestation, financial and reporting, business environment and concepts, and regulation. The AICPA conducted 17 focus groups, which helped to develop a survey regarding proposed changes to the exam. Based on the focus groups, they have identified “a consistent set of knowledge and skills that is necessary for newly licensed CPAs” (AICPA, 2014, p. 7). Those areas that the Board identified are as follows:

- Critical Thinking, Problem Solving, Analytical Ability, Professional Skepticism, and Adaptability
- A Strong Understanding of the Business Environment
- Effective Communication Skills

- Well-Developed Research Skills
- Ability to Analyze Data
- Ethics and Professional Responsibilities (AICPA, 2014, pp. 7-8)

Although many accounting graduates may not take the CPA exam, the proposed changes indicate higher-level skills may be needed for accounting graduates who plan to take the CPA exam. The period for comment ended December 2, 2014 and the *Report on the Invitation to Comment Results: Maintaining the Relevance of the Uniform CPA Examination* was released on May 22, 2015 (AICPA, 2015b). Results indicated that of the 310 respondents (282 individuals and 28 groups), the majority felt that the CPA exam should include the testing of writing skills, and increased testing of “critical thinking, problem solving, professional skepticism, and analytical skills” (AICPA, 2015b, p. 5). Therefore, the CPA exam changed in 2017 (AICPA, 2016a). The new skill framework used by the AICPA is the revised Bloom’s Taxonomy of remembering and understanding, application, analysis, and evaluation (AICPA, 2016a). Based on their research, the updated CPA exam focuses on testing higher order skills (AICPA, 2016a). Furthermore, the content areas tested on the CPA exam in 2017 have been updated (AICPA, 2016a). This study uses the updated content areas for research purposes to address which knowledge areas are deemed important by CPAs.

Empirical Research Outside the United States

Empirical research about the skills needed by accountants has been performed in countries outside the United States. In Australia, Kavanagh and Drennan (2008), Jones and Abraham (2009) and Jackling and de Lange (2009) have performed research and

found that technical and employability skills are needed by accountants. In New Zealand, Wells, Gerbic, Kranenburg, and Bygrave (2009) investigated the skills needed of accounting graduates; Bui and Porter (2010) researched the skills-gap framework; and Gray and Murray (2011) focused their study on communication skills needed by accounting graduates. In Ghana, Awayiga, Onumah, and Tsamenyi (2010) studied the professional skills and technology skills important in the workforce. Researchers in the United Arab Emirates (Chaker & Abdullah, 2011) asked recent graduates about the skills that they had acquired in college. The following section describes the research of each of these studies.

Australia

A study conducted in Australia by Kavanagh and Drennan (2008) focused on skills and attributes needed by accounting graduates as perceived by students and employers. The first part of their study gathered information from graduating students from three different universities in Australia. The universities were public and private and 322 students took the survey that was adapted from the Albrecht and Sack (2000) instrument. The survey contained 47 skills or attributes. Students indicated if the item was important to their future careers. In addition, the students indicated level of priority the item had been given in the accounting curriculum.

Based on the means of the survey, the results of their research found that students ranked all attributes as,

moderate or greater importance, continuous learning (being up to date) was rated most important to future careers. Next in line in order of ranking were decision-making, oral communication, analytical and problem solving, critical thinking,

self-motivation/self-direction, professional attitude, teamwork (group interaction), computer literacy and written communication. These skills were closely followed by strong work ethic, values (integrity, respect for others), flexibility and appreciation of cross-cultural diversity. (Kavanagh & Drennan, 2008, p. 288)

The second part of their research with the students was to determine if students felt that their accounting programs placed enough emphasis on the skills deemed important (Kavanagh & Drennan, 2008). To calculate this, the researchers performed *t* tests based on mean ratings to determine if there was a significant difference between the means of the importance rating and emphasis placed by accounting programs. Students indicated that the universities did not place enough emphasis on the skills that the students deemed important for their careers (Kavanagh & Drennan, 2008).

Kavanagh and Drennan (2008) also contacted 28 employers of accounting graduates. The employers were from different organizations and industries, such as accounting firms, commerce and industry, and government. Individual meetings and focus groups were conducted using a semi-structured method. Employers rated analytical/problem solving, business awareness/real life experience, and basic accounting skills as most important (Kavanagh & Drennan, 2008). Employers also placed importance on other skills such as oral and written communication, ethical awareness, and teamwork. In terms of development of these skills in the accounting curriculum, Kavanagh and Drennan (2008) found that students and employers agree that the non-technical and professional skills are not being fully developed.

The research conducted by Kavanagh and Drennan (2008) was thorough and included a wide group of students from three different universities that were both public

and private. Furthermore, the institutions that participated in the surveys were very different from one another, based on size, approach and focus. However, the first research question asked students their perception on the skills that have the highest priority for career success. It is unclear if these students know the skills needed for career success. The information related to the demographics of the students did not present information about prior or current work experience. This might enlighten the study. However, it is interesting to note that the employers are interested in employees having a contextual or interdisciplinary approach to business. The AICPA (2014) has found that an overall view of business is an area of importance for accounting graduates.

Also in Australia, the research presented by Jones and Abraham (2009) included three different groups' perceptions regarding accounting education and accountants. Jones and Abraham (2009) surveyed working accountants, accounting educators, and students in their final year of college. The purpose of their first study was "to determine each group's perceptions of the roles of accountants into today's global environment" (Jones & Abraham, 2009, p. 52). The working accountants were surveyed at two different meetings of the CPA Australia. The educators in the School of Accounting and Finance at an Australian university were emailed surveys and the students were asked to complete a survey in their third-year management class. The surveys consisted of 32 questions that asked participants to rate each item on a 5-point Likert scale with 5 being *very important* (p. 52).

For this study, the participant response rate included 18 responses from academics, 69 responses from students and 26 responses from practitioners (Jones & Abraham, 2009). The first part of their study separated academics into those who had

worked as accountants and those who had not. They found that those who had worked as accountants “ranked personal skills such as self-belief, self- confidence and management skills, significantly higher than those who had not worked as accountants. They also had higher expectations of the importance of information technology, budget, audit, and tax roles” (Jones & Abraham, 2009, p. 53). For the next part of the study, Jones and Abraham (2009) used factor analysis to group the 32 questions into clusters or factors. They identified eight factors as identified in Table 3. Based on the factor analysis in Table 3, the practitioners based on mean ratings felt that analysis and ethical standards were most important followed by personal skills of intelligence, motivation and leadership with work experience as the third most important. It is interesting to note that academic results and education provided by universities (factor 3) and managerial and accounting functions (factor 1) are not ranked in the top five of importance for practitioners.

Table 3

Practitioners' Mean Ratings

Factor	Description	Mean
Factor 1	Managerial and accounting functions	5.57
Factor 2	Personal skills such as intelligence, motivation and leadership	5.91
Factor 3	Academic results and education provided by universities	5.27
Factor 4	Group working skills	5.64
Factor 5	Analysis and ethical standards	6.04
Factor 6	Community attitudes	5.17
Factor 7	Data skills	5.61
Factor 8	Work experience	5.68

Note: Adapted from "The Value of Incorporating Emotional Intelligence Skills in the Education of Accounting Students," by G. Jones and A. Abraham, 2009, *The Australasian Accounting Business & Finance Journal*, 3, p. 53. Copyright 2009 by the Australasian Accounting Business and Finance Journal and Authors.

Jones and Abraham (2009) performed independent t - test to determine if there were significant differences between academics and students, practitioners and students, and academics and practitioners. They found that there were several significant differences. First, the differences between academics and students related to "academics placing greater value in academic results, ethics, and data analysis while students [*sic*] expectations were higher in relation to the importance of work experience and community attitudes" (Jones & Abraham, 2009, p. 54). The significant differences between practitioners and students related to practitioners having higher perceptions of analysis and ethical standards while students' ratings for community attitudes and work

experience were higher. Finally, the only significant difference between practitioners and academics is that practitioners placed a significantly higher emphasis on work experience than the academics which was the most significant of all differences with a $p = .003$ (Jones & Abraham, 2009, p. 55, Table 6). This study seems to indicate that practicing accountants place a greater emphasis on analysis, ethical standards, and personal skills of intelligence, motivation, and leadership than the academics or students do. Furthermore, practitioners place a greater value on work experience than the academics.

A few questions arise regarding several aspects of this study. The authors surveyed academics in the School of Accounting and Finance. Those academics in the discipline of accounting may be different and have different perceptions than those in the discipline of finance. It is unclear from this study if those teaching in both fields were included in this study. The next question regarding the academics is the grouping of the academics as those who have worked as accountants and those who have not. This seems like a very logical division. However, if an academician practiced for five years and has been teaching for thirty years, how relevant is that experience? Better information relating to how long ago the work experience occurred could enlighten the survey results. In addition, Jones and Abraham (2009) surveyed CPAs at “two separate branch meetings of CPA Australia” (p. 52). This inference is there were no CPAs at one meeting that then attended the other meeting. If that was the case, it should be stated in the study. Otherwise, there might be an overlap of CPAs included in the survey. Finally, the survey instrument included 32 items grouped together through factor analysis. Knowing which items were included in each factor could further enlighten the study. Finally, the authors

indicated that the Likert scale was 1 to 5; however, with means in excess of 5, it appears that the Likert scale must have exceeded 5.

Another study in Australia conducted by Jackling and de Lange (2009) addressed the issue of the emphasis placed on technical and generic skills of students from the perspective of students and employers. The first part of the study examined the emphasis graduates perceived was given in academic programs in terms of technical and generic skills. The researchers mailed questionnaires to 650 students that graduated from 2000 and 2003 from a university in Victoria, Australia. The questionnaire asked students to indicate which items were emphasized in their undergraduate accounting studies based on a skills inventory using a five-point Likert scale from little or no emphasis to a great deal of emphasis. These students also were asked to indicate the three most important skills for “successful progression in their career” (Jackling & de Lange, 2009, p. 374). The researchers received 174 responses to the survey.

In addition to the survey of graduates, Jackling and de Lange (2009) interviewed human resource managers from 12 businesses in Melbourne, Australia that had employed accounting graduates in the last five years from the same university. This part of the study used semi structured interviews to gather data about the qualities possessed by the accounting graduates (Jackling & de Lange, 2009).

The researchers found that students felt that their accounting curriculum focused on technical skills, accounting problem analysis, and written communication based on means of responses (Jackling & de Lange, 2009, p. 376, Table 2). Based on the qualitative analysis and content analysis, the employers rated team skills as most important and the following all were rated equally important: leadership, verbal

communication, and interpersonal skills (Jackling & de Lange, 2009, p. 377, Table 3). Thus, employers rated many generic skills as much more important than the emphasis that was placed on those skills in the accounting curriculum as perceived by the students. In analyzing the students' perceptions and employers' responses, Jackling and de Lange stated,

This is not to suggest that technical accounting skills are not required of accounting graduates, clearly they are, but such skills of accounting graduates are presumed and it is the transferable generic skills that appeared as a distinguishing quality in the selecting process, and possibly less developed overall in the graduates applying for accounting positions. (p. 378)

In the final part of the student survey, Jackling and de Lange (2009) asked the recent graduates to list the most important qualities for career progression. These items were as follows: communication skills, problem-solving skills and personal skills (p. 380, Table 4). Therefore, it appears that once students begin their working life, they understand the importance of generic skills.

This study covers a variety of issues related to the accounting education and employability of accounting graduates. By reviewing the demographic information about the graduates, it is difficult to determine if the graduates are currently employed. Knowing the employment status of the graduates is relevant as the researchers asked the graduates to list the three most important qualities for career progression. Perhaps all graduates were working, but it is unclear from the data. Additionally, another area where information that is more complete would have been helpful is if the researchers had been able to interview the managers or supervisors of the accounting graduates in addition to

the human resource managers. Although the human resource managers may be aware of the skills needed by the accounting graduates, the direct supervisor or manager of the accountants might be able to provide additional information.

New Zealand

Much has been written on the need to update accounting education to meet the demands of the workplace. In New Zealand, Wells et al. (2009) indicate that the purpose of their research was to determine the following items.

1. The capabilities which are regarded as being most important for successful professional practice in accountancy during the first years after graduation;
2. The extent to which the universities at which the participating graduates had studied focused on these issues, thereby heeding the accounting education reform recommendations with respect to skill development; and
3. Key ways to improve the content, delivery support and assessment of the undergraduate accounting programmes. (p. 407)

Wells et al. (2009) surveyed graduates who had been in public practice for three to five years. These participants were identified by contacting approximately 80 accounting firms to identify high performers as identified by their supervisors. The survey was provided online to 30 participants and 26 responded. The survey asked the graduates to indicate the importance of certain items and asked the students to indicate the extent to which the university had addressed that item.

Wells et al. (2009) found that “eight of the top 15 ranked items relate to personal or interpersonal capabilities, four are intellectual and only one is concerned with profession-specific technical expertise” (Wells et al., 2009, p. 409). One respondent

commented, “the balance should be more towards group work than individual. There is very little work I do now on my own. Interpersonal skills are very important” (p. 409).

Table 4 presents the top five professional capability items ranked by importance from the recent accounting graduates.

Table 4

Top Five Professional Capability Items Ranked by Importance

Importance Ranking	Item
1	Being able to understand and respond to client’s requirements in a timely manner
2	Being able to set and justify priorities
3	Being able to organize my work and manage time effectively
4	The ability to empathize with and work productively with people from a wide range of backgrounds
5	Wanting to produce as good a job as possible

Note: Adapted from “Professional Skills and Capabilities of accounting Graduates: The New Zealand Expectation Gap?” by P. Wells, P. Gerbic, I. Kranenburg, and J. Bygrave, 2009, *Accounting Education*, 18, p. 10. Copyright 2009 by Taylor and Francis.

The research from Wells et al. (2009) is very informative. However, the sample size is quite small with only 26 participants. Furthermore, based on the selection criteria of the participants garnered from accounting firms, those surveyed work in public accounting firms. Although many accountants work in public accounting, many do not (“Careers in Accounting,” 2011). Other types of accountants in industry and government may have differing views from those surveyed. Expanding the scope might provide different responses. This limitation was noted in their study.

Research by Bui and Porter (2010) in New Zealand focused on developing a framework of the expectation-performance gap. The expectation-performance gap deals

with the expectations of employers and the performance of graduates. The framework developed by Bui and Porter included three components: expectation gap, a constraints gap, and a performance gap. Their research adopted a holistic approach to the gap and looked at three primary causes:

- Differences in the expectations of accounting educator and employers regarding the competencies which accounting graduates should possess;
- Institutional and student factors that constrain accounting educators from developing the competencies which they expect/desire accounting graduates to acquire;
- Substandard performance by accounting educators resulting in accounting graduates not acquiring the competencies which educators can reasonably expect to develop, given the constraints. (Bui & Porter, 2010, p. 44)

Bui and Porter (2010) conducted semi-structured interviews of partners and recruitment managers, recent graduates, accounting lecturers and final year students in New Zealand. They interviewed 11 employers, five graduates, six academics, and eight final year students in their study. Two of the areas that they sought the interviewees' opinions on were the competencies desired in accounting graduates and the competencies graduates from the case study possessed. They found that all employers indicated that graduates should possess communication skills (oral, written and interpersonal) and teamwork skills. Employers also indicated that students should have business and general knowledge skills in addition to their accounting and computing skills.

Furthermore, employers indicated that "intelligence, confidence, and a 'learning to learn' attitude as being very important" (p. 35). In the last part of their research, Bui and Porter

(2010) found that there was a gap between employers' expectations and competencies possessed by accounting graduates.

Bui and Porter (2010) used qualitative analysis to perform their research of this case study. This is an appropriate method for exploratory relationships (Baxter & Jack, 2008; Stake, 2010). In presenting their analysis, Bui and Porter addressed each of the issues or propositions thoroughly as recommended by Baxter and Jack (2008). By presenting the research in this manner, the findings are logically covered. In addition, Stake (2010) recommends looking at a variety of sources when performing qualitative research. Bui and Porter did just this by performing a document study of the learning objectives of each of the courses or modules at the university; then the researchers conducted the interviews, transcribed the interviews, coded the data, and analyzed the data.

In analyzing qualitative data, Stake (2010) indicates that researchers must "triangulate their evidence" (p. 123). Triangulation is the method of looking at the evidence several times, from various vantage points to increase the credibility of the evidence (Stake, 2010). One method of triangulating evidence is to allow the member of the research to review the evidence to provide further clarification or interpretation (Baxter & Jack, 2008; Stake, 2010). Another method of triangulation is to allow peer examination of the data or review by those who have differing views than the researchers (Baxter & Jake, 2008; Stake, 2010). It is unclear if Bui and Porter used either of these methods of triangulation in their research. Stake (2010) adds that when researchers are studying their own place, bias may be an issue; and Stake urges researchers to take measures such as having "critical friends" (p. 166) review the analysis. The bias issue is

not addressed by the researchers. Finally, the researchers only focused on employers in public accounting. As many accountants work in industry or corporate accounting (AICPA, 2016b; “Careers in Accounting,” 2011; Gray & Murray, 2011), including employers from industry might edify the research.

As evidenced by prior studies, communication skills are extremely important for accounting graduates and some studies have focused specifically on that. Gray and Murray (2011) surveyed New Zealand chartered accountancy firms regarding “the quality of oral communication skills possessed by new accountancy graduates, the specific oral communication skills which employers desire, and the role of oral communication skills in the hiring process” (p. 279). They mailed 760 surveys to members of the New Zealand Chartered Accountants that were in the Chartered Accountancy practice (as opposed to the private sector). They received back 146 questionnaires with a response rate of 19.2%. Of those who responded on the questionnaires, 45 agreed to be contacted for follow-up interviews with 19 actually being contacted.

The survey itself included 27 items in the following five categories that included (a) listening skills, (b) collegial communication skills, (c) client communication skills, (d) communication skills with management and (e) general audience analysis skills (Gray & Murray, 2011). Based on these surveys, Gray and Murray (2011) found that all oral communication skills were “considered to be ‘essential’ in a new graduate by 49.6% of respondents” (p. 282). Furthermore, the two skills considered most important were listening attentiveness and listening responsiveness (Gray & Murray, 2011). However, they found that there was a gap between perceived importance and the frequency of the skill seen in new graduates (Gray & Murray, 2011).

Gray and Murray (2011) included quantitative and qualitative analysis in their research, which is considered mix methods (Creswell & Clark, 2011). By collecting quantitative data and then performing interviews, Gray and Murray were able to provide a more thorough understanding of the research. Creswell and Clark (2011) indicate that mixed method studies often provide a more complete picture than either quantitative or qualitative alone would. In addition, Creswell and Clark (2011) state that mixed methods research “is an intuitive way of doing research that is constantly being displayed through our everyday lives” (p. 1). However, Gray and Murray (2011) indicate that this is a national survey of New Zealand accountants when the research focused on public accounting firms in New Zealand. The survey instrument was mailed to public accounting firms in New Zealand where the firms were selected from the online business directory in New Zealand. As many accountants are in the private sector, this limits the generalizability of their study. This lack of generalizability was noted as a limitation. Finally, Gray and Murray asked respondents about the communication skills of recent graduates, but the researchers failed to ask the respondents if a graduate had been hired recently. Therefore, the responses to the question about whether recent graduates had particular skills may not be accurate. Gray and Murray (2011) partially addressed this issue in limitations by noting that there were sole practitioners who had responded to the survey and these sole practitioners may not have hired accounting graduates.

Ghana

In Ghana, Awayiga et al. (2010) surveyed accounting graduates and employers. There were two key research questions on which they focused.

1. What are the professional skills considered important for the current/future career of accounting graduates as perceived by both employers and graduates, and how are the ratings of these skills different or similar between the two groups?
2. What are the technology skills considered important to be possessed by new accounting graduates for entry-level work and career advancement as perceived by both employers and graduates, and how are the ratings of these skills different or similar between the two groups? (p. 141)

Participants for the surveys were found by contacting 46 major employers in the Accra-Tema metropolitan area of Ghana. The employers provided names of working accountants and a senior person in the Finance and Accounts. A total of 164 accounting graduates were identified. Thus, 164 graduates were hand delivered surveys and 46 employers were hand delivered surveys. Awayiga et al. (2010) received 131 responses from the graduates and 25 responses from the employers.

