

**VALUE OF ACCOUNTING PARAPROFESSIONAL CERTIFICATION AS A
HIRING SIGNAL**

by

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A Dissertation Presented in Partial Fulfillment

Of the Requirements for the Degree

Doctor of Philosophy

Capella University

September 2016

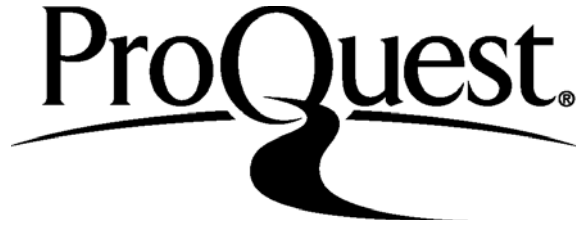
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Abstract

The value of voluntary certification involves the perception of certification by both the hiring manager and the certified employee. Several studies have focused on the value of certification from the employee's perspective; however, few have looked at certification through the lens of the hiring manager. The purpose of this quantitative, non-experimental study was to assess the correlation, if any, between hiring managers' self-reported value of accounting paraprofessional certification hiring signals (knowledge, commitment, practice standard and professional commitment) to hiring managers' self-reported view regarding certified candidates receiving a preferred hiring status (increases marketability). The Perceived Value of Certification Tool (PVCT©), which was originally developed for use in determining the perceived value of nursing certification by the Competency and Credentialing Institute (CCI) (Gaberson, Schroeter, Killen, & Valentine, 2003), was used to collect data for this research. Descriptive statistics of median, interquartile range, frequency, and percentage of agreement were completed for the value statements examined in this study. The non-parametric correlation of Spearman's rho was also utilized to identify the relationship between the four independent variables (knowledge, competence, practice standard and professional commitment) and marketability. Of the 95 Accounting Paraprofessional Hiring Manager respondents who completed the PVCT© survey, the findings of this study indicated a overall, moderate, positive correlation between the value statements of validates knowledge, indicates level of accounting competence, indicates attainment of practice standard and provides evidence of professional commitment to a preferred hiring status (increases marketability).

Dedication

I dedicate this dissertation to my late husband Forrest who wanted to be (and actually was) the first person to call me Dr. Cathy J. Scott. His incredible display of strength and courage during his life and illness has inspired me to move forward through times of adversity. I will forever be thankful that Forrest believed in me, supported my pursuit of education, recognized my passion for teaching, and always encouraged me to follow my dreams.

Acknowledgments

Your journey has molded you for your greater good, and it was exactly what it needed to be. Don't think you've lost time. There is no short-cutting to life. It took each and every situation you have encountered to bring you to the now. And now is right on time. (Tyson, 2016)

What an incredible journey it has been. The road has been longer than expected and there were numerous obstacles along the way; however, I have finally arrived at the final destination. I am not the same person as when I started. I have faced some overwhelming challenges, but as with any journey, I have also encountered some incredible opportunities. As I approach the end of this journey, I would like to thank and acknowledge the following people for their support and encouragement: First, Gale Tassell who has brought the light back into my life and who along with my children Erica Miller and Ryan Scott have shown never-ending patience, love and support. My long-time friend, Jim Kellogg for always being just a phone call away and adding levity to the journey. My brother-in-law and sister-in-law, Barry and Ruth Saxon, for seeing me through a few of the most challenging years of my life. Dr. John McHenry, MD, Dr. Matthew Moreland DO and Dr. Rachel Zent, MD, for their skillful and compassionate care. Dr. Jack Cox for encouraging me to pursue my PhD at Capella University and Dr. Harold Nolte who facilitated my transition into academics. Dr. Kenneth Martin, who has inspired me in so many ways since I entered academia and whose support has opened the door to some wonderful opportunities in the area of accounting education. A special thank you goes out to Markus Ahrens, Beth Allen, Steve Brazil, Dr. Donald Capone, Susan Crosson, Richard Davis, Floyd James, Dr.

Joseph LeVesque, Marie McLeieer, Tracie Miller-Nobles, Dr. Paul Phillips, Brad Richardson, James Teeter, Dr. Terry Silva, Dr. Suzann Spaniel, Dr. G. Peter Wilson, and Carolyn Wilson for their many words of encouragement. To my committee members: Dr. David Spaulding for sharing his vision of what it took to make it to the finish line, and Dr. Steven Tidwell, the ultimate cheerleader, who has a contagious, positive “can-do” attitude. Dr. Laura Hutt, my advisor, who always had a solution at hand, even in the darkest times, and last, but not least, Dr. Judith Forbes, who has been an incredible mentor and coach. I will be forever thankful for all of the support, advice and encouragement she has provided. Dr. Forbes has set an example as an educator that I will continue to model in my future academic career.

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CHAPTER 1. INTRODUCTION

Introduction to the Problem

The value of voluntary certification involves the perception of certification by both the hiring manager and the certified employee. The more hiring managers and employees recognize the value a particular certification, the more willing each will be to invest in the process (Wiley, 1995). Several studies have focused on the value of certification from the employee's perspective; however, few have looked at certification through the lens of the hiring manager. Regardless of an employee's perceived value of certification, hiring managers are the ones who controls the gateway to employment. Wiley (1995) proposed that certification's sought strictly to enhance one's image will not last. If hiring managers do not place value on a particular certification, eventually fewer people will participate in the certification process (Ellis, 2015; Gaberson et al., 2003); and over time, the certification's value will decrease (Wiley, 1995).

The study of certification from the hiring manager's perspective is still in its infancy and research in the field of accounting paraprofessional certification, from the hiring manager's viewpoint, is non-existent. Further examination is warranted regarding the value hiring managers' place on accounting paraprofessional certification as a signal for employment. This study sought to add to the existing body of general certification knowledge by exploring the hiring manager's perspective of certification for the field of accounting paraprofessionals. The focus of this study was to explore the correlation, if

any, between hiring managers' self-reported certification value statements that had previously been found to have a high percentage of employer agreement (Bekemeier, 2007; Byrne, Valentine, & Carter, 2004; Sechrist & Berlin, 2006). More specifically, the correlation between the following certification value statements was explored: (1) hiring managers' self-reported value of accounting paraprofessional certification as a hiring signal that validates the certified candidate's specialized knowledge, and hiring managers' self-reported opinion regarding preferred hiring status (increases marketability) for certified candidates, (2) hiring managers' self-reported value of accounting paraprofessional certification as a hiring signal that indicates the certified candidate's level of accounting competence, and hiring managers' self-reported opinion regarding preferred hiring status (increases marketability) for certified candidates, (3) hiring managers' self-reported value of accounting paraprofessional certification as a hiring signal that indicates the certified candidate's attainment of a practice standard, and hiring managers' self-reported opinion regarding preferred hiring status (increases marketability) for certified candidates, and (4) hiring managers' self-reported value of accounting paraprofessional certification as a hiring signal that indicates the certified candidate's level of professional commitment, and hiring managers' self-reported opinion regarding preferred hiring status (increases marketability) for certified candidates.

The relevance of this study to the field of organization and management includes all those involved in the certification value chain. The certification value chain includes: (1) hiring managers of accounting paraprofessionals, (2) prospective certification candidates, (3) certified employees, (4) certifying agencies, (5) academic institutions, (6) hiring managers in other fields, and (7) future researchers. Future voluntary

certification studies, both within and outside of the field of accounting paraprofessionals, may find the results of this research useful to further explore certification as a way to recruit the best talent (Compton, 2000; Gaberson et al., 2003; Phillips, 2004; Wiley, 1995).

Background of the Study

Over the years, many professional accountants have earned certifications as either a requirement for gaining access to employment or in the case of voluntary certification, as a way to increase his or her employability and earning potential (Hutchinson & Fleischman, 2003). For example, the designation CPA (Certified Public Accountant) is a form of mandatory, professional certification. The CPA designation is also known as licensure, and is regulated at the state level, by a governing board. Obtaining the CPA credential is a requirement for gaining professional access to employment in the field of public accounting, within the jurisdiction of the issuing state (American Institute of Certified Public Accountants, 2016).

The field of accounting also offers various voluntary certifications. Examples of voluntary certifications available for individuals working in professional accounting positions include, the Certified Management Accountants (CMA) (Institute of Management Accountants, 2015), the Certified Internal Auditor (CIA) (Institute of Internal Auditors, 2016), and the Certified Fraud Examiner (CFE) (Association of Fraud Examiners, 2016). Similarly, accounting paraprofessionals have access to voluntary certifications, such as the Bookkeeper Certification (National Bookkeepers Association, 2016a), Certified Bookkeeper (CB) (American Institute of Professional Bookkeepers,

2007), Fundamental Payroll Certification (American Payroll Association, 2015a), Certified Payroll Professional (American Payroll Association, 2015b), Payroll Certification (National Bookkeepers Association, 2016b), QuickBooks User Certification (Certiport, 2016a), QuickBooks Certification (National Bookkeepers Association, 2016c), QuickBooks Online Certification, (National Bookkeepers Association, 2016d), Tax Certification (National Bookkeepers Association, 2016e) and Microsoft Office Specialist Excel Certification (Certiport, 2016b). Other voluntary accounting certifications can be held by both professional and paraprofessional accounting personnel, including the Accredited Business Accountant/Advisor (ABA) (Accreditation Council for Accountancy and Taxation, 2016a), Accredited Tax Advisor (ATA) (Accreditation Council for Accountancy and Taxation, 2016b), and the Accredited Tax Preparer (ATP) (Accreditation Council for Accountancy and Taxation, 2016c). While there are many types of certifications in the field of accounting, this study focused on voluntary certifications involving accounting paraprofessionals.