The survey instrument asked participants to rate skills on a 1 to 5 Likert scale (Awayiga et al., 2010). Awayiga et al. (2010) found that the employers perceived that analytical/critical thinking, computing technology, professional demeanor, communication skills, and technical and functional skills were the top five most important skills (p. 149, Table 5). The graduates perceived that analytical/critical thinking, communication skills, professional demeanor, intellectual skills, and computing technology skills were the five most important (p. 149, Table 5). The researchers performed *t*-tests to determine if there were any significant differences by item between the graduates and the employers. With the $p < 0.05$, there were no significant differences

noted between the graduates and the employers' perceptions of relevant professional skills (Awayiga et al., 2010).

Awayiga et al. (2010) also asked employers and graduates to indicate the technology skills to be possessed by new accounting graduates for entry-level work. They found that both the graduates and employers ranked spreadsheet package as most important based on means. They found significant differences by performing *t*-test with the $p < 0.05$ in regards to word-processing package and Windows in which the employers perceived these as significantly more important than the graduates (Awayiga et al., 2010).

As part of the survey the researchers (Awayiga et al., 2010) asked the employers how they would rank the students on general knowledge, organizational and business knowledge, accounting, finance and auditing knowledge, and information technology knowledge. Awayiga et al. (2010) found that information technology knowledge ranked lowest. The authors also asked the students to indicate which important areas were perceived to be important, but not currently covered in the accounting degree program. Not surprising, students listed computer skill/spreadsheet applications/business information management, and accounting information systems/accounting software training in the top two areas (Awayiga et al., 2010).

The researchers indicated that Ghana was a developing country (Awayiga et al., 2010). Thus, the results of this study may not be applicable to well-developed countries. Unlike the Wells, et al. (2009) study that had a very limited sample and type of graduates, Awayiga et al. (2010) included a varied group of graduates from a wide range of those employed in private, public, and state-owned enterprises. The industry of employment of the graduates included manufacturing, banking, education, accounting firms, public

administration, media, hospitality, construction, transport, and IT firms (Awayiga et al., 2010, p. 147, Table 3). The problem with the individuals included in the graduates' population is some might be managers or employers instead of graduates. By reviewing the demographics, some of the graduates completed their degree in 1987 and the survey was administered in 2005 which means that the "graduate" had been employed (or at least out of school) for eighteen years. Could some of these graduates be managers and included in the wrong group? In reviewing the demographics, 13% are senior managers and 40% are middle managers. The results of classifying all graduates in one pool might misconstrue the results.

United Arab Emirates

In the United Arab Emirates, Chaker and Abdullah (2011) surveyed graduates of the Kazakhstan Institute of Management Economics and Strategic Research (KIMEP) "to assess the accounting skills acquired while at college" (p. 196). Their focus looked at three categories: "technical and functional skills, interpersonal and communication skills, and organizational and business management skills" (p. 193). They surveyed 200 graduates of KIMEP who had received a BSc in Business Administration and Accounting who had graduated in the last five years. Their survey was a 7-point Likert scale asking graduates to indicate their level of agreement regarding three groups of skills, which was mailed to 200 graduates of KIMEP with 77 usable responses.

Chaker and Abdullah (2011) found that KIMEP graduates perceived that they were well qualified in "professional ethics, interpersonal and communication skills, auditing skills and information development and distribution skills" (p. 198).

Furthermore, the graduates "perceived that they were comparatively poor in the areas of

knowledge of business environment, management accounting skills and taxation skills” (p. 198). Interestingly, the Uniform CPA exam in the United States changed in 2004 to incorporate a new section titled business environment and concepts (Louwers et al., 2014). The inclusion of this part of the exam was based on input from a survey conducted in 2000 from “thousands of CPAs regarding the requirements for current entry-level practice” (Trexler, 2001, par. 3). Thus, the need for understanding the business environment and concepts is not only an issue internationally, but also in the United States.

The students surveyed by Chaker and Abdullah (2011) were recent graduates with all respondents graduating within the last five years. Thus, their perceptions of skills acquired at KIMEP should be somewhat recent. Furthermore, the respondents worked in a variety of settings: accountancy firm, manufacturing industry, service industry, oil and gas industry, and others (p. 195, Table 3). Although the researchers identified the purpose of their study as “to assess the accountancy skills acquired by the graduates while at college” (p. 196), the question begs, are these the skills needed? Perhaps that was outside the scope of this study, but addressing that question seems particularly relevant to employers, graduates, students, and educators.

Educational Systems of Other Countries

As some research has been performed in other countries, the question arises as to the difference in the educational requirements of bachelor’s degrees in other countries as compared to the United States. Most U.S. bachelor’s degrees should take four years of full-time study for completion (U.S. Department of Education, 2008). Furthermore, to take the Certified Public Accountant (CPA) exam in the United States, many states

require 150 hours of college credit that translates into an additional year of college or a masters' degree (Carpenter & Stephenson, 2006). In New Zealand and Australia, most bachelor's degrees can be completed in three years (Victorian University, n.d.). Ghana is considered a developing country as accounting education began in 1952 and the country was granted independence in 1957 (Awayiga et al., 2010). As a developing country, the progress of the business degree and the accounting degree has been evolving (Awayiga et al., 2010). Finally, the United Arab Emirates may be the most closely aligned with U. S. college education as the United Arab Emirates' college system is based on North American credit system and the bachelor's degree requires 129 credit hours (Chaker & Abdullah, 2011). Because the United Arab Emirates college system is similar to the United States, the research by Chaker and Abdullah (2011) might prove useful for comparison to the United States. However, the research by Chaker and Abdullah (2011) was to determine the skills acquired in college, not the skills needed in the workforce, which is the focus of this study. Because the educational systems and requirements for college degrees are different in some countries outside of the United States, the graduates may have different knowledge, technical skills, and employability skills as compared to those college graduates from United States.

Empirical Research in the United States

In 2008 and 2009, a study was conducted by the California Society of CPAs to determine the knowledge and skills of entry-level accountants and determine actions needed to increase the success of the accounting profession (Milliron, 2012). Thirty CPAs in public practice were invited to a daylong forum in November 2008 where information was gathered and discussions were encouraged to gather insights about a

variety of issues related to recent graduates and accounting education. The 30 CPAs invited to participate were partners and senior managers and had direct supervision of recent accounting graduates. In the spring of 2009, young emerging professionals were emailed a web survey to see if their views would be different from those of the 30 seasoned practitioners. Finally, two different focus groups were held in 2009. A focus group of high-performing young emerging professionals met in May of 2009 and the focus group of experienced CPAs and academics met in October of 2009 (Milliron, 2012).

The 30 CPAs were asked to identify how much focus should be placed on developing certain attributes when teaching accounting courses (Milliron, 2012). The top three items were written communication skills, analytical thinking, and technical accounting knowledge. The respondents were asked the greatest strength of recent graduates and 56% of the respondents indicated information technology skills while 23% indicated the ability to work in teams. When asked to indicate the greatest weakness of recent graduates 37% indicated work ethic, 32% indicated communication skills, and 26% indicated analytical thinking. As previously noted, written communication and analytical skills were deemed very important attributes for accountants, but these are the areas where some felt that recent graduates were weak (Milliron, 2012).

In the web-based survey of young emerging professionals, 90% of the respondents were ages 22 to 35, and 75% were within their first five years of practice, and all were in public accounting. The web-based survey asked the respondents if they felt prepared immediately after graduation in certain areas. Table 5 includes their responses. The seasoned partners felt that the greatest weakness of recent graduates was

work ethic, communication skills and analytical thinking; however, most of the young professionals felt that they were prepared in those very areas. The partners and young professionals agree that recent graduates have the ability to work in teams. Finally, many of the young professionals (75%) felt prepared with information technology skills, but the partners indicated that information technology skill was the highest ranked skill of recent graduates (Milliron, 2012).

Table 5

Young Emerging Professional Preparedness after Graduation

Knowledge or Skill Area	Yes	No
Ability to work in teams	93%	7%
Ethical standards	92%	8%
Work ethic	87%	13%
Energy level	86%	14%
Communication skills	78%	22%
Information technology skills	75%	25%
Analytical thinking	67%	33%
Global cultural awareness	58%	42%
Technical accounting knowledge	57%	43%

Source: Adapted from "CPAs Explore a Pre-Certification Pathway to Excellence," by V. Milliron, 2012, The Accounting Educators' Journal, 22, p. 61. Copyright by Author and The Accounting Educators' Journal.

The California Society of CPAs study (Milliron, 2012) provides rich insight from an important stakeholder group in the professional accounting arena, the employers. Furthermore, including the recent accounting graduates' perceptions adds another layer of understanding to the research. Milliron (2012) states that "by viewing accounting

education through a practitioner lens, this study hopes to contribute to the national conversation” (p. 51). This study indeed does just that. However, one limitation of this study is that it includes only those in public accounting. According to the AICPA (2016b), more than half of the voting members of the AICPA are not in public accounting, which means that the research excludes numerous employers and employees that could provide insight into the issues addressed in the research.

In a survey of members of the Pennsylvania Institute of CPAs, Massey (2011) found that entry-level accountants are lacking in skills needed. Massey used a stratified sampling method for her study, which included only the subgroup of public accountants of the Pennsylvania Institute of CPAs. Then random sampling was used to select individuals from the subgroup for the survey. Of the 1,000 surveys mailed, 309 were returned and useable. The survey consisted of 18 items including soft skills, technical skills, and knowledge (Massey, 2011).

The respondents were asked to rate the items on the survey from 1, *least important* to 5, *most important* (Massey, 2011). Means were calculated for each item, and Massey found that ethics, oral communications, spread sheeting, analytical/critical thinking, and teamwork had the highest means. The respondents were then asked to indicate if the entry-level accountant was competent in those same 18 skill areas. The five-point scale for this question was 1, *incompetent* to 5, *very competent*. The mean was calculated for each competency. The mean rankings indicated that entry-level accountants were least competent in not-for-profit accounting, federal taxes-corporate, and legal and regulatory knowledge. Massey then compared the mean of the importance of the skill to the mean of the competency of the skill possessed using a paired sample *t*-

test. Massey (2011) found that there was a significant difference in every item at the $p < 0.05$ level.

Massey's (2011) study had an impressive responsive rate. To increase response rates, Massey mailed the first 200 respondents a \$5.00 Starbucks gift card. Some may conclude that this was paying the respondents for participating in the study, which could unduly influence the responses of the participants. Another concern relates to those who responded to the competence of entry-level accountants. The survey demographics show that there were 66 respondents with 0-5 years of experience. These respondents answered the question regarding competence of entry-level accountants when in fact some of those individuals were entry-level accountants. Research supports that new hires think more highly of themselves than employers do (Chegg, 2013). The inclusion of these new hires responses in this part of the survey may have skewed the responses as indicating that the entry-level accountants were more qualified than they really are. Although Massey did find that there was a significant difference in importance of skills and the competency of entry-level accountants, these differences may have been more pronounced without the inclusion of these respondents with less than five years of experience. In addition, Massey does separate staff and those in authority later in her research. Massey defines staff and those in authority by position or job title. Those who are partner, principle, and manager are considered those in authority. Senior staff, junior staff, and other are considered staff. Massey found that of the 18 skill areas, the staff members felt that entry-level accountants were more competent in 17 of the 18 skill areas. As many of the staff are entry-level staff, it appears that once again, the new hires think more highly of themselves than do those who have hired them (Chegg, 2013).

Another concern relating to this study is that only accountants in public accounting were included. Many accountants are not involved in public accounting (AICPA, 2016b) and the exclusion of other accountants limits the generalizability of this study.

In 2012 Cory and Pruske, focused their research on identifying necessary skills for accounting graduates from two different groups, public accountants, and non-public accountants. Their research attempts to replicate the research of Albrecht and Sack of 2000 by using the same questionnaire. However, Cory and Pruske (2012) included the size of the company where the respondent works as the Albrecht and Sack (2000) study was criticized for concentrating on the large firms.

The survey was sent to 2,300 people from a CPA society in south Texas, members of the Institute of Management Accountants in south Texas or employers who had interviewed on the campus of a south Texas university over the last three years (Cory & Pruske, 2012). The researchers received 464 usable responses with approximately 46% from those in public accounting with the remaining 54% from the non-public accounting workforce. The survey instrument asked that the respondents indicate how important an item was for accounting students to have a particular skill using a three-point Likert scale with 1 being *not important*, 2 was *important, but not critical* and 3 was *critical* (Cory & Pruske, 2012).

Cory and Pruske (2012) averaged the items from the survey and found that public and non-public accountants agreed as to the importance of the first seven items when ranked in order based on averages of the items. The item of most importance for both groups was spreadsheet software (e.g. Excel) with word-processing second and creativity in problem solving third (p. 213, Table 2). Furthermore, based on the averages, public

accountants had 14 skills with a two or greater average and non-public accountants had 13 skills with a mean of two or greater. The ranking of 2 indicated that the item was *important, but not critical*. In addition to the ranking of the items, Cory and Pruske analyzed the data using *t*-tests to determine if there were any significant differences between the two groups. Of the 34 skills, 19 showed significant differences. There were three instances where public accountants felt that the items were more significant and 16 instances where the non-public accountants felt that the skill was more important (Cory & Pruske, 2012). This research supports the fact that those accounting professionals in public accounting may have differing views than those not in public accounting.

The research of Cory and Pruske (2012) is robust and had numerous respondents from a variety of work backgrounds and company sizes with the median number of employees for the public accounting firms was 11 and the median number of employees for the non-public accounting respondents was 155. The wide range of respondents and company sizes provides comprehensive results. However, it appears that the instrument that Cory and Pruske (2012) used was the technology skill survey presented in 2000 (Albert & Sack, 2000) with a few additional items. The survey instrument omits skills that other research indicates are important such as communication skills (Albrecht & Sack, 2000; AICPA, 1998; AICPA, 2011; AICPA, 2014; Awayiga et al., 2010; Bui & Porter, 2010; Gray & Murray, 2011; Jackling & de Lange, 2009; Kavanagh & Drennan, 2008) and teamwork skills (Albrecht & Sack, 2000; AICPA, 2011; Bui & Porter, 2010; Jones & Abraham, 2009; Kavanagh & Drennan, 2008; Weaver & Kulesza, 2013, 2014; Wells, et al., 2009). Furthermore, using an instrument from the year 2000 related to technology in the year 2012 may omit significant changes in technology that should be

included on the survey. Items related to social networking and virtual associations are of growing importance (IBM, 2012; Kim & Sandifer, 2015). Therefore, the results of this study may omit important skills (i.e. communications and teamwork) and may omit important technological needs.

In Connecticut, Weaver and Kulesza (2014) surveyed 3,353 members of the Connecticut Society of CPAs via email for those members who had provided email addresses. The survey group was classified into two groups, managers and young professionals. A total of 2,808 members were classified as managers and 545 members who were under age 35 and not students were labeled young professionals by the researchers (Weaver & Kulesza, 2014). The researchers received 194 responses (Weaver & Kulesza, 2013).

The survey included 20 skills and the respondents ranked the top ten skills (Weaver & Kulesza, 2013). The instructions were different for each group. The manager group was asked, “What are the top 10 teachable skills in addition to the traditional vocational education that you value in recent accounting graduates?” (Weaver & Kulesza, 2013, p. 12). The young professional group was “asked to indicate which 10 skills they wished they had more exposure to while in college” (Weaver & Kulesza, 2013, p. 12). Both managers and young professionals included critical/strategic thinking, time management and organization, memos and writing skills, and intermediate/advanced Excel skills in the top five skills (Weaver & Kulesza, 2013). Managers included problem solving of most importance while the young professionals included basic workpaper skills in the top five skills (Weaver & Kulesza, 2013, p. 12, Figure 1).

The results of the research by Weaver and Kulesza (2013) are supported by other studies (Cory & Pruske, 2012; Bui & Porter, 2010; Chaker & Abdullah, 2011; Jackling & de Lange, 2009). However, the classification of the CPAs into managers and young professionals seems an arbitrary classification, and is based on age, not necessarily the job the individual has. Certainly, an individual out of school and under age 35 could fit in the category of young professional, but this individual could also be a manager, as a manager is usually one who has six years of experience (AICPA, n.d.). Information related to job description would have been useful in classifying the respondents into managers or young professionals. In addition, of the 194 respondents, the number in each classification of managers and young professionals was not provided. Furthermore, the instructions provided to the young professionals may not have provided the intended results. The researchers asked the individuals in the young professional group to “indicate which 10 skills they wished they had more exposure to while in college” (Weaver & Kulesza, 2013, p. 12). What if an item was covered sufficiently in college and was of great importance in the workforce, should that item be included in the top 10 ranked skills? Based on those instructions, it would not be included. By reviewing the list of top 10 required skills in Figure 1 (p. 12), managers included working in teams as seventh most important. Teamwork is not included in the young professionals’ top ten. Perhaps the reason that it is not included is the young professionals had plenty of teamwork in college. Teamwork may be very important to the young professionals, but based on the instructions it was excluded from the top 10. The researchers labeled the rankings as “Top 10 Ranked Skills” (p. 12), but this label may not be correct.

The purpose of the research of Ahadiat and Martin (2015) was to determine skills needed for entry-level employment in accounting and determine skills needed for promotion of accounting employees. The survey instrument was emailed to 250 members of the AICPA and 250 members of the Institute of Management Accountants (IMA). The sample was selected using systematic random design. The total useable responses were 198.

The results of their survey showed that the most important skills sought by accounting professionals in entry-level college graduates are trustworthiness, dependability, oral communication skills, and cleanliness (Ahadiat & Martin, 2015). While the most important skills needed for promotion were dependability, trustworthiness, ability to work in pressure situations, and sense of responsibility. Ahadiat and Martin note that many personal attributes were considered important in promotion decisions. These results are in line with those of Blanthorne, Bhamornsiri, and Guinn (2005) who found that when promotions were from manager to partner, skills associated with emotional intelligence were more important than technical skills.

Ahadiat and Martin (2015) used two relevant populations to select their sample for their survey, the AICPA and the IMA. These two groups cover a wide array of accountants. Using systematic random sampling should provide a good sample if the population was listed in a random order (Trochim, 2006). Ahadiat and Martin (2015) had a remarkable response rate of 39.6%. The email protocol that they used seems to be appropriate as they sent an initial email and followed up with two subsequent reminders (Archer, 2007). One concern regarding the population is that an individual could be a member of the AICPA and the IMA. Was this overlap accounted for? If so, how was it

accounted for? Were duplicates eliminated from one group and not the other? Was the survey emailed to the same individual from the AICPA and the IMA group, meaning that individual could have responded twice? These issues may have been addressed, but the study does not indicate if they were.

In addition, it is unclear from the research how many items were included on the survey used by Ahadiat and Martin (2015). Furthermore, Ahadiat and Martin indicate that they developed the survey based on their literature review of de Lange, Jackling and Gut (2006), Kavanagh and Drennan (2008), Ahadiat (2010), Howieson (2003), Jackling and de Lange (2009), and Bui and Porter (2010). However, based on this researchers' review of those same articles, the attribute of "cleanliness" was not found. Ahadiat and Martin (2015) may have translated the results of Violette and Chene's (2008) comments regarding the interview process. Violette and Chene (2008) indicated that firms who are interviewing graduates affirm that students should dress well for interviews. Other than that, it is unclear as to how the attribute of cleanliness was derived and included in their research. Regardless of how the attribute was included, the respondents ranked cleanliness in the top four attributes for hiring entry-level accountants.

Table 6 summarizes the studies, information garnered, source of the information, and the results of the studies.

Table 6

Chronological Summary of Empirical Research on Accounting Skills

Study	Information Garnered	Source	Results
Kavanagh and Drennan (2008)	Items important to future careers	Australia 322 Graduating Students	Continuous Learning Decision Making Oral Communication Analytical and Problem Solving Critical Thinking
Kavanagh and Drennan (2008)	Top skills required by employers	Australia 28 Employers	Analytical/Problem Solving Business Awareness/Real Life Experience Basic Accounting Skills Oral Communication
Jones and Abraham (2009)	Indicated importance of each item	Australia 26 Practitioners	Analysis and ethical standards Intelligence, motivation, and leadership Work experience Group working skills
Jones and Abraham (2009)	Indicated importance of each item	Australia 18 Academics	Analysis and ethical standards Intelligence, motivation, and leadership Data skills Group working skills
Jones and Abraham (2009)	Indicated importance of each item	Australia 69 Students in school	Intelligence, motivation, and leadership Analysis and ethical standards Data skills

Table 6 (continued).