In other occupational fields, (e.g., automotive mechanics, construction, human resource management, information technology, translation/interpretation, health information technicians, information security certification, nursing, records management, research administrators, strategic management) voluntary certification is a way for applicants to demonstrate to hiring managers that their skills and knowledge meet expected standards. Certification helps to differentiate prospective candidates from each other (Serbin & Jensen, 2013). Voluntary certification is a way for individuals to: (1) increase creditability within their current organizations; (2) increase creditability with the public; and/or (3) improve prospective career advancement opportunities, including

earning potential (Bekemeier, 2007; Budin, Krajcso, & Lommel, 2013; Cary, 2001; Chan, 2013; Ellis, 2015; Gaberson et al., 2003; Gleghorn & Gordon, 2012; Phillips, 2004; Roberts, 2005; Rogers, T. J., 2014; Wierschem, Zhang, & Johnston, 2010; Wiley, 1995). At times, employers may even require certain types of certification, as a condition of employment. For the purpose of this study, employer required certifications are considered involuntary certification. The term certification is a reference to voluntary certification unless otherwise explicitly stated.

Certified individuals' perceived value of a particular certification is important, but ultimately the true value of certification depends on the hiring manager having the same perception. Since hiring managers are the gatekeepers to employment, it is important that the hiring manager's, the certified employee's and the certifying agency's perception of certification aligns. Certifications pursued strictly to enhance an employee's image are unsustainable (Wiley, 1995). If hiring managers do not value a particular certification, fewer individuals will seek the certification (Ellis, 2015; Gaberson et al., 2003) and over time, the certification will lose value (Wiley, 1995). Ultimately hiring managers' perception toward the value of certification is a vital component to the success of any certification program.

In today's uncertain and competitive environment, more and more organizations are using accounting paraprofessionals as part of their organizational strategies. In particular, public accounting firms are using accounting paraprofessionals to help ease the shortage of professional accountants and to reduce costs of completing routine activities (Compton, 1980, 2000). Because many accounting paraprofessionals have limited formal education or training in the field (U. S. Department of Labor, Bureau of

Labor Statistics, 2013), and often learn what they know on-the-job, hiring managers need a method of determining technical knowledge and skills during the selection process. Hiring the most qualified individuals can help enhance a firm's human capital asset as well as complement the firm's strategic competitive advantage (Compton, 2000). Certification is one tool that provides objective evidence or a signal about a prospective employee's expertise (Bricker, 2015; McNeely, Shonka, Pardee, & Nicol, 2015; Phillips, 2004; Serbin & Jensen, 2013).

Statement of the Problem

The value of accounting paraprofessional certification from the perception of hiring managers is unknown. Only limited research exists in other fields regarding the value of employee certification from the employer's perspective (Wierschem al.et., 2010). The mixed conclusions available to date have provided less than convincing evidence that voluntary employee certification holds any significant value to hiring managers (DeNisi, 2012; Garza & Morgeson, 2012; Gleghorn & Gordon, 2012; Hsu & Yancey, 2015; McNeely et al., 2015). Therefore, this study looked at the value of accounting paraprofessional certification from the hiring manager's perspective, using a scholarly lens.

Currently, research regarding the accounting paraprofessional field of study is limited (Compton, 1980, 2000). Consequently, the lack of research in this field of study explains why a theoretical gap in knowledge exists. Considering the expected 15% growth in demand for accounting paraprofessionals through the year 2020 (U. S. Department of Labor, Bureau of Labor Statistics, 2013), and the fact that CPA firms, in

particular, continue to hire paraprofessionals to do entry-level, routine tasks as part of their human capital competitive strategies (e.g., reducing costs and filling the shortage of professional entry-level accountants); hiring the most qualified accounting paraprofessional is important to employers (Compton, 2000). The perceived value of accounting paraprofessional certification, through the lens of hiring manager – the gatekeepers to employment – is important to all the stakeholders in the certification process. Prospective certification candidates, certified employees, certifying agencies, academia, hiring managers of accounting paraprofessionals, future researchers and competing organizations can all benefit from a better understanding of how hiring managers' perception of accounting paraprofessional certification translates into a preferred hiring status (increases marketability) for certified candidates (Wierschem et al., 2010).

Certification is typically a financial investment for the employee and requires a high level of personal commitment to the process (Hsu & Yancey, 2015; McNeely et al., 2015). It is important for the potential certification candidate to understand if the investment and efforts involved in pursuing certification is worthwhile. From an employer's perspective, hiring certified employees can be a potential competitive advantage when this human capital investment is valued and leveraged appropriately (Wiley, 1995). Understanding the extrinsic value of accounting paraprofessional certification, in terms of marketability through the lens of the hiring manager, can help the potential certified candidate recognize the possible return on investment upon completing the certification process. Additionally, hiring managers can gain further

insight into how certification may be a signal to identify the most qualified candidates (Bricker, 2015; Karasek & Bryant, 2012).

Spence (1973) suggested that hiring managers have a variety of factors or signals they can use when making hiring decisions. Hiring managers cannot truly distinguish between a qualified or unqualified applicant during the hiring process and must rely on other available and observable personal “characteristics and attributes” (Spence, 1973, p. 357). To avoid hiring the wrong individual for the job, hiring managers can use signals as part of the hiring process (Albrecht & Van Ours, 2006; Bartlett, 2012; Bricker, 2015; Karasek & Bryant, 2012; Serbin & Jensen, 2013; Spence, 1973).

Prior research has discussed several hiring signals, including education, experience, personal characteristics and a variety of other recognizable factors (Spence, 1973). Certification as a hiring signal, while not specifically addressed by Spence (1973), was discussed in more recent literature as a reliable signal that hiring managers can use to identify a job candidate’s degree of knowledge, competency, attainment of prescribed standards and/or professional commitment (Bartlett, 2012; Bricke, 2015; Cary, 2001; Cegielski, Rebman, & Reithel, 2003; Fertig, 2011; Hutchinson & Fleischman, 2003; Lester, Fertig, & Dwyer, 2011; Phillips, 2004; Wiley, 1995). Fertig (2011) discussed in detail how certification indicates if job candidates possess the preferred job knowledge and skills required for a position.

Certification research to date has been heavily focused on the certified candidate’s perception of certification from an intrinsic or personal view (e.g., professional growth, job satisfaction, personal satisfaction, and perceived recognition) (Bekemeier, 2007; Bruce & Sauer, 2008; Byrne et al., 2004; Ellis, 2015; Fox, 2010; Gaberson et al., 2003;

Messmer, Hill-Rodriguez, Williams, Ernst, & Tahmooressi, 2011; Niebuhr & Biel, 2007; Richardson, 2015; Sechrist, Valentine, & Berlin, 2006). Certification has also been examined from the viewpoint of job skills and education (Wierschem et al., 2010). While existing research provides limited insight into the value of certification from an employee's perspective; it lacks empirical evidence to support the value hiring managers' place on certification (Bekemeier, 2007; Byrne et al., 2004; Sechrist et al., 2006; Wiley, 1995). Additionally, little evidence exists to support the value, hiring managers' may place on certification in relationship to a preferred hiring status (e.g., increased marketability) or higher wages for the certified candidate. Consequently, individuals may be seeking or obtaining certification(s) that have little extrinsic value (e.g., preferred hiring status, higher wages) (Lengnick-Hall & Aguinis, 2012).

On the surface, certification appears to be a useful screening tool that hiring managers can use during the hiring process because it: (1) defines a minimum set of knowledge and skills that the certified candidate can demonstrate he or she has obtained, and (2) is thought to increase the probability that the hiring manager will make a good investment by selecting the best employee for the job (Wiley, 1995). Jarrar (2002) proposed it is important for hiring managers to "recruit the best people" (p. 327). Some hiring managers mistakenly believe this means they can hire top talent based on intuition (Lodato, Highhouse, & Brooks, 2011). "Intuition-based" hiring (Lodato et al., 2011, p. 360) is limited by the hiring manager's judgement; therefore, hiring managers need a more concrete way to identify the most qualified candidates. Certification is a way for hiring managers to validate an employee's expertise (Bricker, 2015; Knapp & Naughton,

2010), and it can mean more employment marketability and higher earning potential for the certified candidate (Coe & Delaney, 2008; Hutchinson & Fleischman, 2003).