Study	Information Garnered	Source	Results
Jackling and de Lange (2009)	Listed important qualities for career progression	Australia 174 Accounting graduates	Communication skills Problem-solving skills Personal skills
Jackling and de Lange (2009)	Focus of accounting curriculum	Australia 174 Accounting graduates	Technical skills Accounting problem analysis Written communication
Jackling and de Lange (2009)	Most important skills needed	Australia 12 Employers	Team skills Leadership Verbal communication Interpersonal skills
Wells et al., (2009)	Indicated importance of each item	New Zealand 26 Accounting graduates in public practice	Being able to understand and respond to clients' in a timely manner Being able to set and justify priorities Being able to organize work and manage time effectively Empathizing with others Producing as good a job as possible
Awayiga et al., (2010)	Indicated importance of each item	Ghana 131 Accounting graduates	Analytical/critical thinking Communication skills Professional demeanor Intellectual skills Computing technology

Table 6 (continued).

Study	Information Garnered	Source	Results
Awayiga et al., (2010)	Indicated importance of each item	Ghana 25 Employers	Analytical/critical thinking Computing technology Professional demeanor Communication skills Technical and functional skills
Bui and Porter (2010)	Interview to determine what skills needed (no ranking)	New Zealand 11 Employers	Accounting principles and concepts Business and general knowledge Communication skills- oral, written, and interpersonal Teamwork skills Computing skills Intelligence, confidence, and a learning to learn attitude
Chaker and Abdullah (2011)	Determined skills acquired at college	United Arab Emirates 77 College graduates	Professional ethics Interpersonal and communication skills Auditing skills Information development and distribution skills Leadership development
Massey (2011)	Determined importance of skills	United States, PA 309 CPAs in public accounting	Ethics Oral Communication Spread sheeting Analytical/critical thinking Teamwork

Table 6 (continued).

Study	Information Garnered	Source	Results
Milliron (2012)	Determined how much focus should be placed on items when teaching accounting	United States, CA 30 CPAs - Experienced practitioners	Written communication skills Analytical thinking Technical accounting knowledge High ethical standards Quantitative problem-solving skills
Milliron (2012)	Determined greatest strength of recent graduates	United States, CA 30 CPAs – Experienced practitioners	Information technology skills Ability to work in teams
Milliron (2012)	Determined greatest weakness of recent graduates	United States, CA 30 CPAs – Experienced practitioners	Work ethic Communication skills Analytical thinking
Milliron (2012)	Determined preparation of graduates	United States, CA 85 young emerging professional accountants	Ability to work in teams Ethical standards Work ethic Energy level Communication skills
Cory and Pruske (2012)	Indicated importance of each item	United States, TX 464 Employers	Spreadsheet Word processing Creativity in problem solving Windows Awareness of ethical issues

Table 6 (continued).

Study	Information Garnered	Source	Results
Weaver and Kulesza (2013, 2014)	Top 10 teachable skills in addition to the traditional vocational education	United States, CT Managers	Problem solving Critical/strategic thinking Time management and organization Memos and writing skills Intermediate/advanced excel skills Business etiquette Working in teams
Weaver and Kulesza (2013, 2014)	Top 10 skills which they wish they had more exposure to in college	United States, CT Young professionals	Intermediate/advanced excel skills Basic workpaper skills Critical/strategic thinking Time management and organization Memos and writing skills
Ahadiat and Martin (2015)	Determined importance of attributes for hiring entry-level accountant	United States 330 Accountants - Members of AICPA or members of IMA	Trustworthiness Dependability Oral communication skills Cleanliness Punctuality
Ahadiat and Martin (2015)	Determined attributes for promoting accounting employees	United States 330 Accountants – Members of AICPA or members of IMA	Dependability Trustworthiness Ability to work in pressure situations Sense of responsibility Positive Attitudes

Theoretical Framework

This study determines the knowledge, technical skills, and employability skills required of accounting graduates in the workforce, and determines if recent accounting graduates possess the knowledge, technical skills, and employability skills deemed important by employers. This study uses human capital theory, employability skills research, and emotional intelligence theory as key components underpinning the development of the workforce to meet the demands of employers in the 21st century. Human capital theory states that education is the most important component of human capital development (Becker, 1993). As this study determines what knowledge is important to accounting employers, those tasked with educating accountants can provide the requisite training and education.

Not only are employers demanding an educated workforce (Robert Half, 2016b), employers are demanding employees have employability skills (Schurman & Soares, 2010). As these skills are imperative in the workforce, a brief review of studies associated with employability skills will be included in this section. In addition, employability skills are closely related to emotional intelligence (Daff et al., 2012). Therefore, a general review of emotional intelligence and the workforce will be included followed by a review of emotional intelligence with a focus on accounting.

Human Capital Theory

Headlines from *US News & World Report* indicate that “Improving Basic Education Can Boost U.S. Economy by \$27 Trillion” (Bidwell, 2014). The development of individuals’ educational level can greatly impact the economy (Schultz, 1961; Becker, 1993; Hanushek et al., 2010; Moretti, 2012). Thus, providing employers with employees

that have the needed knowledge, skills, and abilities will not only impact the employees' welfare (Becker, 1993; Moretti, 2012), but also the economy (Bidwell, 2014).

Although the idea that increased education and increased earnings go hand in hand (Becker, 1993), the early development of human capital theory was not so straightforward. Early economists did not feel it was appropriate to place a value on human beings as these somehow equated humans to capital goods (Schultz, 1961). In his seminal work, Schultz (1961) proposed that individuals do acquire skills and knowledge and these increases in skills and knowledge have economic value and increase productivity. In 1961 Schultz noted that "the income of the United States has been increasing at a much higher rate than the combined amount of land, man-hours worked and the stock of reproducible capital used to produce the income" (p. 6). Thus, the investment in human capital is an explanation for the significant increases (Schultz, 1961). Mincer (1958) in developing a model of human capital investment concurs with Schultz that earnings rise with skill and experience. Thus, began the development of the human capital theory.

Becker is "generally credited with developing human capital theory" (Torraco, 2009, p. 122) with his work which was originally published in 1964. According to Becker (1993), "education and training are the most important investments in human capital" (p. 17). Becker (1993) further notes that those who are better educated have above average earnings. Human capital theory states that higher educational levels equate to higher income (Becker, 1993). In an effort to determine the rate of return of college and high school education in the United States, Becker first developed a model to analyze the data. Becker's theory includes general training and specific training.

General training is considered training that can be used within any company while specific training is training which is company-specific. Because general training can be used in a variety of companies, Becker (1993) suggests that the cost of such training is born by the trainee. An example of general training may include a leadership development program. On the other hand, specific training is only useful to the company that provides the training; therefore, Becker suggests that the cost of specific training is paid by the firm (Becker, 1993). Examples of specific training may include orientation courses with firm-specific procedures that would not be readily transferrable to another firm.

By analyzing employment data and educational levels from the 1940 and 1950 Census, Becker (1993) calculated the return on investment of college educated white men. The estimated return on investment for the 1939 cohort of college educated white men was 14.5% and the estimated return on investment for the 1949 cohort of college educated white men was 13%. Therefore, Becker (1993) concluded that education does pay off.

In a more recent publication, Moretti (2012) has found that human capital is critical to the success of individuals, cities, regions, and nations. According to Moretti, our labor markets are becoming bifurcated, where those cities that are growing and have jobs and many college graduates – “brain hubs” (p. 97)—are doing significantly better than those areas that are not growing, have higher unemployment, and lower education levels. Moretti calls this the “great divergence” (p. 73). Based on his research, those areas that are growing due to innovation and technology have many benefits. These benefits include increased jobs and wages for all employed in those areas and increased

jobs for those employed outside of the high-tech sector through a multiplier effect (Moretti, 2012). Based on Moretti's research, the multiplier effect means that for every one high-tech job created in an area, five additional jobs are added in skilled jobs (like accountants and lawyers) and unskilled jobs (like waitresses and carpenters). Other benefits that Moretti (2012) has discovered are a lower criminal rate, longer life expectancies, lower divorce rates, more civic and political participation, and higher charitable contributions.

The bottom line is that education is a critical component of the success of our nation (Schultz, 1961; Becker, 1993; Moretti, 2012). Based on his research, Moretti (2012) states that "human capital and research are the engines that sustain the American economy and its workforce" (p. 217). There is a huge benefit for individuals to attend college (Becker, 1993, Moretti, 2012) and "over the past thirty years the United States has failed to raise its percentage of college-educated young adults substantially" (Moretti, 2012, p. 221).

Education is important to the success of individuals, cities, and countries (Schultz, 1961; Becker, 1993; Moretti, 2012). Educational institutions from K-12 through higher education in the United States have guidelines for students to graduate (Swanson & Holton, 2009); however, some skills deemed important by employers are not being taught (Overtoom, 2000). These skills are often referred to as employability skills (Overtoom, 2000).

Employability Skills

Two national studies were undertaken to determine the skills that employers were seeking in employees. The studies were performed by Carnevale et al., (1988) and the

U.S. Department of Labor (1991). Through a grant provided by the U.S. Department of Labor Employment and Training Administration to the American Society for Training and Development (ASTD), Carnevale et al. (1988) conducted a two-year research to assess the skills that employers thought were necessary for employees. Their research indicated that employers not only wanted the basic academic skills of reading, writing and arithmetic but much more. Carnevale et al. (1988) found the following were extremely important “learning skills; basic skills (reading, writing, computation); listening and oral communication; adaptability (creative thinking/problem solving); personal management (self-esteem, goal setting/motivation, personal/career development); group effectiveness (interpersonal skilll [sic], negotiation, teamwork); and influence (organization effectiveness and leadership)” (p. 1). As the listing indicates, many of the non-traditional skills (or non-technical skills) are very important to employers (Carnevale et al., 1988).

The U.S. Secretary of Labor in 1990 created a commission, which addressed the need to determine what skills young people needed to succeed at work (U. S. Department of Labor, 1991). This report was issued in 1991 as the Secretary’s Commission on Achieving Necessary Skills (SCANS) Report *What Work Requires of Schools* (U. S. Department of Labor, 1991). In this report, three foundational skills and five workplace competencies were identified. Three foundational skills were noted.

1. Basic skills (reading writing arithmetic and mathematics, speaking and listening);
2. Thinking skills (thinking creatively, making decisions solving problems, seeing things in the mind’s eye, knowing how to learn, and reasoning);

3. Personal qualities (individual responsibility, self-esteem, sociability, self-management, and integrity). (p. iii)

Five workplace competencies were reported in the research.

1. Resources (allocating time, money materials, space and staff);
2. Interpersonal skills (working on teams, teaching others, serving customers, leading, negotiating, and working well with people from culturally diverse backgrounds);
3. Information (acquiring and evaluating data, organizing and maintaining files, interpreting and communicating, and using computers to process information);
4. Systems (understanding social, organization, and technological systems, monitoring and correcting performance, and designing or improving systems);
5. Technology (selecting equipment and tools, applying technology to specific tasks and maintaining and troubleshooting technologies) (p. iii).

Based on the needs described above, not only are technical and basic skills required, but other skills are required. Some have referred to these skills as employability skills. Overtoom (2000) has provided a definition of employability skills. From Overtoom, “employability skills are transferable core skill groups that represent essential functional and enabling knowledge, skills, and attitudes required by the 21st century workplace” (p. 1). In a more recent publication, The Job Outlook 2015 Survey asked employers to rate the importance of candidate skills/qualities that employers want (National Association of Colleges and Employers [NACE], 2014). The attributes that employers are looking for are leadership and the ability to work in teams (NACE, 2014). Also rated as important were written communication skills, problem-solving skills, work

ethic and analytical/quantitative skills (NACE, 2014). Each of these skills from the NACE job outlook relates to those functional skills and broad competencies from the SCANS report (1991) and most are included in the Carnevale et al. (1988) research. These employability skills are still relevant today. In fact, some may feel that they are more important today than ever (Goleman et al., 2013).

Emotional Intelligence

About the same time that the employability skills studies were undertaken (1988 and 1991), Salovey and Mayer (1990) had started research associated with emotional intelligence and defined emotional intelligence as “the ability to monitor one’s own and others’ feelings and emotions, to discriminate among them and to use this information to guide one’s thinking and actions” (p. 5). After reading the seminal research by Salovey and Mayer (1990), Daniel Goleman (1995) indicated that he began research into emotional intelligence and published a book by that same name. His work builds on that of Salovey and Mayer, and Goleman’s research is associated with performance at work, organizational leadership, and those who excel in these areas (Goleman, 1995).

Goleman (1998) includes five components in his model of emotional intelligence at work. The first component is self-awareness or the ability to identify your own emotions. The second component is self-regulation, which is the ability to control your emotions or moods. The third component is motivation, which is the ability to work toward a goal based on internal passions. The fourth component is empathy, which allows an individual to understand another’s feelings. In addition, the final component is social skills, which is the ability to manage relationships. Goleman (1998) points out that

the first three components deal with “self-management skills” (p. 99) while the last two deals with the ability to “manage relationships with others” (p. 99).

Employability skills and emotional intelligence are closely related (Daff et al., 2012). Many of the employability skills that employers are demanding include a component of emotional intelligence (Daff et al., 2012; Goleman et al., 2013). Gray and Murray (2011) found that employers are demanding listening attentiveness and listening responsiveness. In their interviews with respondents, the interviewees elaborated on this idea by stating that employees need to “create rapport and adjust to audiences’ needs” (Gray & Murray, 2011, p. 283). Both of these skills relate directly to emotional intelligence. The ability to create rapport is not only understanding another which is empathy, the fourth component of Goleman’s model of emotional intelligence, it also includes the ability to get along with another which is social skills, the fifth component of Goleman’s model of emotional intelligence. Other employability skills that require emotional intelligence are teamwork, and leadership (Daff et al., 2012). Teamwork requires the ability to manage yourself and manage relationships with others (Goleman, 1995). Another employability skill demanded by employers is leadership (NACE, 2014). Furthermore, leadership skills are being demanded by accounting employers (Chaker & Abdullah, 2011; Jackling & de Lange, 2009; Jones & Abraham, 2009). Leadership skills are also included in the social competence category of relationship management from Goleman (Daff et al., 2012). Thus, many employability skills link directly to emotional intelligence (Daff et al., 2012; Goleman, 1995; Goleman et al., 2013).

As many accounting employers indicate that teamwork is a critical skill needed in the workplace (Bui & Porter, 2010; Jackling & de Lange, 2009; Jones & Abraham, 2009;

Kavanagh & Drennan, 2008; Weaver & Kulesza, 2013, 2014), emotional intelligence plays a vital role in successful teamwork (Jordan & Troth, 2004). The components of emotional intelligence allow individuals working within a team to manage their own emotions, and thus, work better with others in team situations (Jordan & Troth, 2004). In an effort to test this theory, Jordan and Troth (2004) studied 350 individuals in 108 teams to determine if those teams that had higher average levels of emotional intelligence would perform better than teams with lower average levels of emotional intelligence. Based on their research, they found “emotional intelligence indicators were positively linked with team performance” (Jordan & Troth, 2004, p. 195).

Another important aspect of emotional intelligence is the impact it may have on leadership. Accounting employers have indicated that leadership is an important attribute for employees (Jackling & de Lange, 2009; Jones & Abraham, 2009). McCann (2015) noted that employers felt that leadership was one skill that was lacking in recent college hires. Goleman (1998) suggests that technical skills are important but that emotional intelligence may be more important as one moves up the corporate ladder. Goleman found that when comparing “star performers with average ones in senior leadership positions, nearly 90% of the difference in their profiles was attributable to emotional intelligence factors rather than cognitive abilities” (p. 95). Not only do individuals perform better with high levels of emotional intelligence, but also companies perform better. In one study in 1996 of a global company, researchers found that divisions with senior managers that had higher emotional intelligence outperformed goals by 20% while those divisions without leaders that had strong emotional intelligence underperformed (Goleman, 1998).

Other studies have found that emotional intelligence (EI) and transformational leadership are correlated which indicates that EI may be an essential part of leadership (Gardner & Stough, 2002; Palmer, Walls, Burgess, & Stough, 2001). Transformational leaders are defined as the type of leader who moves “the follower beyond immediate self-interests through idealized influence (charisma), inspiration, intellectual stimulation, or individualized consideration” (Bass, 1999). Palmer, Wells, Burgess, and Stough (2001) surveyed 43 individuals of lower, middle and upper management with the Trait Meta Mood Scale to gather data regarding EI and the multifactor leadership questionnaire (MLQ) to gather data about the participant’s leadership style. Palmer et al. (2001) found that several items of EI correlated with transformational leadership. In a more robust study, Gardner and Stough (2002) surveyed 110 upper level managers with the Swinburne University Emotional Intelligence Test for EI data and the MLQ for leadership information. Gardner and Stough (2002) found that EI highly correlated with components of transformational leadership with two components as best predictors of transformational leadership style those of understanding and managing emotions. In a study of the British Royal Navy, Young and Dulewicz (2005) found that many of the officers that scored well on overall performance (as appraised using the Ratings and Other Ranks Report and the Officers Joint Appraisal Report) also correlated highly with leadership factors, which included social and emotional components. Thus, high levels of EI and leadership go hand in hand (Young & Dulewicz, 2005).

Another area where EI and work closely align is human performance and occupational performance (Bar-on, 2010; Deeter-Schmelz & Sojka, 2003; Luskin, Aberman, & DeLorenzo, 2002; Mayer et al., 2008). Researchers have found that

employees with high levels of EI are effective in the workplace in a variety of professions such as physicians, service workers, teachers, and managers (Mayer et al., 2008).

Furthermore, those who have received training in emotional competence have seen higher increases in workplace performance as compared to those who had not received the training (Luskin et al., 2002). As summarized by Bar-on (2010), the most influential EI components related to occupational performance are,

(a) the ability to be aware of and accept oneself; (b) the ability to be aware of others' feelings; (c) the ability to manage emotions; (d) the ability to be realistic and put things in correct perspective; and (e) the ability to have a positive and optimistic disposition. (p. 58)

In reviewing these items, each closely aligns to Goleman's EI components with the addition of the positive outlook. Bar-on (2010) includes positive psychology as a part of EI based on empirical findings.

In summary, many of the employability skills that employers are demanding overlap with EI (Daff et al., 2012). Teamwork and collaboration are two skills that employers deem important (McCann, 2015), and these are included in EI-social competence (Daff et al., 2012). Leadership is another employability skill that is included in EI-social competence (Daff et al., 2012). As employability skills and EI overlap and contain many of the same skills, EI will be a foundational component of this research.

Emotional Intelligence and Accountants

Accounting employers are demanding employability skills in their employees (Deal et al., 2015; Jackling & de Lange, 2009; Jones & Abraham, 2009; Manna, Bryan, & Pastoria, 2009; Siriwardane et al., 2014). Many of the employability skills identified

as important to employers relate closely to emotional intelligence (Daff et al., 2012). Furthermore, the AICPA has identified skills needed of accountants, which are emotional intelligence items (Akers & Porter, 2003; Daff et al., 2012; Nicholls, Wegener, Bay, & Cook, 2012). Akers and Porter (2003), go so far as to indicate that “emotional intelligence skills are critical for success of the accounting profession” (p. 65).

In reviewing emotional intelligence and accounting, two areas where emotional intelligence has proven valuable are promotions (Blanthorne, Bhamornsiri, & Guinn, 2005) and profitability (Goleman et al., 2013). Promotions relate to the individual within the firm being promoted where profitability relates to the accounting firm making money. Emotional intelligence has been shown to relate to promotions within public accounting (Blanthorne et al., 2005), and profitability within accounting (Goleman et al., 2013).

Within public accounting, there are different job titles as accountants are promoted to the next level (Louwers et al., 2014). The levels for promotion are from staff to senior, senior to manager, and manager to partner (Blanthorne et al., 2005). Those considered staff have usually been in accounting one to three years, and perform a variety of detail work under the supervision of a senior (AICPA, n.d.). A senior would have three to six years of experience and responsibilities might include directing an audit or reviewing tax returns (AICPA, n.d.). A manager would have more than six years’ experience (AICPA, n.d.) and supervise and direct senior and staff members, approve audit work and tax returns (AICPA, n.d.). To be considered for partner in a public accounting firm, most CPAs would have more than 12 years of experience (Ng, 2013) where only 2% of accountants in public accounting firms reach the partner level (AICPA, n.d.). Job duties of a partner vary from one firm to another, but may include

collaborating with others to provide customer service, communicating with clients, leading client meetings, networking, managing and reviewing all aspects of work, and managing projects (Monster.com, n.d.).