Touted by certifying organizations as a way for individuals to demonstrate their knowledge and skills to potential employers; certification can also create more opportunities for advancement on the job (Coppage, Lockard, & French, 2012). From an organizational viewpoint, some certification studies have suggested that certification functions as an independent validation system regarding the knowledge and skills the employee brings to the organization. This validation in turn can act as a signal to hiring managers who desire hiring the best talent (Compton, 2000; Gaberson et al., 2003; Jarrar, 2002; Knapp & Naughton, 2010; Phillips, 2004; Wiley, 1995) as well as identify candidates for future advancement opportunities (Coppage et al., 2012; Gleghorn & Gordon, 2012).

Certification is thought to imply that certified candidates are competent in their fields; therefore, certification should be a reliable signal of competency to employers (Fertig, 2011). However, the role of certification as a hiring signal to date is still not clear. Evidence exists that certification “plays a role in the hiring decision” with regard to signaling “technical competence” (Wierschem et al., 2010, p. 92). The exact role involved and whether this role applies across disciplines is uncertain. Some studies have proposed that an individual’s competence should reflect skills required for the job and the certified candidate’s experience (Gilley & Galbraith, 1986). Identifying certification as a signal of competence would indicate the certified candidate adheres to “professional standards” (Hutchinson & Fleischman, 2003, p. 48). In the nursing profession, Williams and Counts (2013) tout certification as a “pathway to excellence” (p. 207); however, their

philosophy may not cross over to other fields of study or professions. The value of certification appears to involve, in part, the worth each hiring manager places on the credential; although, more empirical evidence is needed (Wiley, 1995).

Besides earning certifications, certified candidates also need to maintain their credentials. Maintaining certifications can require that certified employees complete some type of continuing education. Employees who regularly update their skills by completing the continuing education requirements of certification send an on-going signal to their employers, or future employers, that the certified candidate's human capital assets are up-to-date (Davenport, 2006). A perception exists that certified individuals, who maintain their credentials through continuing education activities, have a higher level of professional commitment (Davenport, 2006; Fertig, 2011; Hsu & Yancey, 2015). Professional commitment or "occupational commitment" as described by Fertig (2011, p. 120) is one of the positive signaling aspect associated with certification. Fertig (2011) recommended further exploration of the relationship between professional commitment and certification in future research.

Organizations who hire certified candidates, in order to capitalize on the candidate's increased level of commitment, may do so as a way to achieve a long-term, competitive advantage (Davenport, 2006). Understanding the correlation between hiring managers' perception regarding certification as a signal of the certified candidate's professional commitment and a hiring manager's perception toward an increased

marketability for the candidate, may provide initial insight into the role certification can have toward identifying prospective employees who can support the firm's long-term, competitive strategy (Coppage et al., 2012).

Purpose of the Study

The purpose of this quantitative, non-experimental, exploratory study was to assess the correlation, if any, between hiring managers' self-reported value of accounting paraprofessional certification hiring signals, and hiring managers' self-reported view regarding certified candidates receiving a preferred hiring status (increases marketability). More specifically, this study explored the correlation between four specific hiring signals identified in prior research: (1) knowledge, (2) competence, (3) practice standard, and (4) professional commitment, to hiring managers' self-reported view regarding certified candidates receiving a preferred hiring status (increases marketability) (Coe & Delaney, 2008; Compton, 2000; Coppage et al., 2012; Davenport, 2006; Fertig, 2011; Gaberson et al., 2003; Gilly & Galbraith 1986; Hutchinson & Fleischman, 2003; Phillips, 2004; Roberts, 2005; Wiley, 1995; Wierschem et al., 2010).

Considering the expected growth in demand for accounting paraprofessionals through the year 2020 (U.S. Department of Labor, Bureau of Labor Statistics, 2013) and the fact that organizations, in particular CPA firms, continue to hire paraprofessionals to do entry-level, routine tasks as part of their human capital competitive strategies; hiring the most qualified accounting paraprofessional is important to employers (Compton, 2000). The study of certification from the hiring manager's perspective is still in its infancy and no known research exists in the field of accounting paraprofessionals.

Further examination regarding the value of accounting paraprofessional certification from the hiring manager's perspective was needed

The results of this study added to the general body of certification knowledge in order to provide further clarification about the value of voluntary certification as a hiring signal in correlation to a preferred hiring status (increases marketability). This study added to the general body of certification knowledge, as well as the accounting paraprofessional field of study, regarding hiring managers' view of certification as a (1) indicator that validates specialized knowledge; (2) indicator of a level of accounting competence; (3) indicator of an attainment of a practice standard; and/or (4) evidence of professional commitment; in correlation to hiring managers' willingness to provide certified candidates a preferred hiring status (increases marketability).

Rationale

The rationale for this study was based on this researcher's desire to narrow the theoretical gap in knowledge about hiring managers' perceived value of accounting paraprofessional certification, in particular the correlation, if any, between hiring managers' self-reported value of accounting paraprofessional certification hiring signals identified in prior research: (1) knowledge, (2) competence, (3) practice standard (Coe & Delaney, 2008; Compton, 2000; Coppage et al., 2012; Davenport, 2006; Fertig, 2011; Gaberson et al., 2003; Gilly & Galbraith 1986; Hutchinson & Fleischman, 2003; Phillips, 2004; Roberts, 2005; Wiley, 1995; Wierschem et al., 2010). Numerous certification theories presented in past research appeared logical, but lacked consistent, empirical evidence to support if the value of certification from the hiring manager's perspective

actually existed (Bekemeier, 2007; Byrne et al., 2004; Lengnick-Hall & Aguinis, 2012; Lester et al., 2011; Roberts, 2005; Sechrist et al., 2006; Wierschem et al., 2010). No scholarly research regarding the value of accounting paraprofessional certification from the hiring manager's viewpoint existed, which is problematic considering the expected growth in this occupation's demand through the year 2020 (U.S. Department of Labor, Bureau of Labor Statistics, 2013). Therefore, future examination of accounting paraprofessional certification from the hiring manager's perspective was warranted. Furthermore, given the fact that the hiring managers are the gatekeepers to employment, the value these managers place on certification can affect the entire accounting paraprofessional, value chain.

Research Questions

Primary Research Question: What is the correlation, if any, between hiring managers' self-reported value of key accounting paraprofessional certification hiring signals (knowledge, competence, practice standard, professional commitment), and hiring managers' self-reported opinion toward a preferred hiring status (increases marketability) for certified candidates?

Sub-Q1: What is the correlation, if any, between hiring managers' self-reported value of accounting paraprofessional certification as a hiring signal, that validates the certified candidates' specialized knowledge, and hiring managers' self-reported opinion toward a preferred hiring status (increases marketability) for certified candidates?

Sub-Q2: What is the correlation, if any, between hiring managers' self-reported value of accounting paraprofessional certification as a hiring signal that indicates the certified candidates' level of accounting competence, and hiring managers' self-reported opinion toward preferred hiring status (increases marketability) for certified candidates?

Sub-Q3: What is the correlation, if any, between hiring managers' self-reported value of accounting paraprofessional certification as a hiring signal, that indicates the certified candidates' attainment of a practice standard, and hiring managers' self-reported opinion toward preferred hiring status (increases marketability) for certified candidates?

Sub-Q4: What is the correlation, if any, between hiring managers' self-reported value of accounting paraprofessional certification as a hiring signal, that provides evidence of the certified candidates' professional commitment, and hiring managers' self-reported opinion toward preferred hiring status (increases marketability) for certified candidates?

Significance of the Study

This study was deemed significant as it sought to add to the existing body of certification knowledge by identifying the correlation of certification hiring signals to a preferred hiring status from yet another field of study (i.e., accounting paraprofessionals). The research was also relevant to the field of organization and management, as the results may have a future impact on an organization's strategic planning with regard to the human capital recruited, promoted, invested in and retained (Albrecht & Van Ours, 2006; Coppage et al., 2012; Fertig, 2011; Gleghorn & Gordon, 2012; Hollenbeck & Jamieson, 2015; Jarrar, 2002; Knapp & Naughton, 2010; Wiley, 1995). This study also provided

various certification stakeholders an enhanced awareness about hiring managers' perceptions regarding accounting paraprofessional certification, as hiring managers are the gatekeepers to employment and the value they place on this type of certification could affect the entire accounting paraprofessional value chain. Wilkens (2013) found that individual attitudes toward certification were highly influential when it came to students pursuing certification; therefore, hiring managers' attitudes toward certification could similarly have some type of influence over the hiring process.

The immediate practical applications of this study involve those who hire accounting paraprofessionals, existing and future certifying bodies, employers in other fields, and future researchers who may want to use this study's results to further explore certification as a way for organizations to recruit the best talent (Compton, 2000; Gaberson et al., 2003; Phillips, 2004; Wiley, 1995). Gramling & Myers (1997) proposed that examining various voluntary certification programs provides an enhanced understanding, in general, about the factors behind why individuals pursue and obtain certification(s). Whetten (as cited in Fertig, 2011, p. 123) concurred, stating researchers should take a broader view during the study of certification by examining results across various types of certifications.

This study found a correlation between hiring managers' value of the accounting paraprofessional certification hiring signals of knowledge, competence, practice standard and professional commitment compared to a preferred hiring status (increases marketability). Therefore, the results of this study provided a valuable foundation for future research to view accounting paraprofessionals through a more specialized,

professional lens. Compton (1980) suggested that qualified, competent paraprofessionals provide the best support for the professional accounting staff and the organization.