To determine the most important skills needed for staff-to-senior promotions, senior-to-manager promotions, and manager-to-partner promotions, Blanthorne et al. (2005) surveyed 402 partners in public accounting firms where 162 of the partners were tax partners and 240 were audit partners. The results were very interesting. In the beginning of an accountant's career, technical skill was very important (Blanthorne et al., 2005). For the tax professionals, technical skills, communication and interpersonal were the top three skills needed for staff-to-senior promotions. Communication skills, interpersonal, and technical skills were the top three skills needed for staff-to-senior promotions for auditors. For senior-to-manager promotions, technical, communication, and interpersonal skills rated as the top three most important skills for audit and tax promotions. However, for the promotion from manager-to-partner to take place, a drastic change in skills was needed. For tax manager-to-partner promotions, the most important skill was interpersonal followed by leadership, and communication. For audit manager-to-partner promotions, communication was first, followed by leadership and interpersonal. These results imply that nontechnical skills become more important in promotion considerations for partners (Blanthorne et al., 2005).

The definition of interpersonal is "relating to or involving relations between people: existing or happening between people" (Merriam-Webster, n.d.). Thus, the interpersonal skill relates to the emotional intelligence component of social competence, which includes social awareness and relationship management (Daff et al., 2012). A

summary of the top ratings for promotions are presented in Table 7. The ratings provided in Table 7 are based on means where the ratings were from 1, *not important* to 6, *very important*.

Table 7

Skills Important for Promotions in Public Accounting Firms

Important Skills	Tax	Audit
Staff-to-Senior Promotions		
Technical	4.33	4.04
Communication	4.05	4.12
Interpersonal	3.87	4.08
Senior-to-Manager Promotions		
Technical	4.57	4.48
Communication	4.32	4.47
Interpersonal	4.13	4.37
Manager-to-Partner Promotions		
Interpersonal	4.88	4.70
Leadership	4.73	4.79
Communication	4.72	4.80

Note: Adapted from “Are Technical Skills Still Important?” by C. Blanthorne, S. Bhamornsiri, and R. Guinn, 2005, March, *The CPA Journal*, p. 65. Copyright 2005 by *The CPA Journal*, which is the property of the New York State Society of CPA’s.

While promotions within the accounting firm are important from a personal perspective, the question begs how does emotional intelligence affect the profitability of the accounting firm? Goleman, Boyatzis, and McKee (2013) reported that partners in a

large accounting firm with strong emotional intelligence skills increased incremental profit significantly more than partners without those skills. For example, the partners with self-management skill added 78% incremental profit, partners with social skills added 110% incremental profit, and partners with self-regulation skills added 390% incremental profit (Goleman et al., 2013). Table 8 summarizes these results. Accountants must have certain knowledge and skill to be considered an accountant (Blanthorne, et al., 2005); however, to become successful and to increase firm profitability, emotional intelligence skills are critical (Blanthorne et al., 2005; Goleman et al., 2013).

Table 8

Incremental Profit for Accounting Firms from Partners with Emotional Intelligence Skills

Skill Possessed	Percent of Incremental Profit
Self-Management	78%
Social Skills	110%
Self-Regulation	390%

Note. Adapted from *Primal Leadership, With a New Preface by the Authors: Unleashing the Power of Emotional Intelligence*, by D.

Goleman, R. Boyatzis, and A. McKee, 2013, Kindle location 3932-3934. Copyright 2013 by Daniel Goleman.

The knowledge and expertise of an entity’s human capital provides a competitive edge in the workforce (Herling, 2010) and, there is a demand for more skilled labor in the workforce (Torraco & Swanson, 2010). As there is a call from employers for a more skilled workforce, human capital theory, employability skills, and emotional intelligence all combine to provide a framework for this research. Human capital theory suggests that individuals gain knowledge and skills through education, which provides increased earnings for the individual and a skilled workforce for the nation (Becker, 1993; Schultz, 1961). Because employers are demanding a variety of general skills, Overtoom (2000)

has called these general skills employability skills where many employers are indicating that the employability skills are just as important as hard skills or technical skills (Bui & Porter, 2010; Goleman, 1995; Massey, 2011). The concept of emotional intelligence is used to inform and complement employability skills (Daff et al., 2012). Many of the skills required by employers fall into the category of employability skills and emotional intelligence (Daff et al., 2012; Goleman et al., 2013). Thus, human capital theory, employability skills, and emotional intelligence provide a theoretical background for this study.

Summary

Human capital development and workforce development are key components of the knowledge economy (Schurman & Soares, 2010). Investments in human capital benefit the individual and society (Moretti, 2012; Sweetland, 1996). Moreover, as the skill of the workforce increases, the impact on the economy can be large (Hanushek et al., 2010). Hence, it is imperative to provide an educated workforce with the right skills (Moretti, 2012). Employers have indicated that they are having a difficult time finding employees with the right skills (Weisenthal, 2016). This study provides insight into the knowledge, technical skills, and employability skills required of accounting graduates when entering the workforce. This information assists those in workforce development and human capital development to provide a workforce that is ready for the 21st century.

CHAPTER III - RESEARCH DESIGN AND METHODOLOGY

Human Capital Theory indicates that individuals and societies benefit from an educated workforce (Becker, 1993; Moretti, 2012; Sweetland, 1996). Thus, workforce development is an important endeavor for individuals and nations (Hanushek et al., 2010; Moretti, 2012), and educated employees are the future of the knowledge economy (Moretti, 2012). However, employers indicate they are unable to find job applicants with the skills needed in the workforce (O'Bannon, 2016; Weisenthal, 2016). Although the demand for accounting graduates is high (BLS, 2014), accounting employers indicate that they are unable to find employees with the right skills (Robert Half, 2015). The purpose of this study is to describe the perceptions of CPAs of the importance of knowledge, technical skills, and employability skills required of accounting graduates in the workforce. This study also describes the perceptions of CPA hiring managers of the knowledge, technical skills, and employability skills possessed by recent accounting graduates in the workforce. This study determines the relationship of CPA hiring managers' perception of the importance of the knowledge, technical skills, and employability skills required of accounting graduates and the accounting graduate acquisition of the knowledge, technical skills, and employability skills. This chapter describes the research design, population, instrumentation, data collection procedures, and analysis for this study.

Research Objectives

The study addresses the following research objectives:

- RO1: Describe the demographic characteristics of participants, including gender, education level, certifications held, place of employment, size of employer, title/position, years at job, age.
- RO2: Describe CPAs perceived importance of the knowledge, technical skills, and employability skills required of accounting graduates in the workforce.
- RO3: Describe CPA hiring managers' perceived importance of the knowledge, technical skills, and employability skills required of accounting graduates.
- RO4: Describe CPA hiring managers' perceived accounting graduate acquisition of the knowledge, technical skills, and employability skills.
- RO5: Determine the relationship between the CPA hiring managers' perceived importance and accounting graduate acquisition of the knowledge, technical skills, and employability skills.

Research Design

The current study used a non-experimental, cross-sectional, descriptive design. According to Hurlburt (2006), a non-experimental study is one in which there is no control group, no experimental group, and no control over the variable being studied. This research is cross-sectional, as the data was gathered at one point in time (Field, 2013). The research is descriptive as the primary objective is to describe characteristics already in existence (Fink, 2003).

Data was collected with electronic surveys to gather information related to CPAs' perceptions of the importance of the knowledge, technical skills, and employability skills required of accounting graduates in the workforce. In addition, data was gathered to determine the CPAs' with new hires perceptions of the knowledge, technical skills, and

employability skills possessed by recent accounting graduates in the workforce. Web based surveys provide the capability to reach large audiences inexpensively (Cook, Heath, & Thompson, 2000). Furthermore, the intended recipients of the survey are members of the Mississippi Society of CPAs. Per Karen Moody (Appendix A), CEO of the Mississippi Society of CPAs, members of the Society have provided email addresses to the Mississippi Society of CPAs and are accessible for this research study.

Internal and External Validity of the Study

According to Shadish, Cook, and Campbell (2002), “validity is a property of inferences” (p. 34) where researchers infer truth from empirical findings. Threats to validity result from making wrong inferences from research findings (Shadish et al., 2002). Some threats to validity were identified in this study and steps were taken to mitigate those threats, which include selection bias, history, and purposive sampling as it relates to external validity.

Creswell and Clark (2011) have indicated that “internal validity is the extent to which the investigator can conclude that there is a cause and effect relationship among variables” (p. 211). For this study, one threat to internal validity is selection bias, which means those who participate in the study are different from the average person in the population (Shadish et al., 2002). Those who respond to the survey choose to participate, meaning there is no randomly selected sample. This self-selection may create issues with the internal validity; thus, it is imperative to maximize participation in the study. To do this, incentives were offered to increase the response rate as other researchers suggest this as an effective method for increasing response rates (Deutskens, Ruyter, Wetzels, & Oosterveld, 2004; Laguilles, Williams & Saunders, 2011). Two separate studies,

Deutskens, Ruyter, Wetzels, and Oosterveld (2004), and Laguilles, Williams, and Saunders (2011), report response rates increase when offering incentives.

Another threat to internal validity is history. History relates to events external to the study that may influence the study (Shadish et al., 2002). Articles in accounting magazines, which discuss various issues related to accounting graduates, skills gaps, and skills tested on the CPA exam may affect respondents' answers to the survey. Many CPAs are members of the AICPA (AICPA, n.d.) and receive the *Journal of Accountancy* magazine as a benefit to all members of the AICPA. One article in this magazine notes the supply and demand for accounting graduates as very high (Baysden, 2013) and indicates that accounting firms have been increasing programs for newly hired accounting graduates to learn presentation skills and soft skills (Baysden, 2013). Also in the *Journal of Accountancy* resides an article, which describes the "testing of higher-order skills" (Tysiac, 2016, p. 29) for the newly changed CPA exam. O'Bannon (2016) in the *CPA Practice* reported a growing skills gap. Additionally, the idea of the skills gap has been reported in the news on a regular basis by business and news outlets. *Time* (Feroohar, 2014), *US News and World Report* (Soergel, 2015), *The Atlantic*, (Zinshteyn, 2015), *Business Insider* (Udland, 2016), *Fortune* (Dobbs, Manyika, & Woetzel, 2015), and *CNBC* (Odland, 2016) have all reported on the skills gap. These external influences may cause the respondents to rate the importance of some knowledge or skill differently or rate the knowledge or skills possessed differently.

This study gathered information from CPAs who are members of the Mississippi Society of CPAs. The members of the Mississippi Society of CPAs are considered a purposive sample as this study seeks information from a specific group (Passmore &

Baker, 2005). A purposive sample is chosen intentionally based on the study and the variables under study (Shadish et al., 2002). In selecting this group, the researcher seeks individuals who should be aware of the knowledge, technical skills, and employability skills required of accounting graduates in the workforce. The members of the Mississippi Society of CPAs meet this criterion. To increase the external validity of the purposive sample, Shadish et al. (2002) recommend creating maximum diversity in the group. Thus, accountants in public accounting, private industry, and education are included in this study. Once again, to increase the number of respondents and the heterogeneity of the respondents, incentives were offered. Research supports incentives as a method to increase response rates (Deutskens et al., 2004; Laguilles et al., 2011).

External validity relates to the “the extent to which the investigator can conclude that the results apply to a larger population” (Creswell & Clark, 2011, p. 211). Trochim (2006) suggests that external validity deals with the ability of generalizing a particular study to other persons, places, and times. As data was only collected from one group of professional accountants in one state, it is unclear if results of this study would be representative of other accountants in other states at a different time.

Population and Sample

According to Hurlburt (2006), the population “are all the members of the group under consideration” (p. 8). For the purposes of this study, the population included all members of the Mississippi Society of CPAs holding the credential of CPA. Those asked to respond to the survey are in part a convenience sample, which is a group available (Fink, 2003). Convenience sampling is used often in research associated with human capital development and can offer insights (Dooley & Lindner, 2003).

Of the 2,600 members of the Mississippi Society of CPAs approximately 300 of those members have elected not to have emails sent to them from the Mississippi Society of CPAs, which brings the accessible population to 2,300. Based on the accessible population of 2,300 the required sample size is 330 using the Raosoft sample size calculator with 5% margin of error and 95% confidence level (Raosoft Sample Size Calculator, n.d.).

The accounting profession in Mississippi has been on the forefront of initiatives, which makes this population relevant in the accounting world today. One particular initiative that places the Mississippi Society on the forefront was the early passage of the requirement of 150-college hours to take the CPA exam. In addition, the Mississippi Society is a very active society as compared to other state societies (K. Moody, personal communication, March 24, 2016).

150-Hour College Credit Requirement

Mississippi CPAs have been at the forefront of initiatives to better the profession (Carpenter & Stephenson, 2006) which makes this a valid population to survey. For example, testing of the CPA exam is one area Mississippi has been at the forefront. Although the AICPA is responsible for creating, grading, and maintaining the relevance of the CPA exam (AICPA, 2016a), each state is responsible for setting the guidelines to take the CPA exam in their state (Louwers et al., 2014). During the 1950s, many of the state boards of accountancy recommended to the accounting profession an increase of the requirement to 150 college hours to take the CPA exam in an effort to increase the quality of the candidates (National Association of State Boards of Accountancy, 2008). At that time, only three states required a college degree, Florida, New York, and New Jersey.

The only requirements for those wishing to take for the CPA exam in 1956 in Mississippi were to complete a course of study of accounting related topics (National Association of State Boards of Accountancy, 2008). This may not seem like much of a requirement, but to consider that Mississippi was one of only four states requiring specific education in 1956 to take the CPA exam is interesting. Eventually, states began adopting the 150-college credit hour requirement to take the CPA exam. Florida was first to implement the requirement of 150 hours to requirement in 1983, followed by Tennessee in 1993, Utah in 1994, and Mississippi and Alabama in 1995 (Carpenter & Stephenson, 2006). Anderson (1988) indicates that Florida was in favor of adopting the 150-hour requirement due to the following reasons:

- To provide an academic background that will support the knowledge expansion of the profession over a person's career span;
- To broaden the person's knowledge in areas of study that is peripheral to the accounting discipline;
- To increase the accounting expertise of the individual;
- To increase the overall standards of entry into the accounting profession;
- To increase levels of personal integrity and professional ethics;
- To increase commitment to the profession by those preparing for entry;
- To enhance the communications and interpersonal skills of new professionals;
- To increase the success rate on the CPA examination;
- To provide an educational background that is comparable to that of clients who have increasingly higher and more sophisticated ideas and levels of competence; and

- To attract the best and brightest students into the profession. (p. 57)

As the above listing describes, the 150-hour rule was an attempt to improve the quality of the candidate taking the CPA exam and improve the profession of accountancy. Under Title 73, Chapter 33 of the Mississippi Code 1972, the Mississippi State Board of Accountancy has authority for setting those standards for candidates to take the CPA exam in Mississippi (Mississippi State Board of Accountancy, n.d.). The Board determined that it was in the best interest of the profession in Mississippi to require candidates to have 150 college hours to take the CPA exam and instituted this requirement in 1995 (Carpenter & Stephenson, 2006) which made it one of the first five states to adopt of the 150-hour requirement. On July 1, 2016, the Mississippi State Board of Accountancy changed the requirements to take the CPA exam. The Board now allows those with 120-hours to take the exam, but still requires 150 college hours for licensing in the state of Mississippi (Mississippi State Board of Accountancy, n.d.). One area where Mississippi sets the bar higher than most states is in relation to the courses required to take the CPA exam (Deal et al., 2015). Out of the 54 jurisdictions providing testing of the CPA exam, only six states require a course in government/not-for-profit accounting even though 16 to 24 % of the financial and reporting section of the CPA exam is governmental or not-for profit accounting (Deal et al., 2015). Mississippi is one of those six states (Deal et al., 2015).

The Mississippi Society of CPAs

Each state has a voluntary organization for CPAs (AICPA, n.d.). The Mississippi Society of CPAs is a voluntary organization of over 2,600 CPAs with a goal of improving the profession and serving the public (Mississippi Society of Certified Public

Accountants, n.d.). Many state societies are much larger in number than Mississippi. The California Society of CPAs has over 40,000 members (California Society of Certified Public Accountants, n.d.), and the New York Society of CPAs has over 28,000 members (New York Society of Certified Public Accountants, n.d.). However, the Mississippi Society of CPAs stands out against all of the other societies. According to Karen Moody, CEO of the Mississippi Society of CPAs (personal communication, March 24, 2016), the annual convention for the Mississippi Society of CPAs is the largest in the United States as compared to other state conventions. Furthermore, Karen Moody (personal communication, March 24, 2016) indicates that many states have ceased holding annual conventions due to lack of participation. Therefore, using the Mississippi Society of CPAs as the population provides an active group of accounting professionals.

Membership of the Mississippi Society of CPAs

Per review of the membership applications at the Mississippi Society of CPAs website (Mississippi Society of Certified Public Accountants, n.d.), three types of applications are available:

1. CPA membership application
2. Associate member application
3. Student member application

The first type of application is for those who are CPAs. The second type of membership is for those who are non-CPAs or inactive CPAs who are not employed full time. The final type of membership is for accounting students that plan to become CPAs.

Members who are CPAs are considered the appropriate population for the survey. Thus, associate members and students were screened out of the survey by asking an

opening question to determine if the respondent holds the credential CPA. Studies have shown that students are not aware of the needs of employers (Bui & Porter, 2010; Deal et al., 2015). Associate members may only be tangentially associated with the accounting arena and not appropriate for this study. Therefore, students and associate members who are not CPAs will not be eligible to participate. The usable sample will include those members of the Mississippi Society of CPAs who hold the credential CPA. The number of student members is unknown, but student members have not been included in the email database or total of members of 2,600. The following section details the survey instrument and collection procedures.

Instrumentation

The survey instrument used for this study was developed by the researcher based on the literature review. The major structural elements of the survey instrument include an opening question, which identifies CPAs that are included in the study and eliminates associate members and students who were excluded from the sample. The next part of the survey seeks CPAs' perceptions of the importance of the knowledge, technical skills, and employability skills required of accounting graduates in the workforce. The following section of the survey determined the CPA hiring managers' perceptions of the knowledge, technical skills, and employability skills possessed by recent accounting graduates in the workforce. Finally, demographic data was collected in the last part of the survey. The demographic characteristics gathered include gender, education level, certifications held, employment, job title, size of company, years at current job, and age. After the respondent completed the survey, the participant was asked for an email address

if they would like to register to win one of ten \$50 gift cards to Amazon and a summary of the result of the survey. The survey included the following sections:

1. Screening.
2. Determine CPAs' perceptions of the importance of the knowledge, technical skills, and employability skills required of accounting graduates in the workforce.
3. Determine the CPA hiring managers' perceptions of the knowledge, technical skills, and employability skills possessed by recent accounting graduates in the workforce.
4. Demographics.

After the initial screening question, respondents completed part two of the survey. A comprehensive survey does not exist which includes knowledge, technical skills, and employability skills required of accounting graduates in the workforce. Therefore, based on research, 41 questions were developed which cover the knowledge, technical skills, and employability skills required of accounting graduates in the workforce. In this part of the survey, the respondents were asked to indicate the importance of the 41 items using a 5-point Likert scale ranging from 1-*not important* to 5-*very important*. An open-ended question was included asking the respondent to identify any other knowledge or skill deemed important for an accounting graduate in the workforce. After the respondent completed part one, the survey asked if the respondent has hired a recent accounting graduate within the past five years. If the respondent indicated that they have hired a recent accounting graduate in the last five years, the respondent was directed to part three

of the survey. If the respondent answered no at the end of part two, the respondent was directed to part four where demographic data was collected from all respondents.

Part three of the survey asked the respondent to indicate if the accounting graduate (or graduates) possessed the knowledge, technical skills, and employability skills from the same 41 items included in part two of the survey. Part three of the survey is based on a 5-point Likert scale ranging from 1-*did not possess* to 5-*fully possessed*. An open-ended question was included in part two asking the respondent to indicate any other knowledge or skill the graduate did not possess or fully possessed.

Table 9 presents the survey items, which were developed from a literature review.

Table 9

Knowledge, Technical Skills, and Employability Skills Required of Accounting Graduates in the Workforce

Question Number	Item	Source
Q2 & Q9	Auditing and Attestation	
	Ethics related to auditing	AICPA, 2016a
	Professional responsibilities related to auditing	AICPA, 2016a
	General principles related to auditing	AICPA, 2016a
	Assessing risk and developing a planned response in audits	AICPA, 2016a
	Performing further audit procedures and obtaining evidence	AICPA, 2016a
	Forming conclusions and reporting on audits	AICPA, 2016a

Table 9 (continued).

Question Number	Item	Source
Q3 & Q10	Business Environment and Concepts	
	Corporate governance	AICPA, 2016a
	Economic concepts and analysis	AICPA, 2016a
	Financial management	AICPA, 2016a
	Information technology	AICPA, 2016a
	Operations management	AICPA, 2016a
	General business knowledge	Deal et al., 2015; Massey, 2011; Siriwardane, Hu, and Low, 2014
Q4 & Q11	Financial Accounting and Reporting	
	Conceptual framework of financial accounting	AICPA, 2016a
	Standard setting for financial accounting	AICPA, 2016a
	Financial reporting	AICPA, 2016a
	Financial statement accounts	AICPA, 2016a
	Financial transactions	AICPA, 2016a
	Financial accounting for state and local governments	AICPA, 2016a
Q5 & Q12	Regulation	
	Ethics related to regulation	AICPA, 2016a
	Professional responsibilities related to regulation	AICPA, 2016a

Table 9 (continued).

Question Number	Item	Source
	Federal tax procedures	AICPA, 2016a
	Business law	AICPA, 2016a
	Federal taxation of property transactions	AICPA, 2016a
	Federal taxation of individuals	AICPA, 2016a
	Federal taxation of entities	AICPA, 2016a
Q6 & Q13	Technical Skills and Employability Skills	
	Continuous learning	Bui and Porter, 2010; Kavanagh and Drennan, 2008
	Decision making skills	Kavanagh and Drennan, 2008; Siriwardane et al., 2014
	Oral communication	Deal et al., 2015; Kavanagh and Drennan, 2008; Milliron, 2012; Siriwardane et al., 2014
	Written communication	Deal et al., 2015;; Milliron, 2012; Siriwardane et al., 2014; Weaver and Kulesza, 2013
	Listening attentiveness	Gray and Murray, 2011; Ngoo, Tiong, and Pok, 2015; NYSSCPA, 2008.

Table 9 (continued).

Question Number	Item	Source
	Analytical and problem solving	Kavanagh and Drennan, 2008; Milliron, 2012; Weaver and Kulesza, 2013
	Critical thinking	Kavanagh and Drennan, 2008; Siriwardane et al., 2014; Weaver and Kulesza, 2013
	Self-motivation/Self-direction	Kavanagh and Drennan, 2008; Wells et al., 2009
	Professional attitude/Professional demeanor	Awayiga, et al., 2010; Kavanagh and Drennan, 2008
	Teamwork/Group interaction	Kavanagh and Drennan, 2008; Milliron, 2012; Weaver and Kulesza, 2013
	Computer skills/Information technology skills	Cory and Pruske, 2012; Kavanagh and Drennan, 2008; Milliron, 2012
	Whole of business or interdisciplinary approach	Milliron, 2012; Kavanagh and Drennan, 2008
	Ethical awareness	Cory and Pruske, 2012; Kavanagh and Drennan, 2008; Milliron, 2012

Table 9 (continued).

Question Number	Item	Source
	Leadership	Chaker and Abdullah, 2011; Jackling and de Lange, 2009; Jones and Abraham, 2009
	Time management and organization	Weaver and Kulesza, 2013; Wells et al., 2009.
	Research skills	AICPA, 2015b; Deal et al., 2015; Milliron, 2012; NYSSCPA, 2008

The items included in the survey were developed from the literature review and prior studies (see Table 9). Related to knowledge, researchers find that accounting graduates should possess basic accounting skills (Kavanagh & Drennan, 2008), auditing skills (Chaker & Abdullah, 2011) and knowledge regarding accounting principles and concepts (Bui & Porter, 2010). In an effort to more fully determine the knowledge most important in the workforce, this survey instrument expanded the construct of knowledge into four categories tested on the CPA exam: auditing and attestation, business environment and concepts, financial accounting and reporting, and regulation (AICPA, 2016a). Based on the Uniform CPA Examination Blueprints issued by the AICPA (2016a), the content tested on the CPA exam has been changed and updated to reflect, “the changing knowledge and skills required of newly licensed CPAs” (p. 15). This study includes the content knowledge tested on the CPA exam beginning April 2017

(AICPA, 2016a). Also included in part two of the survey are skills that other researchers have determined are important for success of accounting graduates in the workplace. Table 9 presents the items and the researchers. The research instrument can be found in Appendix B. The next section addresses the issues of validity and reliability of the instrument.

Validity and Reliability of the Instrument

According to Fink (2003), “a reliable survey instrument is consistent; a valid one is accurate” (p. 47). An instrument is considered reliable if it consistently provides similar results (Fink, 2003). A survey is valid if it measures what it is intended to measure (Holton & Burnett, 2005). Holton and Burnett (2005) indicate three common types of validity: construct validity, content validity, and criterion validity.

Construct validity includes the idea of a construct. A construct can be a concept, idea or phenomena, which cannot be measured directly (Hinkin, 2005). Thus, questions are developed which aim to gather data about the construct. Content validity relates to the content being measured matching the subject area of interest (Holton & Burnett, 2005). Field (2013) includes the idea of construct validity when defining content validity as “evidence that the content of a test corresponds to the content of the construct it was designed to cover” (p. 872). Content validity includes the idea of matching or aligning the questions to the subject area. Subject matter experts are often used in reviewing content validity (Hinkin, 2005; Holton & Burnett, 2005). For the instrument used in this study, prior empirical studies were used to develop the survey instrument. See Table 9 for survey items and the related studies. Thus, the researcher has used prior empirical research to support content validity. Another measure of validity is face validity

(Hardesty & Bearden, 2004). Although content and face validity are similar, Hardesty and Bearden (2004) provide an analogy of the difference between the two measures. When using a dart board as the domain of a construct, the darts would be all over the dart board if the instrument has content validity, versus on one side of the dart board; face validity would be met if the darts hit the dart board (Hardesty & Bearden, 2004). To test for face validity, experts in the field were asked to evaluate the items on the scale. Criterion validity analyzes “whether the measure really predicts the dependent variable it is supposed to predict” (Holton & Burnett, 2005, p. 36). As this study is descriptive and not predictive, criterion validity will not be tested.

Pilot Study and Reliability of Instrument

As this survey instrument has not been tested before, a pilot study was performed to determine the internal consistency of the instrument. According to the central limit theorem, if a sample has above 30 participants the results should take the shape of a normal distribution (Field, 2013). The central limit theorem is important because it indicates that the sample is representative of the population when the sample is large which is usually 30 (Field, 2013). Therefore, the pilot study was emailed to 64 accounting professionals that are not members of the Mississippi Society of CPAs. The survey instrument was emailed to the pilot group with a link to the survey.

Reliability of an instrument means that the researcher obtains consistent results (Holton & Burnett, 2005). To test the reliability of the instrument Cronbach’s alpha was used, as it is “the most common measure of scale reliability” (Field, 2013, p. 708). Cronbach’s alpha calculates the variance with an item and the covariance between items (Field, 2013). Often, researchers calculate one value for Cronbach’s alpha for an

instrument, however if there are subscales within an instrument, Cronbach (1951) recommends applying the formula separately to the different factors. As this instrument contains five categories, Cronbach's alpha was calculated separately for each subscale (Field, 2013). Various researchers suggest a value of .7 to .8 as acceptable for Cronbach's alpha (Field, 2013).

Data Collection Procedure

Once the Institutional Review Board approved the proposal (Appendix D), the pilot study was conducted and then, the survey was conducted. Based on research related to responses to electronic surveys, Archer (2007) recommends three contacts with the respondents by launching the survey one week, following up with a reminder the next week and then a final reminder in the third week. Karen Moody, CEO of the Mississippi Society of CPAs, agreed to forward the email request to the potential participants (Appendix A). However, due to email overload, Moody indicated that she would only be able to email the original survey with one follow up request for participation. Because the number of contacts was limited, this may be one factor that affected the response rate.

Several suggestions for increasing survey participation are recommended by Fink (2003) and were used with this survey as follows:

1. The survey should be sent to respondents that are interested in the topic.
2. Maintain confidentiality of the survey.
3. Send reminders to recipients.
4. Provide incentives.
5. Check survey's reading level.
6. Follow up with nonrespondents.

An avenue for increasing response rates in Web based surveys has been identified by Deutskens et al., (2004) and Laguilles, Williams and Saunders (2011). Deutskens et al. (2004) used different incentives to see if one type of incentive was more effective than another in increasing response rates in web-based surveys. Deutskens et al. (2004) found that using a lottery to an online book and CD store with ten vouchers of € 25 was more effective than using five vouchers of € 50. Laguilles et al. (2011) conducted four different experiments to determine if incentives affected response rates. Based on their analysis, each incentive group had significantly higher responses than the control group without incentives, regardless of the incentive (Laguilles et al., 2011). The raffle incentives offered by Laguilles et al. (2011) were a 4 gb iPod Nano for experiment one, ten \$50 gift cards to on-campus dining for experiment two, and one each 8 gb iPod touch for experiments three and four. Based on the research of Deutskens et al. (2004) and Laguilles et al. (2011), incentives were offered in this survey in an effort to increase response rates. Participants were offered the opportunity to win one of ten \$50 gift cards to Amazon by supplying their email address to enter the drawing. The participants were asked to provide their email address to be entered into the drawing for the gift cards by the designated survey-closing deadline of July 14, 2017. Once the survey was completed, the winners of the Amazon gift cards were notified. The winners were selected randomly. Each participant's email address was entered into an Excel spreadsheet with each row representing a number. Then, using a random number generator, the individual's email address associated with that row received a gift card, based on the numbers generated from the random number generator. The gift card was emailed to the recipient under the committee chair's supervision and with a witness being present to

ensure the credibility of the process. In addition, a summarized final report was offered to all participants as an added incentive for completing the survey.

Table 10 presents the data collection plan.

Table 10

Data Collection Plan

Week	Task
Week Zero	Obtain IRB approval
Week One	Distribute pilot study
Week Two	Gather results and test pilot study
Week Three	Distribute online survey via e-mail
Week Four	Send follow-up e-mail to full membership of the Mississippi Society of CPAs
Week Five and Six	Gather survey results Download data to SPSS Determine gift card recipients and e-mail gift cards
Week Seven and Eight	Complete data analysis

The data from the surveys were gathered using Survey Monkey, an online survey tool and only accessible by the researcher via username and password. To keep the data secure, no hard copies of the responses were printed. The following section describes the data analysis.

Data Analysis

The data were imported into IBM’s Statistical Package for the Social Sciences (SPSS) software (version 21.0). The data gathered from questions two through six and nine through thirteen is ordinal data, which is data where there is a logical order to the categories (Field, 2013). Question seven and fourteen are open-ended. The last part of the survey gathered demographic information as nominal and ordinal information. Table 11 presents the survey map and data analysis plan for each question and the relationship of the question to the research objectives.

Table 11

Survey Map and Data Analysis Plan

Research Objectives	Survey Questions	Scale or Measure	Statistical Test
RO1	Q15 Q16 Q17 Q18 Q19 Q20 Q21 Q22	Nominal Ordinal Nominal Nominal Ordinal Nominal Ordinal Ordinal	Descriptive Statistics- Frequency of each category
RO2	Q2 – Q6	Ordinal	Descriptive Statistics- Median and Percent Positive
RO3	Q2 – Q6	Ordinal	Descriptive Statistics- Median and Percent Positive

Table 11 (continued).

Research Objectives	Survey Questions	Scale or Measure	Statistical Test
RO4	Q9 – Q13	Ordinal	Descriptive Statistics- Median and Percent Positive
RO5 ^a	Q2 – Q6 and Q9 – Q13	Ordinal	Spearman’s Correlation Coefficient

^aRO5 will include correlation analysis of each of the individual items from Q2 and Q9; Q3 and Q10; Q4 and Q11; Q5 and Q12; Q6 and Q13 (for example, Q2: Importance of ethics related to auditing and Q9: Level of skill possessed of ethics related to auditing).

Research Objective 1

Research Objective 1 provides the demographic information of the sample. This data includes demographics of gender, age, education level, certifications held, and employment. By gathering the demographic information, this research may provide insights and comparisons with other research.

Research Objective 2

The data gathered from question 2 through 6 in Research Objective 2 are Likert-type responses. Likert responses provide data that is ordinal where there is no exact distance between the items rated (Field, 2013). Measures of central tendency for interval data that has a fixed distance between the ratings are means and standard deviations and for non-parametric data, the median is more appropriate (Field, 2013). The percent positive responses are included for questions 2 through 6 for Research Objective 2 (Black, 2014; Robbins & Heiberger, 2011; Vazzana, Chan, Wenzel, & Yao, 2013). As this study is trying to determine those items of most *importance*, the responses of important and very important are treated as agreeing that those items are important.

Therefore, the presentation of percent positive is reported (Black, 2014; Robbins & Heiberger, 2011; Vazzana, et al., 2013). The percentage of those selecting important and very important indicate agreement (or not) to that particular item (Black, 2014; Robbins & Heiberger, 2011; Vazzana, et al., 2013). Median values are included for each item.

For question 7 in Research Objective 2, an open-ended question was included. The respondents were asked to provide additional knowledge or skills, which they deem important for accounting graduates in the workforce for Research Objective 2. Results of this are summarized in Chapter V.

Research Objective 3

This section describes the perceptions of employers of recent accounting graduates of the importance of the knowledge, technical skills, and employability skills required of accounting graduates in the workforce. As employers are a key stakeholder in the employment of recent graduates (Deal et al., 2015), it is important to know the perceptions of recent employers; therefore, the responses of employers are presented separately. For Research Objective 3, the respondents were filtered to include only those who are employers of recent accounting graduates. Once again, the data are Likert in nature and the median is the proper statistic presented for non-parametric data (Field, 2013). Furthermore, the purpose of the research is to determine the *importance* of the item. Thus, the percent positive responses are presented (Black, 2014). Those who have selected important or very important are treated as in agreement with the importance of the item.

Research Objective 4

The employers of recent accounting graduates were asked to indicate if the recent accounting graduates possessed the knowledge, technical skills, and employability skills in questions 9 through 13. The answers are Likert responses, which are ordinal; therefore, the median is presented. Once again, this research is trying to determine if the recent graduates possess the skills. By selecting possessed or completely possessed as a response, the respondent agrees that the recent graduate did indeed possess the skill. Thus, percent positive responses are included (Black, 2014; Robbins & Heiberger, 2011; Vazzana et al., 2013). An open-ended question allowed respondents to provide additional knowledge or skills possessed or not possessed by recent accounting graduates for Research Objective 4.

Research Objective 5

For Research Objective 5, the results from questions 2 through 6 of CPA hiring managers and the results from questions 9 through 13 were used to determine the relationship in the hiring managers' perceptions of the importance of the knowledge, technical skills, and employability skills and hiring managers' perceptions of the knowledge, technical skills, and employability skills possessed by recent accounting graduates. The data from Research Objectives 2 and 4 are ordinal data; thus, the non-parametric test of Spearman's correlation coefficient was used to determine the relationship for Research Objective 5. When analyzing two variables (importance of item and skill possessed), there are three possible outcomes: positively related, not related, or negatively related (Field, 2013). Spearman's correlation coefficient uses rank order to determine the correlation of the items (Field, 2013). Field (2013) indicates that

Spearman's correlation coefficient is the appropriate test to use on ordinal data to determine if there is a relationship between the variables. Spearman's correlation coefficient is a nonparametric test and does not require distributional assumptions nor linear assumptions (Field, 2013). Based on the analysis, a significant difference will be one where the significance level is less than .05 as scientists have generally accepted this threshold as significant (Field, 2013).

Delimitations

Delimitations are those characteristics of the study which the researcher can control (Simon & Goes, 2013). This study describes the perceptions of CPAs of the importance of the knowledge, technical skills, and employability skills required of accounting graduates in the workforce. This study does not include how to teach the knowledge and skills, but focus on what knowledge and skills are important. The study collected data from CPAs who are members of the Mississippi Society of CPAs. This study focuses on CPAs. Other members of the Mississippi Society of CPAs who are student members or associate members were excluded. Furthermore, this study describes the perceptions of CPAs with new hires of the knowledge, technical skills, and employability skills possessed by recent accounting graduates in the workforce. Only those CPAs who have hired a recent accounting graduate within the last five years participated in this part of the survey. Finally, the respondents were from the Mississippi Society of CPAs.

The survey instrument includes 41 knowledge and skill items for analysis. The knowledge component was developed from the AICPA (2016a) blueprint for testing on the updated CPA exam. The skill items were developed from the literature review.

Because of the length of the survey, where employers would respond to the 41 items about perceived importance and again respond to the same 41 items about perceived knowledge and skill possessed, a decision was made to leave three of the knowledge variables with the word “and” which creates a double-barreled question. Separating these questions is listed as an area for further research.

Summary

A cross-sectional, descriptive, non-experimental design was conducted of the members of the Mississippi Society of CPAs. Those members of the society who are CPAs provided their perceptions of the importance of the knowledge, technical skills, and employability skills required of accounting graduates in the workforce. In addition, CPA hiring managers’ perceptions of the knowledge, technical skills, and employability skills possessed by recent accounting graduates was gathered. The research instrument was pilot tested on 31 accounting professionals that are not members of the Mississippi Society of CPAs. To determine the validity of the instrument, Cronbach’s alpha was calculated. The perceptions of CPAs with new hires of the knowledge, technical skills, and employability skills deemed important was correlated with the perceptions of CPAs with new hires of the knowledge, employability skills, and technical skills possessed by recent accounting graduates. Furthermore, demographic data was gathered and reported. The survey was administered electronically using Survey Monkey. The results of the survey are reported in Chapter IV and implications for future research are discussed in Chapter V.

CHAPTER IV - STATISTICAL RESULTS

The purpose of this study was to determine CPAs' perceived importance of the knowledge, technical skills, and employability skills required of accounting graduates in the workforce. An additional study goal included describing CPA hiring managers' perceived accounting graduate acquisition of the knowledge, technical skills, and employability skills. Also, this study examines the relationship between CPA hiring managers' perceived importance and accounting graduate acquisition of the knowledge, technical skills, and employability skills. This chapter provides a review of the results for each research objective.

Instrument Validity and Reliability

A valid and complete instrument relating to knowledge, technical skills, and employability skills required of accounting graduates in the workforce did not exist. Based on the literature review, an instrument was created. A pilot study was performed to determine the reliability of the survey. The instrument was emailed to 64 accounting professionals who were not members of the Mississippi Society of CPAs. Based on the central limit theorem, 30 responses were needed to ensure normal distribution (Fields, 2013). A total of 31 surveys were completed for the pilot study.

As the instrument was completed from empirical research, the instrument was determined to have content validity. To determine face validity, experts were asked to evaluate the instrument for face validity. Ten individuals associated with accounting were asked if the items represented the constructs which the survey intended to measure, and all were in agreement that the items did measure knowledge, technical skills, and

employability skills. Thus, the instrument was determined to have face validity and content validity.

Cronbach's alpha was calculated to determine the reliability of the survey. Because the instrument contained 41 items which are grouped according to knowledge category and skills, each group of questions was tested separately as suggested by Field (2013). For each section on knowledge, Cronbach's alpha was acceptable with auditing at .922; business environment and concepts at .810; financial and reporting at .918; and regulation at .777. The Cronbach's alpha of the 16 skill items was .922. Each of the Cronbach's alpha is above .7 which is acceptable evidence of a valid instrument (Field, 2013). Thus, the instrument was deemed reliable and valid.