Definition of Terms

Accounting Paraprofessional. According to Merriam-Webster (Paraprofessional, 2015), a paraprofessional is a “trained aide who assists a professional person”. An accounting paraprofessional is an individual with some training in accounting (e.g., formal, informal), who performs routine accounting tasks under the supervision of a professional accountant or employer. Accounting paraprofessionals are often referred to as bookkeepers or accounting clerks (Compton, 1980; Compton, 2000).

Accredited Business Accountant/Advisor (ABA). A voluntary professional accounting credential that demonstrates proficiency in financial and managerial accounting, reporting, financial statement preparation, taxation, business law and ethics. This credential focuses on individuals who work with small-to-medium-sized organization. (Accreditation Council for Accountancy and Taxation, 2016a).

Accredited Tax Advisor (ATA). A voluntary professional accounting tax credential for practitioners who are involved in complex tax planning activities (e.g., planning, consulting, preparation). (Accreditation Council for Accountancy and Taxation, 2016b).

Accredited Tax Preparer (ATP). A voluntary credential for tax preparers. (Accreditation Council for Accountancy and Taxation, 2016c).

Bookkeeper Certification. A voluntary accounting paraprofessional certification that validates knowledge and skills utilized by bookkeepers. Individuals earn this type of certification by passing a standardized exam. (National Bookkeepers Association, 2016a).

Certified Management Accountant (CMA). A voluntary professional credential for accounting professionals who work in industry. (Institute of Management Accountants, 2015).

Certified Public Accountant (CPA). A professional accountant licensed by a state board to practice public accounting (American Institute of Certified Public Accountants, 2016).

Certification. The term certification can hold a wide variety of meanings. For the purpose of this study, certification refers to a voluntary process of obtaining recognition from a third-party organization that verifies individual competencies (e.g., knowledge, skills, ability) to perform a specific job according to predetermined industry standards (Ewert & Kominski, 2014; Wiley, 1995).

Certified Candidate. For the purpose of this study, a certified candidate is an individual who holds a voluntary certification, rather than licensure or involuntary certification (e.g., certification mandated for employment).

Certified Fraud Examiner (CFE). A voluntary certification for anti-fraud professionals. (Association of Certified Fraud Examiners, 2016).

Certified Internal Auditor (CIA). A voluntary professional certification for internal auditors in the field of accounting. (Institute of Internal Auditors, 2016).

Certified Payroll Professional (CPP). A certification for entry-level payroll service and support personnel, with basic payroll knowledge. Work experience is not a requirement for this certification. (American Payroll Association, 2015).

Chartered Global Management Accountant (CGMA). A voluntary professional, global accounting designation for management accountants. (American Institute of Certified Public Accountants, 2016).

Competence. For the purpose of this study, competence is defined as a combination of intelligence, knowledge and skills at a high level of proficiency (Bekemeier, 2007; Byrne et al., 2004; Cary, 2001; Gaberson et al., 2003; Messmer et al., 2011; Niebuhr & Biel, 2007; Sechrist & Berlin, 2006; Sechrist et al., 2006). In this study the term competence refers to a high level of proficiency for these combined attributes in the area of accounting. Hiring managers' responses to PVCT© Value Statement 2 (indicates level of accounting competence) was used to measure this variable.

Education. For the purpose of this study, education means formal accounting training in high school, at an institution of higher education or at a technical or trade school. On-the-job training did not include education in this study. On-the-job training mean experience.

Employer. For the purpose of this study, the definition of employer is an individual or entity that employs people to perform work.

Experience. For the purpose of this study, experience means employment in an accounting paraprofessional role within an organization or on-the job training in the workplace.

Fundamental Payroll Certification (FPC). A voluntary, entry-level certification for payroll personnel. This credential requires recertification every three years. (American Payroll Association, 2015a).

Hiring Manager. For the purpose of this study, hiring manager means an individual who currently is or previously has been involved in the hiring accounting paraprofessionals.

Hiring Signals. Hiring signals refer to education, experience, personal characteristics and a variety of other observable factors, which hiring managers can use as part of the hiring decision-making process (Albrecht & Van Ours, 2006; Spence, 1973). For the purpose of this study, certification means a hiring signal.

Human Capital. For the purpose of this study, human capital means the combination of abilities, knowledge, and skills held by the individual employee (Litschka, Markom & Schunder, 2006).

Involuntary Certification. For the purpose of this study, involuntary certification refers to an employer mandated process of obtaining recognition from a third-party organization that verifies individual competencies (e.g., knowledge, skills) according to predetermined industry standards (Wiley, 1995).

Knowledge. In this study, knowledge means “an understanding of principles, facts and processes” (Polyhart, Van Iddekinge, Mackenzie & William, 2011, p. 134). Knowledge involves what a person knows. Hiring managers’ response to PVCT© Value Statement 1 (validates specialized knowledge) was used to measure this variable

Licensure. For the purpose of this study, licensure refers to a mandatory process of obtaining recognition from a third-party organization that verifies individual competencies (e.g., knowledge, skills) according to predetermined industry standards. Licensure is required for individuals to work in their professions (Ewert & Kominski, 2014; Lengnick-Hall & Aguinis, 2011; Wiley, 1995).

Marketability. Marketability means, “wanted by purchasers or employers” (Marketability, 2015). For the purpose of this study, marketability means preferred hiring status or increases employability for certified candidates (Hutchinson & Fleischman, 2003; Lengnick-Hall & Aguinis, 2012). Hiring managers’ responses to PVCT© Value Statement 17 (increases marketability) was used to measure this variable.

Microsoft Office Specialist (MOS). For the purpose of this study, MOS refers to accounting paraprofessionals who pursue the MOS Excel® (Basic, Expert or Master) certification(s) (Certiport, 2016b).

Payroll Certification. A voluntary paraprofessional certification that demonstrates knowledge and skills in the area of payroll. (National Bookkeepers Association, 2016d).

Perception. According to Merriam-Webster (Perception, 2015), the term perception means, “the way you think about or understand someone or something”. For the purpose of this study, the term perception refers to hiring managers’ self-reported views or opinions (Bekemeier, 2007; Byrne et al., 2004; Cary, 2001; Gaberson et al., 2003; Messmer et al., 2011; Niebuhr & Biel, 2007; Sechrist & Berlin, 2006; Sechrist et al., 2006).

Practice Standard. Merriam-Webster (Standard, 2015) defines standard as a “level of quality, achievement that is considered acceptable or desirable”. For the purpose of this study, practice standard indicates a level of achievement that is “acceptable or desirable” for the accounting paraprofessional occupation (Compton, 1980; Compton, 2000). Hiring managers’ responses to PVCT© Value Statement 3 (indicates attainment of a practice standard) was used to measure this variable.

Professional Commitment. For the purpose of this study, professional commitment indicates a level of occupational dedication through continuous learning activities as sanctioned by the certifying agency (Davenport, 2006). Hiring managers’ responses to PVCT© Value Statement 15 (provides evidence of professional commitment) was used to measure this variable.

QuickBooks User Certification. A voluntary paraprofessional certification, awarded by Certiport®, which demonstrates knowledge and skills regarding QuickBooks software and accounting to employers (Certiport, 2016a).

QuickBooks Certification. A voluntary paraprofessional certification, awarded by the National Bookkeepers Association that demonstrates knowledge and skills regarding QuickBooks Desktop and accounting to employers. (National Bookkeepers Association, 2016c)

QuickBooks Online Certification. A voluntary paraprofessional certification, awarded by the National Bookkeepers Association that demonstrates knowledge and skills regarding QuickBooks Online and accounting to employers (National Bookkeepers Association, 2016b).

Signal (Signaling). For the purpose of this study, signal or signaling refers to indicators hiring managers' rely on to evaluate a potential candidate's knowledge and skills during the hiring process (Albrecht & Van Ours, 2006; Spence, 1973).

Skills. For the purpose of this study, skills are defined as activities or tasks learned through either education or experience (Polyhart et al., 2011). Skills mean the activities or tasks used by a person to perform a job.

Tax Certification. A voluntary, paraprofessional certification that demonstrates tax knowledge and skills to employers (National Bookkeepers Association, 2016e).

Assumptions and Limitations

Theoretical Assumptions

Prior certification research provided the theoretical framework for the key hiring signals associated with certification in this study (Bekemeier, 2007; Byrne et al., 2004; Fertig, 2011; Fox, 2010; Gaberson et al., 2003; Messmer et al., 2011; Niebuhr & Biel, 2007; Sechrist & Berlin, 2006; Sechrist et al., 2006). The key hiring signals of knowledge, competence, practice standard, and professional commitment were identified in prior certification research and supported by the percentage of employer agreement in two particular studies (Bekemeier, 2007; Sechrist et al., 2006). This study sought to determine the correlation, if any, between hiring managers' value of these key certification hiring signals (knowledge, competence, practice standard, professional commitment), and a preferred hiring status (increases marketability) within the accounting paraprofessional certification field of study (Bekemeier, 2007; Byrne et al., 2004; Sechrist & Berlin, 2006; Sechrist et al., 2006).

Topical Assumptions

In this study, it was assumed that the perceived value of certification for accounting paraprofessionals would be similar to the perceived value of voluntary nursing certifications found in previous research (Bekemeier, 2007; Sechrist et al., 2006). The field of nursing, like accounting, involves certification in both licensure and voluntary formats. Licensure is different from voluntary certification for both of these fields of study in a similar manner. Licensure is awarded in the fields of public accounting and nursing after applicants meet certain educational and experience requirements as well as pass a national exam (American Institute of Certified Public Accountants, 2016, Wiley, 1995; Williams & Counts, 2013). Licensure for both of these occupations is a requirement for employment. Voluntary certifications are also available for individuals in the field of public accounting and nursing. Individuals pursue these voluntary certifications in order to enhance one's career. They are not a requirement of employment (Lengnick-Hall & Aguinis, 2012; Lester et al., 2011; Wiley, 1995). It was further assumed that CPA hiring managers would understand the role of the accounting paraprofessional, including the required knowledge and skills for this occupation.

Limitations

One limitation of this study involved the knowledge that some hiring managers of accounting paraprofessionals would not hold the CPA designation and therefore, may not have the same perceptions as the participants selected for this study. Hiring managers of accounting paraprofessionals, who earned the CPA designation, may hold differing viewpoints from hiring managers who do not hold the CPA designation. This researcher

proposed that indicators and conclusions derived from this research would be useful as a foundation or comparison resource for future studies that may look at a broader group of accounting paraprofessional hiring managers, including non-CPAs. This researcher was further aware that a participant's personal certification(s), education, and experience could influence the respondent's perspective regarding the value of certification as a hiring signal during the survey process.

The focus of this study only involved the value of certification hiring signals as defined by the variables of knowledge, competence, practice standard, professional commitment in relationship to marketability. The researcher recognized that additional variables could influence the value of certification or marketability, which were not explored in this study. The results of additional research could be useful in the future to explore the value of other hiring factors as signals of employment and any correlation between those factors and marketability. Future researchers may also want to consider looking at how increased marketability might convert to higher wages.

A final limitation of the study involved the respondents' familiarity or lack of familiarity with various accounting paraprofessional certification(s). In an effort to reduce any effect respondents' lack of familiarity with accounting paraprofessional certification(s) had on the results of this research, professional accountants (CPA hiring managers), obviously familiar with the CPA professional accounting designation as a requirement of their jobs, were selected to participate in this study (Compton, 1980, 2000). While participants in this study may not have been fully aware of all the available accounting paraprofessional certifications, an assumption was made that CPA hiring managers would at least be aware of the difference between licensure (e.g., CPA) and

voluntary certification(s) within the field of accounting. This level of certification knowledge was deemed sufficient for this study.

Theoretical/Conceptual Framework

This study extensively reviewed prior research in the field of certification. Predominate theories discussed in prior certification research included the human capital theory (Anitha & Thenmozhi, 2011; Crook, Todd, Combs, Woehr, & Ketchen, 2011; Litschka et al., 2006; Polyhart et al., 2011; Ployhart & Moliterno, 2011; Yu-Shu, Yi-Pei, & Chu-Yang, 2009), the resource-based view (Barney, 1991, Hatch & Dyer, 2004, Wright, McMahan, & McWilliams, 1994) and the signaling theory (Albrecht & Van Ours, 2006; Fertig, 2011; Spence, 1973). While all of the theories hold relevancy in the study of certification, and are highlighted in this paper, the signaling theory provided the theoretical/conceptual framework for this research.

The human capital of the organization involves at a minimum knowledge, skills and abilities (KSA) (Litschka et al., 2006; Polyhart et al., 2011; Ployhart & Moliterno, 2011). It is important for hiring managers to recognize the intangible, human capital asset of future employees differs from other assets the organization may own. Unlike tangible assets such as buildings and equipment, businesses do not own employees. Employees are strictly a loaned resource. Employees are free to join an organization as desired or quit at will (Litschka et al., 2006, p. 168). With this in mind, hiring, managing and retaining the human capital of a firm can be challenging for management. Hiring the best candidate for the position becomes an important aspect of the future worth of the human capital asset (Compton, 2000; Gaberson et.al., 2003; Jarrar, 2002; Phillips, 2004;

Wiley, 1995). Crook et al. (2011) discussed how human capital value is not always equal, which hiring managers need to consider when making hiring decisions. Hiring managers also need to consider that the value of human capital can affect the organization's competitive advantage and long-term performance (Yu-Shu et al. 2009).

Certification is a signal hiring managers can use when screening job candidates (Fertig, 2011) as it is often difficult for these managers to distinguish between a qualified or unqualified applicant during the employment process (Spence, 1973). Certification is a tool that hiring managers can use to help differentiate one candidate from another (Serbin & Jensen, 2013). “Despite their extensive training and expertise in accounting, CPA’s face the same problem in hiring bookkeepers: They don’t really know what they are getting until the bookkeeper has been on the job for several scary months” (Sahlein, 2006, p.1). In an effort to avoid hiring the wrong individual for the job, hiring managers can use signals to facilitate employing the best candidates (Albrecht & Van Ours, 2006; Spence 1973). Signals can be a useful tool for hiring managers to employ when little else is known about an applicant, especially if an organization uses a more formal hiring channel (Albrecht & Van Ours, 2006). Fertig (2011) further noted that certification provides a signal to hiring managers, that prospective employees possess the preferred job knowledge and skills required for the position.

Clark and Martorell (2014) suggested human capital and signaling theories are closely related and as a result are often hard to distinguish from one another empirically. Using the example of education as both human capital and a hiring signal for employers, Clark and Martorell (2014) discussed how both theories could see a positive correlation

between education and wages. Therefore, when signaling theory is utilized in research, it is important to understand that elements of the human capital and signaling theory are intertwined.

This correlational study used quantitative survey methodology to collect data for the purpose of exploring the correlation, if any, between hiring managers' self-reported value of four accounting paraprofessional certification hiring signals, and hiring managers' self-reported opinion regarding a preferred hiring status (increases marketability) for certified candidates. More specifically, this study explored hiring managers' self-reported value of accounting paraprofessional certification involving four specific certification hiring signals: knowledge, competence, practice standard, and professional commitment in correlation to hiring managers' self-reported opinion that certification provides the certified candidate a preferred hiring status (increases marketability).

A survey design is commonly used to collect information from a population, and then the collected data is utilized to identify characteristics and relationships (Cooper & Schindler, 2006; Leedy & Ormrod, 2005; Swanson & Holton, 2005). The survey research design was deemed appropriate for this correlational study. An existing survey instrument, the Perceived Value of Certification Tool (PVCT©) previously utilized to examine the perceived value of certification in other fields of study, was used to collect data that measured the variables in this study.

The target population for this study was CPA hiring managers in the State of Texas, who were members of the Texas Society of Certified Public Accountants (TSCPA). CPA hiring managers can work in either public accounting or industry. For

the purpose of this study, hiring managers were defined as those individuals who currently hire or have previously hired accounting paraprofessionals. Through a stratified sampling technique, a working population was computer generated by TSCPA, which included individuals who hold the designation CPA for more than five years, were members of the Texas Society of Certified Public Accountants (TSCPA), and were employed in public accounting or industry. TSCPA identified 15,684 individuals meeting the above criteria out of a total membership population of approximately 27,000. TSCPA then conducted another computer-generated, random sample of the population that met the research criteria. The results of this sampling technique created a database of 1,498 individuals for this study.

Random sampling is an appropriate design for use with the PVCT© instrument (Competency & Credentialing Institute, 2015; Leedy & Ormrod, 2005). Leedy and Ormrod (2005) discussed many variances of random selection and this study utilized one of those variances, the stratified random sampling technique. This sampling technique was also previously used with similar certification studies (Sechrist & Berlin, 2006; Sechrist et al., 2006). The Competency & Credentialing Institute (CCI) (2015), who owns the PVCT© instrument and provided permission for its use in this study, indicated when random sampling is used with the PVCT© instrument, researchers should expect to experience a minimum level of sampling bias. This CCI's (2015) statement is supported in scholarly research, as no evidence of sampling bias has been identified in studies that used the PVCT© instrument (Bekemeier, 2007; Byrne et al., 2004; Fox, 2010; Gaberson, et al., 2003; Messmer et al., 2011; Niebuhr & Biel, 2007; Sechrist & Berlin, 2006; Sechrist et al., 2006).

A single survey approach, using the PVCT© instrument, was implemented with this study. A survey approach is appropriate for a study like this as it has: (1) been utilized in other certification studies regarding the perceived value of certification (Bekemeier, 2007; Byrne et al., 2004; Fertig, 2011; Fertig, 2009; Fox, 2010; Gaberson et al., 2003; Roberts, 2005; Sechrist et al., 2006), and (2) previously provided data to explore the correlation between intrinsic values of certification (knowledge, competence, practice standard and professional commitment), and the extrinsic value of certification regarding hiring managers' attitudes toward increases marketability for the certified job candidate. Figure 1 illustrates the theoretical/conceptual framework for the signaling theory used in this study. The key certification hiring signals (knowledge, competence, practice standard, professional commitment) were examined in this study from a hiring manager's perspective, in order to determine correlation between the signals and a preferred hiring status (increases marketability), both individually and collectively.