Data Collection Results

The population for the study consists of full members of the Mississippi Society of CPAs. The estimated size of the population was 2,300 (K. Moody, personal communication, March 24, 2016). To have a 95% confidence level with a 5% margin of error, 330 respondents were needed (Raosoft, n.d.). Although 330 individuals answered the first question, only 252 completed Question 2; 243 completed Question 3; 248 completed Question 4; 247 completed Question 5; and 251 completed Question 6. With the average response rate of 248.2 for Questions 2 through 6, the margin of error would be 5.88% with a 95 % confidence level or a 5.0% margin of error with a 90.4% confidence level (Raosoft, n.d.). Although a 95% confidence level with a 5% margin of error is ideal, the increased margin of error of 5.88% does not present significant problems as researchers have used the 90% confidence level with a margin of error up to 8% (Crissey, 2009).

Results of Research

The study presents five research objectives. Each objective produced data that are ordinal or nominal. Data analysis and the results of the findings are provided for each research objective.

Research Objective 1

Research Objective 1 provides the demographic information of the sample. This data includes demographics of gender, age, education level, certifications held, and employment. Of those who responded to the demographic question 58.12% ($n = 136$) were male and 41.88% ($n = 98$) were female. Many of the respondents were between the ages of 46 and 55 (44.44%, $n = 104$) with only three respondents (1.28%) in the 18 to 25 age group. Those holding bachelor's degrees (46.78%, $n = 109$) and those holding master's degrees (47.64%, $n = 111$) were close with only 13 individuals (13%) holding terminal degrees. See Table 12 for the distribution of gender, age, and education level.

Table 12

Frequency of Gender, Age, and Education Level

Variable	Frequency	%	Cumulative %
Gender			
Male	136	58.12	58.12
Female	98	41.88	100.00
Total	234	100.00	
Age			
18-25	3	1.28	1.28
26-35	41	17.52	18.80

Table 12 (continued).

Variable	Frequency	%	Cumulative %
36-45	48	20.51	39.31
46-55	56	23.93	63.24
56-65	59	25.21	88.45
Over 65	27	11.55	100.00
Total	234	100.00	
Highest level of education			
Bachelor's degree	109	46.78	46.78
Master's degree	111	47.64	94.42
Terminal degree	13	5.58	100.00
Total	233	100.00	

The opening question of the survey asked the respondent if they were a CPA, if the respondent answered yes, they were taken to the next question. For those that answered no, they were disqualified from the survey. Therefore, all those completing the survey were CPAs. As many other certifications are available, question 17 asked respondents if they held additional certifications. Of the 163 respondents that answered this question, 109 (66.87%) held only the CPA certification with the next largest certification being Certified Fraud Examiner (9.20%, $n = 15$). Included in the “other” category of certifications, 15 respondents indicated that they held the certification of Chartered Global Management Accountant, which was created in 2012 (“AICPA, CIMA Gearing,” 2011). See Table 13 for the distribution of additional certifications held.

Table 13

Frequency of Additional Certifications Held

Certifications	Frequency	%
N/A	109	66.87
Certified Management Accountant	7	4.29
Certified Fraud Examiner	15	9.20
Certified Internal Auditor	8	4.91
Certified Information Systems Auditor	2	1.23
Certified Government Financial Manager	6	3.68
Certified Financial Planner	4	2.45
Other	36	22.09
Total	163	114.72

The place of employment for the majority of the respondents was indicated as public accounting-regional or local firm (50.00%, $n = 116$) with business/industry being the next largest (32.33%, $n = 75$). As some research has focused on large public accounting firms (Albrecht & Sack, 2000) and been criticized for it (Cory & Pruske, 2012), this research wanted to include the size of the employer to preclude problems with focusing only on one size or type of employer. The majority of the respondents work in companies with 100 or fewer employees (62.61%, $n = 144$). See Table 14 for the type of employer and size of employer.

Table 14

Frequency of Place of Employment and Size of Employer

Variable	Frequency	%
Employment		
Public Accounting-regional or local firm	116	50.00
Public Accounting-national or global firm	6	2.59
Business/industry	75	32.33
Government	12	5.17
Education	9	3.87
Not presently employed	0	0
Other	14	6.03
Total	232	100.00
Size of Employer		
Less than 20	77	33.48
21 to 100	67	29.13
100 to 1,000	46	20.00
Over 1,000	36	15.65
NA	4	1.74
Total	230	100.00

Table 15 provides the job title of respondents and Table 16 presents the years at their current job. As the majority of the respondents are in public accounting (see Table 14) and 50.22% have been at the same job 16 or more years, it is noteworthy that the

majority of the respondents are partners (29.06%, $n = 68$). To become a partner in a public accounting firm usually takes 12 years of experience (Ng, 2013). Those respondents indicating the “other” category identified their job titles as owner or sole practitioner/proprietor ($n = 12$), director ($n = 6$), vice-president ($n = 5$), assistant controller ($n = 2$), financial analyst ($n = 2$) and attorney ($n = 2$). Although half of the respondents have been at the same job for over 16 years (50.22%, $n = 117$), many (27.9%, $n = 65$) of the respondents have been at their present job for five years or less. Research supports the fact that many workers will change jobs every five years (Doyle, 2017). The demographics of this study include respondents who have been in at their job many years and respondents who have been at their job five years of less.

Table 15

Frequency of Job Title

Job Title	Frequency	%
Partner	68	29.06
Manager	31	13.25
Senior (in-charge) Accountant	19	8.12
Staff Accountant	11	4.70
Chief Financial Officer	22	9.40
Controller	22	9.40
Teacher/Professor	7	2.99
NA	6	2.56
Other	48	20.52
Total	234	100.00

Table 16

Years at Job

Years at job	Frequency	%
0-5	65	27.90
6-10	31	13.30
11-15	19	8.15
16-20	27	11.59
Over 21	90	38.63
NA	1	0.43
Total	233	100.00

Research Objective 2

Research Objective 2 gathered data from the respondents about their perceptions of the importance of the knowledge, technical skills, and employability skills needed by accounting graduates in the workforce. Participants were asked to select the answer that best describes the importance level for each item using a Likert-type scale of *not important, slightly important, moderately important, important, and very important*. Percent positive responses include responses of important and very important. The auditing and attestation responses show that 92.06% feel that ethics related to auditing were most important. The respondents indicated that 90.40% felt professional responsibilities related to auditing were important. Furthermore, four of the six items had a median of 5-*very important*. Table 17 reflects the responses to auditing and attestation knowledge required of accounting graduates.

Table 17

Perceptions of CPAs of the Importance of Auditing and Attestation Knowledge Required of Accounting Graduates

Q2	Item	<i>n</i>	Median	% Positive
	Ethics related to auditing	252	5	92.06
	Professional responsibilities related to auditing	250	5	90.40
	General principles related to auditing	251	5	86.94
	Assessing risk and developing a planned response in audits	251	4	78.09
	Performing further audit procedures and obtaining evidence	252	5	83.73
	Forming conclusions and reporting on audits	248	4	76.21

The next question asked respondents about the importance of business environment and concepts. Although the median for the responses was 4-*important*, none of the items garnered more than 87% positive responses. Those with the highest percent positive responses were information technology (86.01%) and general business knowledge (83.47%). Table 18 details the responses to business environment and concepts.

Table 18

*Perceptions of CPAs of the Importance of Business Environment and Concepts**Knowledge Required of Accounting Graduate*

Q3	Item	<i>n</i>	Median	% Positive
	Corporate governance	243	4	65.84
	Economic concepts and analysis	243	4	65.84
	Financial management	243	4	74.08
	Information technology	243	4	86.01
	Operations management	243	4	61.73
	General business knowledge	242	4	83.47

Financial accounting and reporting responses are recorded in Table 19. Three of the items reflect percent positive responses in excess of 90%. Conceptual framework of financial accounting (90.69%), financial reporting (90.29%), and financial transactions (91.43%) received the most percent positive responses. However, financial statement accounts and financial transactions both had median scores of 5-*very important*. The item that received the lowest percent positive responses of all the items surveyed is financial accounting for state and local governments (45.27%) with a median of 3-*moderately important*.

Table 19

*Perceptions of CPAs of the Importance of Financial Accounting and Reporting**Knowledge Required of Accounting Graduates*

Q4	Item	<i>n</i>	Median	% Positive
	Conceptual framework of financial accounting	247	4	90.69
	Standard setting for financial accounting	248	4	62.10
	Financial reporting	247	4	90.29
	Financial statement accounts	247	5	89.48
	Financial transactions	245	5	91.43
	Financial accounting for state and local governments	243	3	45.27

Regulation is another section tested on the CPA exam, which includes a variety of items relating to income tax and business law. Ethics related to regulation (83.41%) and professional responsibilities related to regulation (82.18%) received the most percent positive responses, and six of the items in regulation received a median score of 4-*important* and one had a median score of 5-*very important*. Table 20 presents the respondents' answers about the importance of regulation knowledge.

Table 20

Perceptions of CPAs of the Importance of Regulation Knowledge Required of Accounting Graduates

Q5	Item	<i>n</i>	Median	% Positive
	Ethics related to regulation	247	5	83.41
	Professional responsibilities related to regulation	247	4	82.18
	Federal tax procedures	247	4	67.21
	Business law	246	4	65.45
	Federal taxation of property transactions	245	4	57.55
	Federal taxation of individuals	246	4	71.14
	Federal taxation of entities	246	4	75.61

Perceptions of the importance of technical skills and employability skills are reflected in Table 21. Of the 16 items included in this question, 11 items had a median of 5-*very important* and five items had a median of 4-*important*. Ten items received 92% or greater percent positive responses, three items received 88% or greater percent positive responses and three received 72% or greater percent positive responses. These results seem to indicate that many skills are important for accounting graduates in the workforce. The top two skills based on percent positive responses are critical thinking, and analytical and problem solving with both receiving 97.61% positive responses. The next highest skill based on percent positive responses is listening attentiveness (97.59%), followed by

professional attitude/professional demeanor (96.81%). Written communication (96.42%) and self-motivation/self-direction (96.42%) had the same percent positive responses.

Table 21

Perceptions of CPAs of the Importance of Technical Skills and Employability Skills Required of Accounting Graduates

Q6	Item	<i>n</i>	Median	% Positive
	Continuous learning	250	5	92.00
	Decision making skills	251	5	94.82
	Oral communication	251	5	94.83
	Written communication	251	5	96.42
	Listening attentiveness	249	5	97.59
	Analytical and problem solving	251	5	97.61
	Critical thinking	251	5	97.61
	Self-motivation/Self direction	251	5	96.42
	Professional attitude/Professional demeanor	251	5	96.81
	Teamwork/Group interaction	251	4	88.44
	Computer skills/Information technology skills	249	5	92.37
	Ethical awareness	251	5	88.84
	Leadership	250	4	73.60
	Time management and organization	251	4	88.45
	Research skills	251	4	72.91
	Whole of business/Interdisciplinary approach	245	4	75.11

An open-ended question provided respondents the opportunity to offer additional knowledge or skills required of accounting graduates in the workforce. Approximately 30% (n=75) of the respondents answered this question. One of the recurring themes was graduates need social skills, people skills, interpersonal skills, and soft skills. Another theme linked to work ethic, professional behavior, motivation, and getting to work on time. Some felt that basic accounting skills were lacking in hires and some indicated the importance of computer technology, Microsoft excel, and computer literacy. Responses include some of the following statements:

- I think soft skills are very important...conflict resolution, working with teams, cooperation with supervisors, and leaning to manage people.
- Interacting and functioning in a group of folks whose ages are lots different from the college age group they are accustomed to being around.
- Interpersonal relationships.
- Interpersonal skills: emotional intelligence.
- People skills are huge and are often the difference in the success of CPAs.
- Social skills.
- Motivation.
- Strong work ethic.
- My recent hires seem to lack the basic concepts of accounting.
- Understanding basic accounting principles.
- Use of common sense; it's not all in the books!

Research Objective 3

Research Objective 3 describes CPA hiring managers' perceived importance of the knowledge, technical skills, and employability skills required of accounting graduates. As employers are a key stakeholder in the employment of recent graduates (Deal et al., 2015), their perceptions are presented separately. The auditing and attestation knowledge included in Table 22 reflects professional responsibilities related to auditing is the most important to employers based on percent positive responses. Three of the medians are 4-*important* and three of the medians are 5-*very important*.

Table 22

Perceptions of CPA Hiring Managers of the Importance of Auditing and Attestation Knowledge Required of Accounting Graduates

Q2	Item	<i>n</i>	Median	% Positive
	Ethics related to auditing	111	5	88.29
	Professional responsibilities related to auditing	111	5	89.19
	General principles related to auditing	110	5	86.37
	Assessing risk and developing a planned response in audits	111	4	74.77
	Performing further audit procedures and obtaining evidence	111	4	78.38
	Forming Conclusions and reporting on audits	109	4	71.56

Perceptions of CPA hiring managers of the importance of business environment and concepts knowledge is presented in Table 23. The median for all items was 4-

important. Those garnering the most percent positive responses were information technology (85.04%) and general business knowledge (81.13%).

Table 23

Perceptions of CPA Hiring Managers of the Importance of Business and Environment Knowledge Required of Accounting Graduates

Q3	Item	<i>n</i>	Median	% Positive
	Corporate governance	107	4	62.61
	Economic concepts and analysis	107	4	67.29
	Financial management	107	4	71.03
	Information technology	107	4	85.04
	Operations management	107	4	57.94
	General business knowledge	106	4	81.13

Hiring managers' perceptions related to financial accounting and reporting indicate that four items had percent positive responses above 86%; conceptual framework of financial accounting (86.36%); financial reporting (87.27%); financial statement accounts (89.09%); and financial transactions (87.16%). Financial accounting for state and local governments had a median of 3-*moderately important*. Financial accounting and reporting knowledge required of accounting majors as perceived by hiring managers is presented in Table 24.

Table 24

Perception of CPA Hiring Managers of the Importance of Financial Accounting and Reporting Knowledge Required of Accounting Graduates

Q4	Item	<i>n</i>	Median	% Positive
	Conceptual framework of financial accounting	110	4	86.36
	Standard setting for financial accounting	111	4	54.96
	Financial reporting	110	4	87.27
	Financial statement accounts	110	5	89.09
	Financial transactions	109	4	87.16
	Financial accounting for state and local governments	108	3	45.37

Regulation knowledge required of accounting graduates as perceived by hiring managers indicates that professional responsibilities related to regulation received the most percent positive responses (86.49%), followed by ethics related to regulation (83.78%). Six of the items relating to regulation knowledge had a median of 4-*important* and one had a median of 5-*very important*. See Table 25 for the detail of the perceptions of hiring managers and regulation knowledge.

Table 25

*Perceptions of CPA Hiring Managers of the Importance of Regulation Knowledge**Required of Accounting Graduates*

Q5	Item	<i>n</i>	Median	% Positive
	Ethics related to regulation	111	5	83.78
	Professional responsibilities related to regulation	111	4	86.49
	Federal tax procedures	111	4	69.37
	Business law	111	4	61.27
	Federal taxation of property transactions	110	4	57.27
	Federal taxation of individuals	110	4	70.91
	Federal taxation of entities	111	4	76.57

CPA hiring managers perceive that many skills are important for accounting graduates in the workforce. Critical thinking received 100% positive responses, which means that all respondents indicated that critical thinking was important or very important. Analytical and problem solving, decision making skills, and self-motivation/self-direction all garnered 98.23% positive responses. Six additional items received 92% or more percent positive responses. Twelve of the 16 medians are 5-*very important* and four of the medians are 4-*important*. The detail associated with important skills required of accounting graduates as perceived by CPA hiring managers is provided in Table 26.

Table 26

*Perceptions of CPA Hiring Managers of the Importance of Technical and Employability**Skills Required of Accounting Graduates*

Q6	Item	<i>n</i>	Median	% Positive
	Continuous learning	112	5	92.86
	Decision making skills	113	5	98.23
	Oral communication	113	5	96.46
	Written communication	113	5	95.57
	Listening attentiveness	113	5	97.34
	Analytical and problem solving	113	5	98.23
	Critical thinking	113	5	100.00
	Self-motivation/Self direction	113	5	98.23
	Professional attitude/Professional demeanor	113	5	95.57
	Teamwork/Group interaction	113	5	89.38
	Computer skills/Information technology skills	113	5	93.81
	Ethical awareness	113	5	86.72
	Leadership	113	4	71.68
	Time management and organization	113	4	86.72
	Research skills	113	4	69.91
	Whole of business/Interdisciplinary approach	111	4	71.17

Research Objective 4

The purpose of Research Objective 4 was to determine if recent accounting graduates possess the knowledge, technical skills, and employability skills in questions 9 through 13 as perceived by CPA hiring managers. The answers are Likert responses, which are ordinal; and the median is presented. The respondents were asked to indicate the level of skills possessed as follows; *did not possess*, *minimally possessed*, *moderately possessed*, *possessed*, or *completely possessed*. Percent positive responses of possessed or fully possessed are included (Black, 2014; Robbins & Heiberger, 2011; Vazzana et al., 2013). CPA hiring managers' perceptions of knowledge possessed relating to audit and attestation knowledge indicate ethics related to auditing had the most percent positive responses (39.77%), followed by general principles related to auditing (32.96%), then professional responsibilities related to auditing (31.82%). The item receiving the least percent positive responses was assessing risk and developing a planned response (11.50%). The median for all of the auditing and attestation knowledge is 3. The detail of auditing and attestation knowledge possessed is included in Table 27.

Table 27

Perceptions of CPA Hiring Managers of Auditing and Attestation Knowledge Possessed by Recent Accounting Graduates

Q 9	Item	<i>n</i>	Median	% Positive
	Ethics related to auditing	88	3	39.77
	Professional responsibilities related to auditing	88	3	31.82
	General principles related to auditing	88	3	32.96
	Assessing risk and developing a planned response in audits	87	3	11.50
	Performing further audit procedures and obtaining evidence	87	3	18.39
	Forming conclusions and reporting on audits	87	3	12.64

Table 28 presents hiring managers' perceptions of knowledge possessed by recent graduates about business environment and concepts. Information technology received the most percent positive responses (50.00%) while general business knowledge garnered 22.09% and the remaining items received less than 19%. This suggests that half of the recently hired accounting graduates possessed or fully possessed information technology knowledge as perceived by CPA hiring managers. The median for five items was 3 (*moderately possessed*) and the median for operations management was 2.5 (in between *minimally possessed* and *moderately possessed*).

Table 28

Perceptions of CPA Hiring Managers of Business Environment and Concepts Knowledge Possessed by Recent Accounting Graduates

Q 10	Item	<i>n</i>	Median	% Positive
	Corporate governance	86	3	13.95
	Economic concepts and analysis	86	3	15.12
	Financial management	86	3	18.61
	Information technology	86	3	50.00
	Operations management	86	2.5	11.63
	General business knowledge	86	3	22.09

The most highly rated skill possessed by accounting graduates as perceived by hiring managers about financial accounting and reporting are financial statement accounts at 42.22% positive and conceptual framework of financial accounting at 41.58% positive. The 10.35% positive for financial accounting for state and local governments was the lowest of all the knowledge and skill items possessed as perceived by hiring managers, and had the lowest median of 2 (*minimally possessed*). The other five knowledge items of financial accounting and reporting received a median of 3 (*moderately possessed*). Results are presented in Table 29.

Table 29

Perceptions of CPA Hiring Managers of Financial Accounting and Reporting Knowledge Possessed by Recent Accounting Graduates

Q 11	Item	<i>n</i>	Median	% Positive
	Conceptual framework of financial accounting	89	3	41.58
	Standard setting for financial accounting	90	3	31.11
	Financial reporting	90	3	32.23
	Financial statement accounts	90	3	42.22
	Financial transactions	90	3	36.67
	Financial accounting for state and local governments	87	2	10.35

Employers' perceptions indicate that ethics related to regulation (35.16%) and professional responsibilities related to regulation (31.87%) were the knowledge most frequently possessed by recent accounting graduates in relation to regulation while federal taxation of property transactions received the lowest percent positive responses (13.19%). Each of the items for regulation knowledge possessed received a median of 3 (*moderately possessed*). Table 30 presents the data results.

Table 30

Perceptions of CPA Hiring Managers of Regulation Knowledge Possessed by Recent Accounting Graduates

Q 12	Item	<i>n</i>	Median	% Positive
	Ethics related to regulation	91	3	35.16
	Professional responsibilities related to regulation	91	3	31.87
	Federal tax procedures	91	3	23.08
	Business law	91	3	15.39
	Federal taxation of property transactions	91	3	13.19
	Federal taxation of individuals	91	3	23.08
	Federal taxation of entities	91	3	14.29

CPA hiring managers' perceptions of skills possessed of recent accounting graduates are presented in Table 31. Three of the items have a median of 4 (*possessed*); those items also received the highest percent positive responses; computer skills/information technology skills (67.74%); teamwork/group interaction (53.76%); and professional attitude/professional demeanor (51.09%). Of all the skills and knowledge possessed, computer skills/information technology skills received the highest percent positive response. Thirteen of the skill items have a median of 3 (*moderately possessed*). The skill item with the lowest percent positive responses is whole of business/interdisciplinary approach (17.20%).

Table 31

Perceptions of CPA Hiring Managers of Technical and Employability Skills Possessed by Recent Accounting Graduates

Q 13	Item	<i>n</i>	Median	% Positive
	Continuous learning	93	3	41.94
	Decision making skills	93	3	24.74
	Oral communication	93	3	46.24
	Written communication	93	3	36.56
	Listening attentiveness	93	3	34.41
	Analytical and problem solving	93	3	27.96
	Critical thinking	93	3	21.51
	Self-motivation/Self direction	93	3	40.86
	Professional attitude/Professional demeanor	92	4	51.09
	Teamwork/Group interaction	93	4	53.76
	Computer Skills/Information technology skills	93	4	67.74
	Ethical awareness	92	3	45.65
	Leadership	92	3	20.65
	Time management and organization	92	3	28.26
	Research skills	93	3	27.96
	Whole of business/interdisciplinary approach	93	3	17.20

Eleven respondents provided additional insight into skills lacking or possessed by accounting graduates. One employer indicated that their employee(s) was flexible and well rounded. Other employers provided insight into knowledge or skills lacking in employees.

- Two employers felt graduates lacked critical thinking and problem-solving skills.
- Two respondents indicated graduates lacked basic accounting knowledge.
- One noted that graduates did not want to research issues, but wanted answers provided to them.
- Another respondent felt motivation and leadership were lacking.
- One employer suggested that professional appearance needed improving

Research Objective 5

The results from Research Objective 3 (Importance of Knowledge and Skill as perceived by Hiring Managers) and Research Objective 4 (Knowledge and Skills Possessed by Graduates as perceived by Hiring Managers) were used to determine the relationship between the two sets of data for Research Objective 5. Spearman's correlation coefficient (or Spearman's rho r_s) was used as the data from Research Objectives 3 and 4 are ordinal data, and the non-parametric test is appropriate (Field, 2013). The variables can be positively related, not related, or negatively related, and the correlation coefficient will lie between - 1 and + 1 (Field, 2013). According to Field (2013), the following guidelines can be used in interpreting correlation coefficients.

- Values of + or - .1 represent a small effect.
- Values of + or - .3 represent a medium effect.

- Values of + or - .5 represent a large effect.

For this research, the significance level .05 is used and many researchers have concluded that this is a reasonable level (Hurlburt, 2006). The relationship between perceived importance of knowledge and perceived knowledge possessed are presented in Tables 32 through 35. Each of the correlation coefficients are positive in Tables 32 through 35. Table 36 presents the relationship between perceived importance of skill and perceived skill possessed. Ten of the 16 skill items are positively related, and six are negatively related. When analyzing correlation coefficients, the importance rating should be considered along with the correlation coefficient. A correlation coefficient could be positive or negative, however the knowledge or skill may not be particularly important. Therefore, it is imperative to analyze importance and the significance of the correlation coefficient.

Table 32 presents the analysis of perceived importance and knowledge possessed of auditing and attestation. Each of the items is positively correlated which means that as one variable increases, the other variable increases (Field, 2013). However, only four of the relationships are significant. Ethics related to auditing is significant and ($r_s = .300$) represents a medium effect. Professional responsibilities related to auditing ($r_s = .307$) represents a medium effect and is significant. Assessing risk and developing a planned response in audits ($r_s = .283$) is a small effect, but significant. Forming conclusions and reporting on audits ($r_s = .287$) is considered a small effect and is significant. Each of the four relationships that are significant received at least 71% positive ratings of importance by employers (see Table 22) which indicates that these variables of knowledge are important and are possessed by accounting graduates.

Table 32

Relationship between CPA Hiring Managers Perceived Importance and Perceived Knowledge Possessed by Recent Graduates – Auditing and Attestation

Item	Correlation Coefficient	Sig. (2-tailed)
Auditing and Attestation		
Ethics related to auditing	.300**	.005
Professional responsibilities related to auditing	.307**	.004
General principles related to auditing	.168	.118
Assessing risk and developing a planned response in audits	.283**	.008
Performing further audit procedures and obtaining evidence	.122	.260
Forming conclusions and reporting on audits	.287**	.008

**Correlation is significant at the 0.01 level (2 tailed).

The relationship between importance and skill possessed of business environment and concepts is provided in Table 33. Each of the relationships is positively related with three of the relationships being significant. Only one variable, operations management ($r_s = .328$), has a medium effect and is significant. The percent positive response from employers to the importance of operations management was 57.94%, which is one of the lowest rated importance items meaning that this is not a particularly important knowledge item based on employers' perceptions. Although the correlation coefficient for corporate governance and general business knowledge are significant, the correlation coefficient is

considered small. The percent positive importance rating by employers was 62.61% and 81.13%, respectively (see Table 23).

Table 33

Relationship between CPA Hiring Managers Perceived Importance and Perceived Knowledge Possessed by Recent Accounting Graduates – Business Environment and Concepts

Item	Correlation Coefficient	Sig. (2-tailed)
Business Environment and Concepts		
Corporate governance	.248*	.026
Economic concepts and analysis	.123	.276
Financial management	.170	.128
Information technology	.113	.317
Operations management	.328**	.003
General business knowledge	.291**	.008

*Correlation is significant at the 0.05 level (2-tailed).

**Correlation is significant at the .01 level (2-tailed).

Although five of the six correlation coefficients in financial accounting and reporting are significant, only one represents a medium effect. See Table 34. Standard setting for financial accounting has a correlation coefficient of .411, which is the highest correlation coefficient of all variables presented in Tables 32 through 36. Although this is a medium effect, it is very close to a large effect which is + or - .5 level (Field, 2013). The importance rating by employers for standard setting for financial accounting received

54.96% positive responses, which is relatively low compared to other variables (see Table 24).

Table 34

Relationship between CPA Hiring Managers Perceived Importance and Perceived Knowledge Possessed by Recent Accounting Graduates – Financial Accounting and Reporting

Item	Correlation Coefficient	Sig. (2-tailed)
Financial Accounting and Reporting		
Conceptual framework of financial accounting	.162	.134
Standard setting for financial accounting	.411**	.000
Financial reporting	.248*	.020
Financial statement accounts	.211*	.047
Financial transactions	.283**	.008
Financial accounting for state and local governments	.289**	.008

*Correlation is significant at the 0.05 level (2-tailed).

**Correlation is significant at the .01 level (2-tailed).

The correlation coefficients of four of the seven variables in regulation are significant. Ethics related to regulation and business law represent medium effects. Table 35 presents this information. Percent positive responses about importance of variable show that ethics related to regulation received 83.78% and business law received 61.27% (see Table 25) meaning that ethics related to regulation was deemed important and has a .382 correlation coefficient.

Table 35

Relationship between CPA Hiring Managers Perceived Importance and Perceived Knowledge Possessed by Recent Accounting Graduates – Regulation

Item	Correlation Coefficient	Sig. (2-tailed)
Regulation		
Ethics related to regulation	.382**	.000
Professional responsibilities related to regulation	.257*	.014
Federal tax procedures	.293**	.005
Business law	.336**	.001
Federal taxation of property transactions	.195	.068
Federal taxation of individuals	.163	.127
Federal taxation of entities	.012	.911

*Correlation is significant at the 0.05 level (2-tailed).

**Correlation is significant at the .01 level (2-tailed).

Table 36 presents the relationship between hiring managers' perceived importance and skills possessed of accounting graduates of technical and employability skills. Two correlation coefficients were significant; ethical awareness ($r_s = .323$) and leadership ($r_s = .226$) were positively correlated. Ethical awareness had a medium effect correlation coefficient. The percent positive responses for ethical awareness (86.72%) and leadership (71.68%) were both highly rated as important by employers (see Table 26) meaning that employers deemed these skills important and graduates to some degree possessed these skills. None of the other items were significant.

Table 36

Relationship between CPA Hiring Managers Perceived Importance and Perceived Skill

Item	Correlation Coefficient	Sig. (2-tailed)
Technical Skills and Employability Skills		
Continuous learning	.121	.249
Decision making skills	.077	.465
Oral communication	-.011	.915
Written communication	-.013	.900
Listening attentiveness	.132	.207
Analytical and problem solving	-.067	.521
Critical thinking	-.132	.207
Self-motivation/Self direction	-.110	.293
Professional attitude/Professional demeanor	.034	.751
Teamwork/Group interaction	.181	.083
Computer skills/Information tech. skills	.139	.183
Ethical awareness	.323**	.002
Leadership	.226*	.030
Time management and organization	.148	.160
Research skills	.019	.860
Whole of business/Interdisciplinary approach	-.029	.782

*Correlation is significant at the 0.05 level (2-tailed).

**Correlation is significant at the .01 level (2-tailed).

Summary

The purpose of this study was to determine the perceptions of CPAs about the importance of knowledge, technical skills, and employability skills required of accounting graduates in the workforce. A survey instrument was developed, tested, and proven reliable. Based on percent positive responses, five of the 25 knowledge variables received 90% or above. For the skill component, 10 of the 16 variables received 90% or more percent positive responses. These findings support other research as the survey instrument included skills other researchers found important (Awayiga, et al., 2010; Bui & Porter, 2010; Chaker and Abdullah, 2011; Cory & Pruske, 2012; Deal et al., 2015; Gray & Murray, 2011; Jackling & de Lange, 2009; Jones & Abraham, 2009; Kavanagh & Drennan, 2008; Milliron, 2012; Ngoo, Tiong, & Pok, 2015; NYSSCPA, 2008; Siriwardane et al., 2014; Weaver & Kulesza, 2013). In addition, this study determined the skills possessed of recent accounting graduates as perceived by CPA hiring managers. Results indicate that students are lacking knowledge and skills deemed important by employers with this result supported by research (Massey, 2011). Finally, the study analyzed the correlation coefficient between CPA hiring managers' perceptions of importance and knowledge and skill possessed of recently hired accounting graduates. Based on this analysis, graduates possessed much of the knowledge required in the workforce with 16 of the 25 knowledge variables having a significant, positive correlation coefficient. However, results for the correlation of skills indicate that only two had significant, positive correlation coefficients. Chapter V presents a discussion of the research results, implications, limitations, and recommendations for future research.

CHAPTER V - SUMMARY

The previous chapters describe the need for understanding the knowledge and skills required of accounting graduates in the workforce. This chapter provides the findings, conclusions, and recommendations, as well as the study limitations. Also included in this chapter are recommendations for further research.

Employers indicate they are unable to find employees with the knowledge and skills needed to fill jobs (O'Bannon, 2016). The result of these unfilled jobs has negative effects on individuals, employers, businesses, and the economy (Fisher, 2014; Kaplan, 2017; Nanduri, 2017). Accounting employers report that finding the right candidates to fill jobs is challenging (McCann, 2015).

Human capital theory suggests that education and training are the most important factor in the development of the workforce (Becker, 1993). Determining the skills needed is a critical part of workforce development (Wang, 2009). Skills needed (Weaver & Kulesza, 2013), or knowledge needed of a particular group of accountants (Siriwardane et al., 2014) have been researched. This study provides a robust analysis about the knowledge, technical skills, and employability skills required of accounting graduates in the workforce.

The current study's population are members of the Mississippi Society of CPAs who are CPAs, and the study was conducted in the summer of 2017. The CPAs responded to an email survey about the importance of knowledge, technical skills, and employability skills required of accounting graduates in the workforce. The study also provides the perceptions of CPA hiring managers of the knowledge, technical skills, and employability skills required of accounting graduates in the workforce. Another

component of the survey gathered CPA hiring managers perceptions of knowledge, employability skills, and technical skills possessed of recent accounting graduates. Finally, the study determined the relationship between CPA hiring managers' perceptions of importance and graduate acquisition of knowledge, technical skills, and employability skills.

The data was analyzed using IBM SPSS software version 21.0. To test the relationship between CPA hiring manager's perceptions of importance and graduate acquisition of knowledge, technical skills, and employability skills, Spearman's correlation coefficient was used to measure that relationship. Significance was set in advance at $\alpha = .05$ (Hurlburt, 2006).

Respondent Characteristics

The population for this study are the members of the Mississippi Society of CPAs. Approximately 250 respondents completed the electronic survey. The respondents included female and male participants with the majority of the respondents' holding bachelor's and master's degree, with very few holding terminal degrees. Public accounting represented the largest place of employment of the respondents; however, business/industry, government, law firms, education, non-profit, and financial management are represented. Many of the respondents are partners or managers with over half having worked for the same employer over 16 years. The largest age group represented by the respondents was the 56 to 65 age group, but all age groups are represented with the 18 to 25 age group having the lowest representation. The respondents represent a wide variety of employment, job titles, and age.

CPAs' Perceptions of Importance

The survey instrument included 25 variables related to knowledge. Twenty-four of the variables were garnered from the blue print of the updated CPA exam (AICPA, 2016a) and the other variable came from literature review (Deal et al., 2015). The four categories tested on the CPA exam are auditing and attestation, business environment and concepts, financial and reporting, and regulation. The survey instrument included 16 skill variables that other researchers had found were important (See Table 21). As other researchers found these skills were important, the results of this study are supported by prior research (Bui & Porter, 2010; Deal et al., 2015; Jones & Abraham, 2009; Massey, 2011; Milliron, 2012; Siriwardane et al., 2014).

Findings

Based on respondents' perceptions of the knowledge items, 24 of the 25 items were important. The knowledge items most important are as follows:

- Ethics related to auditing
- Financial transactions
- Professional responsibilities related to auditing
- Financial reporting

Respondents indicated that all skill items were important or very important.

Research supports these skills are important in the workforce (Deal et al., 2015; Massey, 2011; Milliron, 2012). As accountants deal with a variety of issues on a daily basis (Bui & Porter, 2010), critical thinking, and analytical and problem solving received the highest percent positive responses. Other researchers found these two skills deemed important

for accountants (Awayiga et al., 2010; Jackling & de Lange, 2009; Kavanagh & Drennan, 2008; Massey, 2011; Milliron, 2012; Weaver & Kulesza, 2013, 2014).

The skill receiving the next highest percent positive response from all respondents was listening attentiveness. Goleman et al. (2013) have provided research that agrees with the need for accountants to be able to communicate well, including listening.

Fierstein (NYSSCPA, 2008) concurs,

Obviously, a CPA should have some audit background, some accounting background, and some tax background. But most important is a good foundation of communication skills-generally not something people think of as essential for accountants. Most people think accounting is only about math skills. But we've found that communication skills-reading, writing, verbal communications, and, most important of all, *listening* [emphasis added], to your clients, your colleagues, and the rest of the profession-are probably the most important attributes for a CPA to have. (p. 6)

Listening effectiveness is considered part of employability skills or soft skills (Overtoom, 2002) and many surveyed noted the need for soft skills and social skills.

Conclusions

Based on these results, the knowledge area deemed most important was auditing. As CPAs are the only group having authority to perform audits and express audit opinions (Louwers, et al., 2014), auditing knowledge is a specialized accounting area considered essential by the respondents. In addition, respondents viewed financial transactions and financial reporting very important. Understanding financial transactions and financial reporting are key components of understanding accounting (Burke &

Gandolfi, 2014). Thus, auditing and financial accounting knowledge were regarded as very important by all respondents.

Findings indicate that 24 of the 25 the variables related to knowledge are important to all respondents. These results match what Massey (2011) found when surveying Pennsylvania CPAs in public accounting. Her findings indicate that financial accounting, general business knowledge, and auditing were important knowledge variables. Siriwardane et al. (2014) found that knowledge on accounting standards, risk assessment knowledge, and general business knowledge were deemed important. This study found that auditing variables had the highest medians, but financial accounting and reporting had the most percent positive responses. Overall, knowledge components are important for graduates in the workforce. Therefore, it is important for accounting graduates to have mastery of knowledge when entering the workforce.

All respondents deemed the 16 skill variables important. The top three skills were as follows.

- critical thinking
- analytical and problem solving
- listening attentiveness

However, the results of this study found that listening attentiveness was very important. The current study separated listening attentiveness, oral communication, and written communication and found listening attentiveness very important. Other researchers have found that verbal communication skills (Ahadiat & Martin, 2015; Bui & Porter, 2010; Jackling & de Lange, 2009; Massey, 2011) or communication skills (Awayiga et al., 2010) are important in the workforce. This research supports Gray and Murray (2011)

who focused their research on communication skills and separated the components of communication.

Recommendations

This study revealed that CPAs deemed many of the knowledge variables important or very important. Implications for accounting graduates are that employers expect graduates to have knowledge of auditing and attestation, financial and reporting, business environment and concepts, and regulation. Thus, accounting graduates should be prepared to implement the knowledge developed while in college when entering the workforce.

Both critical thinking and analytical and problem-solving skills were very important to all respondents. Educators must take specific steps to increase accounting graduates' critical thinking skills as Ayers (2016) found that a 4- year college education may not produce critical thinking outcomes. Halpern (1999) suggests a four-part model that includes actual instruction in the skill of critical thinking, dispositions for critical thinking, structure training, and metacognitive monitoring. Educators must also provide opportunities for students to more fully develop analytical and problem-solving skills as recommended by Snyder and Snyder (2008).

Flagello and Dugas (2009) state, "learning to listen and truly connecting with another person are a rare and highly desirable competency" (p. 97). Listening attentiveness was also very important to respondents and steps should be taken by educators to improve this skill. Flagello and Dugas (2009) suggest focused listening exercises to increase an individual's ability to listen. The results of this research concur.

Respondents included the need for soft skills in the workforce. Thus, the development of these skills is recommended. Goleman (1995) and Wagner (2008) suggest many of the soft skills can and should be taught in school. However, the specific methodology for doing so is outside the scope of this research.

CPA Hiring Managers' Perceptions of Importance

Findings

CPA hiring managers responded similarly to those of all respondents. Twenty-four of the 25 knowledge items were important. CPA hiring managers indicated that all of the skills were important. Employers indicate the following skills were very important based on percent positive responses:

- Critical thinking
- Decision making skills
- Analytical and problem solving
- Self-motivation/Self-direction
- Listening attentiveness

Decision making skills (Siriwardane et al., 2014) and self-motivation/self-direction (Wells et al., 2009) were found to be important by other researchers. These two skills were deemed important by employers, but not included in top skills by all respondents.

Conclusions

Although 24 of the 25 of the knowledge items had a median of *important* or *very important*, the percent positive responses provide additional insight. The percent positive responses indicate that CPA hiring managers perceived a larger number of skills were more important than the knowledge items.

Recommendations

Based on the results of this study, accounting graduates must possess not only accounting knowledge when entering the workforce, but a wide variety of skills. Based on the results from employers, accounting graduates should develop decision making skills and be prepared for self-motivation/self-direction when entering the workforce. Furthermore, accounting educators must be aware of the needed skills and provide opportunities for accounting students to develop the skills.

Accounting Graduate Acquisition of Knowledge and Skills

CPA hiring managers perceived that many of the knowledge, technical skills, and employability skills were important for accounting graduates in the workforce. However, employers' perceptions of knowledge and skills possessed by recent accounting graduates were not altogether positive.

Findings

Only three of the skills were deemed to be possessed by recent graduates; none of the knowledge or skill items were fully possessed by recent accounting graduates. Those skills that were possessed by recent graduates were as follows:

- Computer skills/information technology
- Teamwork/group interaction
- Professional attitude/professional demeanor

Milliron (2012) found information technology was the greatest strength of recent graduates as did this research.

Conclusions

Based on these findings, the researcher concludes that employers perceive that accounting graduates do not fully possess the knowledge and skills deemed important by employers. However, graduates do possess computer skills, teamwork skills, and professional attitude. Computer skills and teamwork are noted as a strength of recent college graduates (Milliron, 2012; Massey, 2012) which the results of this study support.