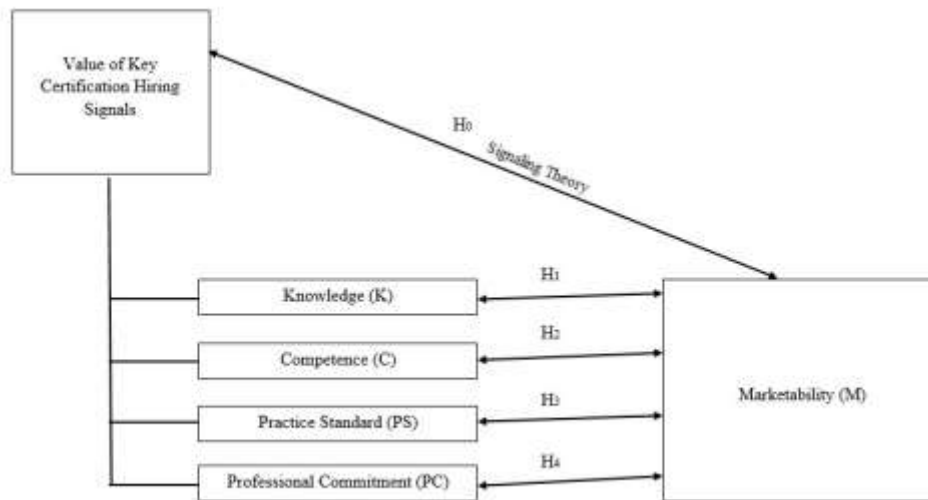


Figure 1. Theoretical/Conceptual Framework

Organization of the Remainder of the Study

The remainder of this study was organized in the following manner: (1) a literature review, (2) methodology, (3) results and discussion, (4) implications, and (5) recommendations for the future. The second chapter of this dissertation contained a literature review of the signaling theory as it applied to hiring signals available to employers. Prior literature involving the certification field of study was also discussed. The signaling theory examined in this study has been researched before as it applied to certification in a generalized manner. Signaling theory was applied to this study through the lens of the hiring manager. This study focused on how employee certification was valued by accounting paraprofessional hiring managers, as they search to employ the best talent who can help the organization achieve a competitive advantage. The third chapter of this dissertation discussed the research design, including this study's quantitative methodology. It also described the population and sample as well as the survey instrument, data collection process and analysis, the validity and reliability of the instrument and the ethical considerations of the study. After the research was concluded the fourth chapter, which discussed the data analysis process used in this study, was completed. Chapter 4 also presented the study's results. Data were collected using SurveyMonkey®, a web-based survey tool, then exported into Excel® and SPSS for statistical calculations and further analysis.

The final and fifth chapter of this dissertation elaborated on the results of this research as well as the study's limitations and proposed recommendations for the future. The findings from this study have added to the existing body of certification knowledge by identifying the value certain key certification hiring signals offer employers from yet

another field of study. This research identified the correlation between hiring managers' self-reported value of certification as a signal of a candidates specialized knowledge, accounting competence, attainment of practice standard and professional commitment, compared to hiring managers' views toward the certified candidates receiving a preferred hiring status (increased marketability).

CHAPTER 2. LITERATURE REVIEW

Introduction

Voluntary certification and the value it holds for employers as well as those who are certified is often difficult to assess (Wierschem et al., 2010). Various studies have investigated the value of certification from the employers' and employees' perspective; however, conclusions within the existing body of certification knowledge are still unclear. The purpose of this study was to narrow the gap in the existing body of general certification knowledge regarding hiring managers' perceived value of certification as well as explore hiring managers' perspective of certification in the accounting paraprofessional field of study. The focus of this study explored the correlation between hiring managers' self-reported responses to the certification value statements involving knowledge, competence, practice standard, and professional commitment, and a preferred hiring status (increases marketability). The value statements of validates specialized knowledge, indicates level of accounting competence, indicates attainment of a practice standard and provides evidence of professional commitment were found to be key hiring signals, based on a high percentage of employer agreement in previous research (Bekemeier, 2007; Byrne et al., 2004; Sechrist & Berlin, 2006; Sechrist et al, 2006).

In order to begin the research process, an extensive literature review was completed. The literature review was comprised of: (1) theories used in existing research

to understand the value of voluntary certification, (2) theories considered helpful toward adding to the existing body of certification knowledge (regarding the employers' perceived value of accounting paraprofessional certification as a hiring signal), and (3) existing research regarding other hiring factors (e.g., education, experience). This study helped position the concept of certification, as a hiring signal, into a better context. A review of the limited and dated accounting paraprofessional literature was completed in order to define the role of accounting paraprofessionals, understand the knowledge and skills required in this field of study and identify the stakeholders involved in the certification process. Since no scholarly research in the accounting paraprofessional certification theoretical body of knowledge existed, scholarly literature involving certification for other types of paraprofessional and professional occupations (i.e., non-accounting fields of study) were examined. This literature review involved: (1) an analysis of the signaling theory (as related to hiring signals), (2) examination of differences between certification and licensure, and (3) analysis of prior research regarding the role of certification, education and experience as hiring signals. The topic of accounting professional certification, along with the perceived benefits and disadvantages involved with this type of voluntary certification was addressed. Finally, the history and current perceptions surrounding the general value of certification was discussed, followed by an examination of the past and present roles of the accounting paraprofessional. A review of the various accounting paraprofessional certifications available today was also addressed.

Theoretical/Conceptual Framework

Signaling Theory

Employers consider a variety of factors when making hiring decisions. Spence (1973) proposed that employers are unable to distinguish between a qualified or unqualified applicant during the hiring process. Therefore, employers must rely on other available and observable indicators. Spence (1973) related the investment an employer makes when hiring a new employee to buying a lottery ticket. At the time of hiring, employers are not completely certain about the capabilities their new employee brings to the organization. Hiring managers are often unsure about the new hire's true value and organizational fit for a period-of-time. Sahlein (2006) concurred regarding the hiring of accounting paraprofessionals by stating, "Despite their extensive training and expertise in accounting, CPAs face the same problem in hiring bookkeepers: They don't really know what they are getting until the bookkeeper has been on the job for several scary months." (Sahlein, 2006, p. 1)

In an effort to avoid hiring the wrong person for a job, hiring managers can use signals as part of the personnel selection, decision-making process (Albrecht & Van Ours, 2006; Bartlett, 2012; Bricker, 2015; Karasek & Bryant, 2012; Serbin & Jensen, 2013; Spence, 1973). These hiring signals include education, experience, personal characteristics and a variety of other observable factors (Spence, 1973). While certification was not specifically addressed by Spence (1973), it has been referenced in scholarly literature as a signal employers can use to make informed hiring decisions

(Aguinis, Michaelis, & Jones, 2005; Lester, Mencl, Maranto, Bourne, & Keaveny, 2010; Lommel, 2013; Mikkelsen, 2013).

Signaling theory was the theoretical framework applied to this research. Specifically, the work of Spence, (1973) was the seminal foundation for this study. While signaling theory has been utilized to examine multiple fields of study, the research for this study focused on signaling theory as it applied to the hiring signals managers use during the employment process. In particular, the signaling theory was viewed through a lens that could be applied to voluntary certification in the accounting paraprofessional field of study.

There is a plethora of information regarding signaling theory across multiple fields of study. (e.g., anthropology, certification, corporate governance, economics, entrepreneurship, human resource management, management, psychology, and zoology to name a few) (Bangerter, Roulin, & Konig, 2012; Bartlett, 2004; Bergh, Connelly, Ketchen & Shannon, 2014; BliegeBird et al., 2005; Connelly, Certo, Ireland, & Reutzel, 2011; DeVaro & Waldman, 2012; Karasek & Bryant, 2012; Spence, 1973; Suazo, Martinez, & Sandoval, 2009). However, research regarding signaling theory as it applies to voluntary certification as a hiring signal is still limited, and certification as it applies to the accounting paraprofessional field of study is non-existent. Therefore, the literature review for this research focused on existing signaling theory, in other fields of study, as applicable to voluntary certification and the value hiring managers' place on certification as a signal that identifies the best applicant.

As previously discussed, the work of Spence (1973) was the seminal foundation for signaling theory behind this study. While Spence (1973) was not the first to use the concept of signaling in research, he did provide a theoretical framework to help future researchers examine the decisions employers make when hiring new employees, especially when hiring managers are faced with considering the uncertainty of an applicant's qualifications during the selection process (Bangerter et.al., 2012). Even though Spence (1973) approached the signaling theory from the mindset of an economist, his research is applicable to the field of organization and management, in particular the study of certification. The signaling theory as applied to certification research provides hiring managers with the context to use certification as a signal that identifies the most qualified applicants, especially when other characteristics and traits about candidate are unobservable (Aguinis et.al., 2005; Bangerter et.al., 2012).

The signaling theory, as it was applied to this study, referred to the process of identifying an applicant's qualifications and future value to the organization, by utilizing indicators or signals available to hiring managers during the employment process (Bartlett, 2004). Employers frequently do not have adequate information about potential applicants, and therefore, need additional methods or signals to identify the best talent (Bartlett, 2004; Compton, 2000; Gaberson et al., 2003; Spence, 1973). Over the years, the signaling theory has provided researchers with an alternative lens to examine hiring manager's selection preferences during the employment process (Bartlett, 2004). Spence (1973) proposed that signaling theory helps explain the effect of information asymmetry during the hiring process and allows participants to adapt their interactions in order to address these irregularities.

Bartlett (2004) suggested that hiring managers often have difficulty assessing the quality of applicants and look for various ways to reduce information asymmetries. Applicants attempt to set themselves apart from the candidate pool by obtaining signals that employers' value and can use to easily identify the applicant's competencies (Bartlett, 2004). Education and certification are both investments that job candidates can make to enhance themselves in an effort to provide prospective employers with hiring signals that reduce information asymmetries during the employment process. Bartlett (2004) proposed that both of these hiring signals (education and certification) are considered to be dependable, because they are thought to remove mismatched applicants from an organization's job candidate pool.

Ultimately, the goal of signaling theory is to reach a level of equilibrium. Equilibrium occurs when an applicant transmits a signal to the hiring manager and the hiring manager receives the signal as intended (Karasek & Bryant, 2012; Spence, 1973). Hiring managers benefit from achieving equilibrium during the hiring process, as this symmetry helps to prevent hiring errors. Hiring the wrong person for a position can be extremely costly (Albrecht & Van Ours, 2006; Sahlein, 2006). Sahlein (2006) explained how employers often are unaware of the new hire's actual value to the organization until long after the individual is employed. Therefore reaching equilibrium during the hiring process can help hiring managers avoid or reduce selection misalignment, which otherwise could have widespread consequences for the firm (Bangerter et.al., 2012). Eventually, Bergh, Connelly, Ketchen, & Shannon (2014) suggested that hiring managers benefit from using the predictive capabilities of signaling theory, when those signals result in the successful selection of new hires today, and are applied to new hires in the

future. For instance, if a hiring manager finds that certified workers meet the organization's expectations regarding productivity, then the quality of that certification, as a signal, is an enhanced predictor for future hiring activities. Bergh, Connelly, Ketchen, & Shannon (2014) extended signaling theory beyond the selection process (e.g., hiring signals to identify the best candidates) by stating, "using this information set, the firm offers a wage to the worker based on its belief" (p. 5).

While signaling theory explains the various indicators hiring managers can use to hire the best talent and fit for an organization; Spence (1973) cautioned that signals can be over used, which can cause the signal to become less effective. Signal over utilization happens when too many people invest in a particular signal, which in turn makes it difficult for a hiring manager to use that signal to distinguish one applicant from another. For instance, if everyone invests in the signal of education (e.g., obtaining an academic credential), then education, as a hiring signal, may lose its validity (Karasek & Bryant, 2012; Spence, 1973). Likewise, if participants invest in a particular certification in the same way, then the certification has the potential to lose its hiring signal validity as well. While over utilization of certification in an occupation can maintain a portion of the certifications' predictive nature (e.g. job candidate's knowledge, skills and abilities), the part of certification that hiring managers rely upon to distinguish one applicant from another, can become ineffective. In the certification field of study, certified individuals assume hiring managers will perceive the certification(s) they hold as an indicator of the applicant's knowledge, skills, and professional commitment. Therefore, if hiring managers and applicants do not perceive the certification signal in the same way, eventually fewer people will participate in the certification process (Ellis, 2015; Gaberson

et al., 2003) and over time the signal sent and received for that particular certification loses value (Wiley, 1995).

Certain hiring signals, such as education and experience are constantly evolving; therefore, hiring managers may consider using more than one signal during the hiring process. Spence (1973) also discussed unalterable signals (e.g., sex, gender, race) and recognized there may be others. While unalterable signals can distinguish one candidate from another, certain unalterable signals as such as sex, gender and race are not allowed in personnel selection activities. Since Spence (1973) indicated there may be other unalterable signals available, certification(s) that are reliable, verifiable and long-standing, may be unalterable signal(s) that hiring managers could use during the selection process.

Signaling theory and hiring signals. Today's organizations must be confident that new hires have the desired competencies and ability to contribute to the firm's strategic goals (Lester et al., 2010). The signaling theory provides a conceptual framework to recognize how certain observable factors (e.g., certifications, degrees, educational credentials, grade point average) are useful indicators that employers can utilize during the hiring process (Aguinis et.al., 2005). Hiring managers typically understand the importance of selecting the right person for the job; therefore, a considerable amount of time and resources are spent in the quest to hire the right people (Burks, Cowgill, Hoffman, & Housman, 2013). Hiring managers may even use multiple hiring signals to ensure they are making the best hiring decision (Aguinis et al., 2005; Cohen, 2012). Signaling theory helps hiring managers understand and apply hiring signals consistently across experience levels. Hiring signals can be useful whether an

applicant has no prior work experience and the hiring manager need to determine the candidate's potential, or the applicant is an occupational veteran, and the hiring manager needs a way to translate prior experience to the current needs of the organization (Hershbein, 2013).

From an applicant's perspective, hiring signals help prospective candidates highlight their qualifications in order to distinguish themselves from less qualified applications. Education is a signal applicants can invest in based on the presumption it is easily obtainable and widely recognized by employers (Spence, 1973). Besides using a signal such as education to gain employment with a firm, applicants also desire to receive the best compensation for their services. If employers believe that a hiring signal, such as education, is a credible indication about the future performance of an applicant, then the employer may be willing to offer candidates, with an academic credential, a higher wage over non-credentialed candidates (Bartlett, 2004; Bartlett, 2012; Spence, 1973).

Signaling theory applies to all types of interaction between individuals. It is particularly useful during the hiring process, when the accuracy of the information communicated through various signals, facilitates a better fit between job candidates and the organization (Bangerter et al.,2012).

Types of signals. There are multiple types of factors, and signals, that applicants can present to potential employers before and during the hiring process (Spence, 1973). These signals often help hiring managers make better personnel selection decision. However, there is not a specific personnel selection methodology, based on signaling theory, that provides hiring managers with a preferred signal or signaling technique (Bangerter et.al., 2012). Hiring managers are therefore left to their own preferences,

which means that some signals will be valued more than others, depending on the hiring context (Wilkins, 2013).

Some signals proposed in literature are more reliable than others, which means that hiring managers may unintentionally use a faulty signal to determine an applicant's ability or future potential (Hershbein, 2013; Spence, 1973). In order to avoid faulty signaling, hiring managers need to identify signals that are reliable and trustworthy. The use of multiple signals during the hiring process may help hiring managers ensure they are receiving the right information to employ the best candidate. To gain a better understanding about the various hiring signals available during the selection process, some of the signals available to hiring managers are highlighted, in the context of signaling theory, in the following section.

Aptitude tests as hiring signals. Behavioral scientist proposed that utilizing aptitude tests used during the hiring process can provide a better indication about the applicant's "cognitive ability, personality, interest and aptitude" (Latham, 2012, p. 269). These types of pre-employment tests were designed to identify an applicant's knowledge and ability (Latham, 2012). Unlike certification exams that measure an individual's current knowledge or skill set, within a particular occupation, aptitude tests help hiring managers predict how the applicant will perform on the job (Latham, 2012). Aptitude tests are signals that also help organizations identify candidates that will be the best overall fit for the organization.

Aptitude tests provide reliable information about an applicant. The reliability factor of aptitude tests results from the difficulty applicants would have in manipulating this form of assessment. Attitude tests are designed to solicit information from job

candidates that is not considered to be under the applicant's conscious control (Bangerter et al., 2012). Existing literature has proposed that the use of technology-based aptitude tests may become even more useful to employers in the future, as these assessments become easier to administer and provide the ability to expedite the selection process (Lievens & Burke, 2011). However, Van Iddekinge, Roth, Raymark, and Odle-Dusseau (2011) offered a word of caution about using attitude tests as a prognostic tool. They noted, without providing further explanation, there have been instances where aptitude tests have seen a decrease in their predictive validity. Considering the differing opinions regarding the effectiveness of aptitude testing as a hiring signal, potential employers may want to consider using aptitude tests in conjunction with other hiring signals.