Recommendations

Based on this study, employers perceive that current graduates do not possess skills needed in the workforce. Employers would like work-ready employees; however, most employers agree that training is required for new hires (Ferguson, 2007). Although traditional education does seem to provide the basis for accounting graduates, additional training through internships, apprenticeship programs, and job shadowing have been recommended (Olsen, 2015). Collaborations with educators and employers have seen success in other categories of training (Armor-Garb, 2017). Providing open lines of communication between employers, educators, and accounting graduates is the first step in accomplishing the goal of providing accounting graduates ready for the workforce.

Relationship between Perceived Importance and Accounting Graduate Acquisition

Spearman's correlation coefficient was calculated to determine the relationship between the CPA hiring managers' perceived importance and accounting graduate acquisition of knowledge, technical skills, and employability skills. Spearman's correlation coefficient was the appropriate test to use because the data were ordinal (Field, 2013).

Findings

Based on this analysis, 16 of the knowledge components had significant, positive correlations. The remaining nine knowledge variables were not significant. For the skills component, only two items had significant, positive correlations. No other skill items had significant correlations. The current study confirms research from others who have found that accounting graduates understand accounting knowledge, but are lacking in certain skills (Bui & Porter, 2010; Chaker & Abdulla, 2011; Gray & Murray, 2011; Jones & Abraham, 2009; Milliron, 2012; Siriwardane et al., 2014). Massey (2011) found positive correlations for the 18 knowledge and skill variables tested. Seventeen of the 18 variables proved significant at the 0.01 level (Massey, 2011) which differs from the current study. The current research investigated 41 items and found that less than half (18) had significant positive correlations.

Conclusions

Based on these findings, the researcher concludes that accounting graduates have knowledge, but not the necessary skills needed when entering the workforce. The researcher concluded that CPA hiring managers found recent accounting graduates possessed much of the knowledge deemed important. Sixteen of the 25 knowledge variables had significant positive correlation coefficients; however, most of the coefficients were small to medium effect ranging from .211 to .411. Only two of the 16 skills variables had significant positive correlations, which suggests that accounting graduates are lacking in skills when entering the workforce.

Recommendations

Supported by prior research (Bui & Porter, 2010; Deal et al., 2015; Massey, 2011), this study revealed that hiring managers perceived that accounting graduates have much of the requisite knowledge when entering the workforce. However, hiring managers perceived that accounting graduates are lacking in many of the skills deemed important by employers. Those skills deemed important or very important and only moderately possessed by accounting graduates could be a starting point for educators and accounting graduates. Critical thinking, analytical and problem solving, self-motivation/self-direction, listening attentiveness, oral communication, and written communication were all deemed very important by employers and were moderately possessed by accounting graduates. Each of these skills could be more fully developed through the educational process or job internships to meet the demands of employers.

Limitations

Limitations relate to factors outside of the researcher's control (Simon & Goes, 2013). Study limitations include the study instrument, the methodology, and the participants. Based on research, an instrument that includes knowledge, technical skills, and employability skills required of accounting graduates in the workforce was not available. Because of this, an instrument was developed, tested, and used in this study.

The methodology used to survey the study population of the Mississippi Society of CPAs was an email survey. The CEO of the Mississippi Society of CPAs provided access to the group (Appendix A). Archer (2007) recommends three contacts with respondents to maximize response rates. However, the CEO of the Mississippi Society

limited the number of contacts to only two (Appendix A). This is a limitation outside of the researcher's control.

The data collected from the survey was self-reported. Researchers note a self-report bias when dealing with socially desirable behaviors and highly sensitive constructs (Donaldson & Grant-Vallone, 2002). This study did not seek information regarding socially desirable behaviors; however, some may see the constructs as highly sensitive and answer in a biased response (Donaldson & Grant-Vallone, 2002). Another limitation is that the data was collected by one method at one point in time. The study is mono-method, but provided opportunities for respondents to answer open-ended questions if they so desire. Finally, the participants are CPAs who are members of the Mississippi Society of CPAs. Because the study was limited to one state, it is unclear if the results would be generalizable to other states within the United States.

Recommendations for Future Research

This research provides recommendations for future research based on the findings, limitations, and delimitations.

- Replicate this research in other states to determine if the results translate to other populations.
- Replicate this research using larger sample sizes and random sampling, which would improve the external validity and offer more robust generalization to the population.
- Separate the study into two studies: one study dealing with knowledge and another study dealing with skills. As this study contained 41 items related to knowledge and skills, the decision was made to include three items of audit and

attestation as presented in the AICPA (2016a) Blue Print for testing on the new CPA exam. These items contained the word “and”, which is a double-barreled question (Fink, 2003). Separating these questions may provide further insight into perceptions of CPAs regarding knowledge.

- Research best practices for teaching important skills which were determined by the current study. The research would include soft skills as discussed in this research.

Summary

This study determined the knowledge, technical skills, and employability skills required of accounting graduates in the workforce. The research presented is pertinent for research and practice as it adds to the body of knowledge of workforce development. This research provides one component of workforce development by identifying knowledge and skills needed in the workforce (Wang, 2009). The results provide some challenging findings. CPAs indicate not only is it important to understand and apply accounting knowledge, but a wide range of skills are needed. Critical thinking, and analytical and problem-solving skills were deemed very important. Listening attentiveness, professional attitude and professional demeanor were also deemed important. Analysis of skills possessed showed that many recent graduates moderately possessed knowledge and skills needed in the workforce. The relationship between knowledge and skills perceived important by employers and knowledge and skills possessed by recent graduates indicate several significant positive relationships. However, none of the relationships represented a large effect.

Wagner (2008) identified seven survival skills needed for the twenty-first century. The results of this research concur with his findings. Graduates not only need educational knowledge, but also a set of skills that are transferable from job to job. Many of these skills are part of what Goleman (1995) would call emotional intelligence. Goleman (1995) suggests that emotional intelligence is more important than IQ. The outcome of this research lends credibility to that statement.

Educators from elementary school through college are preparing the next generation of the workforce where the questions of tomorrow will look nothing like the questions of today. Being able to think critically, analyze problems, solve problems and make decisions are crucial components in the new workforce. Also, working with others, communicating with others, and listening to others are skills demanded by employers. For the United States to have economic success, the education of the citizenry must change.

The results of this study are a call to action. Employers perceive many skills are very important, and employers perceive accounting graduates moderately possess the important skills. Therefore, those tasked with the development of accounting graduates need to take action. Incorporating specific steps inside and outside of the classroom can enable this result. Learning activities focused on the development of needed skills must be included in curriculum. Collaborating with businesses to create internships, apprenticeship programs, and job shadowing to develop skills should be considered. Improving human capital within the accounting profession is vital in meeting the demands of the knowledge economy.

Human capital development is the key to successful societies, economies, and businesses (Moretti, 2012), and people are the differentiating factor for businesses in the 21st century (Huselid et al., 2005). Human capital development is a critical function for developing people in the workforce. This study points to a gap between the knowledge and skills accounting graduates possess and the knowledge and skills hiring organizations view as important. Now is the time to implement an action plan to apply human capital development practices to ensure that accounting graduates develop the knowledge and skills required in the workforce.

APPENDIX A – Access to Population



May 11, 2017

Lisa Sandifer, Ph.D. Candidate
University of Southern Mississippi
Long Beach, MS

RE: Survey Email

Dear Lisa:

Per our telephone conversation, I enjoyed discussing your dissertation at the University of Southern Mississippi and the survey associated with it. I will be happy to forward your survey of knowledge and skills needed by accounting graduates in the workforce to the membership of the Mississippi Society of Certified Public Accountants. Furthermore, I will send a second email the following week to the membership to remind them of the survey.

Sincerely,

Karen C. Moody
Karen C. Moody, CPA, CGMA
President/CEO

APPENDIX B – Knowledge and Skill Survey

INFORMED CONSENT

Before you continue with this online survey, please read carefully the following consent form and then indicate your consent below. It is very important that you understand that your participation in this survey is voluntary and that the information you share is confidential.

Introduction

The purpose of this study is to collect information regarding the knowledge and skills required of accounting graduates in the workforce. This study is conducted by Lisa Sandifer, CPA, a doctoral candidate in Human Capital Development at The University of Southern Mississippi, in partial fulfillment of her requirements for the degree of Doctor of Philosophy. This research is performed under the guidance of Dr. Dale Lunsford, University of Southern Mississippi.

Procedures

You will be asked to complete a questionnaire about the knowledge and skills required of accounting graduates in the workforce and will take approximately 10-15 minutes to complete. This survey poses no known personal risks. You may choose to cease input of information at any time or to not answer a question, for whatever reason. By continuing the survey, you are indicating that you are at least 18 years of age.

Benefits

There are no direct benefits for participants. The study's findings will be used to provide information on knowledge and skills required of accounting graduates in the workforce to stakeholders including yourself, your employers, accounting educators, and the AICPA. Upon completion of the survey, you will have the opportunity to register to win one of ten Amazon gift cards of \$50, which will be drawn at the conclusion of the close of the survey.

Confidentiality/Participation

All data obtained from participants will be kept confidential and will only be reported in the aggregate. Your participation is voluntary. Refusal to participate involves no penalty or adverse consequences. You may stop your participation at any time.

Questions about the Research

If you have questions regarding this study, please contact Lisa Sandifer at 662-822-2569, or by email at lisa.sandifer@usm.edu. If you have questions you do not feel comfortable asking the researcher, you may contact Dr. Dale Lunsford at 228-224-3387 or by email at dale.lunsford@usm.edu. This project has been reviewed by the Institutional Review Board, which ensures that research projects involving human subjects follow federal regulations. Any questions or concerns about rights as a research participant should be directed to the Chair of the IRB at 601-266-5997.

Do you agree to the above terms? By clicking Yes, you consent that you are willing to answer the questions in this survey.

Yes

No

Membership Status

1. Are you a Certified Public Accountant?

Yes

No

Knowledge and Skills Required of Accounting Graduates

Select the answer that best describes the importance level for each of the following knowledge and skill item required of accounting graduates in the workforce.

2. Auditing and attestation

	Not important	Slightly important	Moderately important	Important	Very important
Ethics related to auditing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Professional responsibilities related to auditing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
General principles related to auditing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Assessing risk and developing planned responses in audits	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Performing audit procedures and obtaining evidence in audits	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Forming conclusions and reporting on audits	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

3. Business environment and concepts

	Not important	Slightly important	Moderately important	Important	Very important
Corporate governance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Economic concepts and analysis	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Financial management	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Information technology	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Operations management	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
General business knowledge	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

4. Financial accounting and reporting

	Not important	Slightly important	Moderately important	Important	Very important
Conceptual framework of financial accounting	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Standard setting for financial accounting	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Financial reporting	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Financial statement accounts	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Financial transactions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Financial accounting for state and local governments	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

5. Regulation

	Not important	Slightly important	Moderately important	Important	Very important
Ethics related to regulation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Professional responsibilities related to regulation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Federal tax procedures	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Business law	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Federal taxation of property transactions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Federal taxation of individuals	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Federal taxation of entities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

6. Technical Skills and Employability Skills

	Not important	Slightly important	Moderately important	Important	Very important
Continuous learning	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Decision making skills	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Oral communication	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Written communication	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Listening attentiveness	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Analytical and problem solving	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Critical thinking	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Self-motivation/Self-direction	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Professional attitude/Professional demeanor	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Teamwork/Group interaction	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Computer skills/Information technology skills	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ethical awareness	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Leadership	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Time management and organization	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Research skills	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Whole of business/Interdisciplinary approach	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

7. Please provide any additional knowledge or skill which are important to accounting graduates in the workforce.

8. Have you hired a recent accounting graduate (or graduates) in the last five years?

Yes

No

Knowledge and Skills Possessed by Accounting Graduates

Please indicate if the recent accounting graduate (or graduates) possessed the following knowledge and skills.

9. Auditing and attestation

	Did not possess	Minimally possessed	Moderately possessed	Possessed	Completely possessed
Ethics related to auditing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Professional responsibilities related to auditing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
General principles related to auditing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Assessing risk and developing planned responses in audits	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Performing audit procedures and obtaining evidence in audits	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Forming conclusions and reporting on audits	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

10. Business environment and concepts

	Did not possess	Minimally possessed	Moderately possessed	Possessed	Completely possessed
Corporate governance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Economic concepts and analysis	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Financial management	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Information technology	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Operations management	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
General business knowledge	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

11. Financial accounting and reporting

	Did not possess	Minimally possessed	Moderately possessed	Possessed	Completely possessed
Conceptual framework of financial accounting	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Standard setting for financial accounting	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Financial reporting	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Financial statement accounts	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Financial transactions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Financial accounting for state and local governments	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

12. Regulation

	Did not possess	Minimally possessed	Moderately possessed	Possessed	Completely possessed
Ethics related to regulation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Professional responsibilities related to regulation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Federal tax procedures	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Business law	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Federal taxation of property transactions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Federal taxation of individuals	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Federal taxation of entities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

13. Technical Skills and Employability Skills

	Did not possess	Minimally possessed	Moderately possessed	Possessed	Completely possessed
Continuous learning	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Decision making skills	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Oral communication	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Written communication	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Listening attentiveness	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Analytical and problem solving	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Critical thinking	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Self-motivation/Self-direction	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Professional attitude/Professional demeanor	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Teamwork/Group interaction	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Computer skills/Information technology skills	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ethical awareness	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Leadership	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Time management and organization	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Research skills	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Whole of business/Interdisciplinary approach	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

14. Please provide any additional knowledge or skill which the accounting graduate(s) did not possess or fully possessed.

Demographics

Please answer the following questions.

15. What is your gender?

- Female
- Male

16. What is the highest level of school that you have completed?

- Bachelor's degree
- Master's Degree
- Terminal Degree (PhD, DBA, JD)

17. What certifications do you hold? Check all that apply.

- N/A
- Certified Management Accountant
- Certified Fraud Examiner
- Certified Internal Auditor
- Certified Information Systems Auditor
- Certified Government Financial Manager
- Certified Financial Planner
- Other (please specify)

18. What best describes your place of employment?

- Public accounting-regional or local firm
- Public accounting-national or global firm
- Business/industry
- Government
- Education
- Not presently employed
- Other (please specify)

19. How many people are employed at your company?

- Less than 20
- 21 to 100
- 101 to 1,000
- over 1,000
- N/A

20. What is your title (position) at your current job?

- Partner
- Manager
- Senior (in-charge) Accountant
- Staff Accountant
- Chief Financial Officer
- Controller
- Teacher/Professor
- N/A
- Other (please specify)

21. How many years have you been at this job?

- 0 to 5
- 6 to 10
- 11 to 15
- 16 to 20
- over 21
- N/A

22. What is your age?

- 18 to 25
- 26 to 35
- 36 to 45
- 46 to 55
- 56 to 65
- Over 65

Thank you!

Thank you! You have completed the survey. Please know your participation is greatly appreciated.

If you are interested in registering to win one of ten \$50 gift cards to Amazon (winners to be chosen at random), please click the [link](#) here to enter your contact details. Your name will not be associated with the answers you've provided. All information will be kept confidential.

Register to win gift card and (or) copy of results of research

1. Please enter your email address if you are interested in being registered to win one of ten \$50 Amazon gift cards (winners to be chosen at random).

2. Are you interested in receiving a report of the final results of this research project? If so, please include your email address in the box below.

APPENDIX C – Communication to Member of the Mississippi Society of CPAs

Initial Request for Participation

Dear Fellow CPA:

As an accounting educator at Delta State University and a practicing CPA in public accounting in Greenville, I am asking you to complete a survey to determine the knowledge and skills that are required of accounting graduates in the workforce. Your input is very important for our profession! This survey is part of the research for my dissertation in the Department of Human Capital Development at The University of Southern Mississippi. I would greatly appreciate you contributing to this research by completing the survey. Please take approximately 10 to 15 minutes to complete the survey by clicking following link: [Survey Link](https://www.surveymonkey.com/r/GFBMXLG) or copy and paste the URL in your browser <https://www.surveymonkey.com/r/GFBMXLG> The survey will be available now until July 14, 2017.

If you are interested in registering to win one of ten \$50 gift cards to Amazon, you will be asked to provide your email address once you have completed the survey. Winners will be chosen at random. If you are interested in a summary of the results, you will be asked to provide your email address. Your email address will not be associated with your answers, and your email address will remain confidential.

The information gathered from this survey is strictly for research purposes. Your responses will remain confidential and will only be reported in the aggregate. These results will be published in scholarly and professional journals. If you have any questions or comments, please feel free to contact me at lisa.sandifer@usm.edu

Thank you for your time and participation in this study.

Sincerely,

Lisa Sandifer
Certified Public Accountant
Instructor of Accountancy, Delta State University
Doctoral Candidate, The University of Southern Mississippi

Survey Reminder Email

Dear Fellow CPA:

Approximately one week ago, you were sent a survey, “Knowledge and Skills Required of Accounting Graduates.” The survey is available now until July 14, 2017. If you have already responded, thank you very much. If you have not, please take approximately 10 to 15 minutes to respond. Your input is very valuable in developing our profession. I would greatly appreciate you contributing to this research. To access the survey please click the following link [Survey Link](https://www.surveymonkey.com/r/GFBMXLG) or copy and paste the URL in your browser <https://www.surveymonkey.com/r/GFBMXLG>

If you are interested in registering to win one of ten \$50 gift cards to Amazon, you will be asked to provide your email address at the end of the survey. If you are interested in a summary of the results, you will be asked to provide your email. Your email address will not be associated with your answers, and your email address will remain confidential.

The information gathered from this survey is strictly for research. Your responses will remain confidential and results will only be reported in the aggregate. If you have any questions or comments please feel free to contact me at lisa.sandifer@usm.edu

Thank you for your time and participation in this study.

Sincerely,

Lisa Sandifer
Certified Public Accountant
Instructor of Accountancy, Delta State University
Doctoral Candidate, The University of Southern Mississippi

Email Correspondence to Participants Who Requested to Receive Copy of Results

Dear Fellow CPA:

Thank you so much for participating in the survey “Knowledge and Skills Required of Accounting Graduates.” Your time is valuable, and I greatly appreciate you taking to contribute to the profession by providing input through the survey. Attached please find a summary report of the results that you requested.

If you have any questions or comments, please do not hesitate to contact me.

Thanks again,

Lisa Sandifer, PhD
The University of Southern Mississippi
Certified Public Accountant

APPENDIX D – IRB Approval Letter



THE UNIVERSITY OF
SOUTHERN MISSISSIPPI

INSTITUTIONAL REVIEW BOARD

118 College Drive #5147 | Hattiesburg, MS 39406-0001

Phone: 601.266.5997 | Fax: 601.266.4377 | www.usm.edu/research/institutional.review.board

NOTICE OF COMMITTEE ACTION

The project has been reviewed by The University of Southern Mississippi Institutional Review Board in accordance with Federal Drug Administration regulations (21 CFR 26, 111), Department of Health and Human Services (45 CFR Part 46), and university guidelines to ensure adherence to the following criteria:

- The risks to subjects are minimized.
- The risks to subjects are reasonable in relation to the anticipated benefits.
- The selection of subjects is equitable.
- Informed consent is adequate and appropriately documented.
- Where appropriate, the research plan makes adequate provisions for monitoring the data collected to ensure the safety of the subjects.
- Where appropriate, there are adequate provisions to protect the privacy of subjects and to maintain the confidentiality of all data.
- Appropriate additional safeguards have been included to protect vulnerable subjects.
- Any unanticipated, serious, or continuing problems encountered regarding risks to subjects must be reported immediately, but not later than 10 days following the event. This should be reported to the IRB Office via the "Adverse Effect Report Form".
- If approved, the maximum period of approval is limited to twelve months.
Projects that exceed this period must submit an application for renewal or continuation.

PROTOCOL NUMBER: 17060804

PROJECT TITLE: Knowledge, Technical Skills, and Employability Skills Required of Accounting Graduates: Perceptions of Mississippi Certified Public Accountants

PROJECT TYPE: New Project

RESEARCHER(S): Lisa Sandifer

COLLEGE/DIVISION: College of Science and Technology

DEPARTMENT: Human Capital Development

FUNDING AGENCY/SPONSOR: N/A

IRB COMMITTEE ACTION: Expedited Review Approval

PERIOD OF APPROVAL: 06/09/2017 to 06/08/2018

Lawrence A. Hosman, Ph.D.

Institutional Review Board

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