Certification as a hiring signal. Certification is a hiring signal that can communicate to potential employers an applicant has the knowledge and skills required for a particular position (Aguinis et al., 2005; Bricker, 2015; Lester et al., 2010; Lommel, 2013; McNelly, Shonka, Pardee, & Nicol, 2015; Mikkelsen, 2013; Phillips, 2004; Serbin & Jensen, 2013). It is also an indicator that hiring managers can use to address asymmetrical information (Bell-Kotwall, Frierson, & Kuiper, 2012; Serbin & Jensen, 2013). Lommel (2013) expanded on the value that certification brings to the hiring process, by discussing how certification provides a formalized process to assess a candidate's human capital characteristics (e.g., knowledge, skills and abilities), that can indicate occupational competence. The independent verification system (e.g., third-party testing organization) often involved in certification credentialing programs, not only assesses a candidate's competencies, it is often accompanied by additional professional standard requirements (e.g., professional code of conduct, code of ethics).

educational requirements, experience) (Shackman, 2005). For instance, the Certified Bookkeeper, accounting paraprofessional certification, requires certification candidates to: (1) pass a certification exam (i.e., administered by a third-party testing organization), (2) complete 2-years of work experience, and (3) follow a prescriptive code of ethics (American Institute of Professional Bookkeepers, 2007). Hiring managers may value this type of certification as it provides multiple hiring signals in one credential.

Shackman (2015) proposed that certification provides incentives to the certified candidate. Certification sends a signal to potential employers that may increase the applicant's marketability and/or compensation. Lommel (2013) suggested when a certification aligns with the required competencies of an occupation, it supports the needs of the organization. He further explained that measuring the wrong knowledge, skills and abilities (KSAs) can lessen the value of certification in terms of it being a hiring signal.

As predicted by signaling theory, holding a professional certification is typically linked to higher levels of employability and compensation (Aguinis et al., 2005). Bartlett (2012) proposed occupational certifications are a signal of expertise and a readiness for employment as individuals enter the labor market. These same signals may be beneficial for individuals transferring within the labor market as well. An occupational certification may send a stronger indicator to employers about the qualifications, or potential of an applicant, compared to the academic credentials an applicant may have obtained from a two-year community college or technical institution (Bartlett, 2012). Since Accounting paraprofessionals often have completed occupational training at two-year community colleges or technical colleges (e.g., career schools) and have access to certification opportunities, the signaling role of certifications may be of particular interest to hiring

managers. Certification appears to be a way for hiring managers to identify the best fitting candidate to fill a job vacancy, and it allows potential employers to quickly identify applicants who can perform a job with minimal additional training (Bartlett, 2012). Williams and Counts (2013) suggested that certification provide employers with a reliable, quality “gold standard” hiring signal (p. 207).

In signaling theory and certification literature, there were multiple benefits presented regarding the pursuit of voluntary certification(s). One benefit of certification, from a hiring manager’s perspective, was that certification helps employers distinguish qualified candidates from a pool of applicants (Hunsinger & Smith, 2008; Lester et al., 2010; Serbin & Jensen, 2013). Another benefit of certification as a hiring signal was that voluntary certification has often been thought to enhance a profession, even when other required certification or licensure is involved (e.g., specialty certification for nurses) (Bell-Kotwall et al., 2012). Therefore, voluntary certification may be a hiring signal that helps hiring managers select the most professional candidates. However, Wierschem, Zhang, & Johnston (2010) provided a word of caution when using certification as hiring signal. They proposed that voluntary certification and the value it holds with both employers and those who are certified, is often difficult to assess. Therefore, the transparency of some certifications may make their use as a hiring signal difficult to evaluate.

During the literature review for this study, certain aspects regarding the value of certification as a hiring signal were uncovered. Previous literature indicated that hiring managers used certification to validate specialized knowledge, determine a level of competency, identify an attainment of a practice standard, and discover evidence of the

applicant's professional commitment. These key hiring signals, based on a high percentage of employer agreement in previous research (Bekemeier, 2007; Byrne et al., 2004; Sechrist & Berlin, 2006; Sechrist et al., 2006), were the basis for this study.

For many years, research about certification has been discussed through the lens of education (Fertig, 2009). Certification was once only associated with technical and vocational education (Cheng, Hsu, & Chiou, 2012). Certification as a hiring signal, while not specifically addressed by Spence (1973), has been discussed in more recent research as a reliable signal that hiring managers can use to identify a job candidate's degree of knowledge, competency, attainment of prescribed standards and/or professional commitment (Bartlett, 2012; Bricke, 2015; Cary, 2001; Cegielski et al., 2003; Fertig, 2011; Hutchinson & Fleischman, 2003; Lester et al., 2011; Phillips, 2004; Wiley, 1995). Fertig (2011) went on to discuss how certification indicates if job candidates possess the preferred job-knowledge and skills required for a position. Existing literature confirmed that certification is a valid hiring signal, but to what degree is still uncertain.

Company and organizational testing as a hiring signal. Organizations often utilize company specific testing as a hiring signal (Lommel, 2013). This type of testing may be utilized to identify applicants with specific job knowledge or skill as required by the hiring organization. Lommel (2013) suggested that it is improbable company specific testing will replace certification in the future; however, a case was made that company testing and certification could be two hiring signals employers may consider using together. For instance, companies may internally test applicants who hold generalized certifications to validate their generalized knowledge and determine if the applicant holds specialized knowledge. Company testing could also be utilized by hiring

managers, as a method of identifying the top tier applicants from a job pool (Lommel, 2013). Prior literature suggested company/organizational testing is a hiring signal that may be most effective when used for certain applications or in conjunction with other hiring signals.

Education as a hiring signal. Academic credentialing as a hiring signal is applicable in many occupational fields, including the field of accounting paraprofessional. Graduates who obtain a particular academic credential (e.g., occupational certificate, degree) are presumed to have achieved a specific level of knowledge and skill (Chan, 2013; Lommel, 2013). However, academic credentialing may be an insufficient hiring signal on its own, especially when an occupation requires work experience in addition to a traditional education. The value of academic credentialing, as a specific hiring signal, is still under debate. Many certification programs acknowledge the value of academic credentials and often include some type of formal education as part of their certification program (e.g., Certified Management Accountant, Certified Bookkeeper). On the other side, there are those who contend that obtaining a particular academic credential is adequate (Lommel, 2013). Spence (1973) added additional thoughts that hiring managers may want to consider when he proposed applying caution to using signals (e.g., academic credentialing) that individuals may over utilize by investing in the same way. In spite of the educational saturation in certain occupations, many employers still recognize the value of academic credentialing during the hiring process. Academic credentialing (e.g., occupational degrees) are still thought to provide hiring managers with an observable signal regarding an applicant's knowledge, especially in the absence of other demonstrable information. Cohen (2012) proposed "a

vocational education credential may signal both technical skills and valued non-cognitive orientations” (p. 183). While academic credentialing may not ensure applicants have the required knowledge and skills for a particular job, it may be one signal that hiring managers can use in combination with another hiring signal (e.g., certification) to improve the predictability of the indicator (Cohen, 2012). Academic credentialing serves a purpose within the signaling theory field of study, as it is assumed to provide the credentialed recipient exposure to a standardize body of knowledge (Mikkelson, 2013). The role of education as a hiring signal for accounting paraprofessionals is discussed further in this chapter.

Experience as a hiring signal. Experience as defined in this study involved employment in an accounting paraprofessional role within an organization or on-the job training obtained in the workplace. The value of experience to hiring managers as a signal of an applicant’s qualifications is still uncertain. Bartlett (2004) reported that employers in the field of automotive service placed a high level of value on prior work experience when that experience aligns with the needs of the firm. However, he also noted that automotive service managers preferred certification over a degree when applicants had minimal work experience (e.g., less than 2 years). Experience appears to be another hiring signal that requires validation in combination with other available hiring signals. The role of experience as a hiring signal for accounting paraprofessionals will be discussed further in this chapter.

Referrals as a hiring signal. Referrals are another type of hiring signal employers use to recruit applicants, and assess their abilities. Burks, Cowgill, Hoffman and Housman (2013) suggested that employers can rely on employee referrals as a way to

find applicants that are assumed to have the same qualities the employer values in the referring employee. Studies have shown that employers achieve favorable hiring results when incorporating employee referral programs into the personnel selection process (Bidwell, 2011; Burks et al., 2013; Campbell, Coff & Kryscynski, 2012; Swaney, 2014). However, as with other hiring signals discussed in this chapter, there are descending opinions. Di Stasio and Gerxhani (2015) concluded that employee referrals were an unreliable hiring signal, suggesting there was only a weak indication to the contrary. Therefore, referrals as a hiring signal may be another type of employment indicator that hiring managers use in tandem with other signals.

Resumes as hiring signals. Resume screening has been a hiring signal for many years, but in recent times it has become even more sophisticated as companies use high-tech software and biodata techniques to identify key words that detect highly qualified candidates from an applicant pool (Amare & Manning, 2009; Bangerter et al., 2012; Brown & Campion, 1994; Thoms, McMaster, Roberts, & Dombkowski, 1999). Resumes contain a variety of information about an applicant that can be an indicator of the prospective job candidate's future productivity if hired. Hershbein (2013) proposed that resume items may be the first observable information the hiring manager notices about the applicant. Hershbein (2013) went on to link hiring signals to compensation by stating that "employers care about these signals because they can be used to form expectation about a worker's productive." and that "using this information set, the firm offers a wage to the worker based on its belief." (p. 5). Resumes as a hiring signal have been a useful initial screening tool for potential employers, and continue to be relevant in today's high-tech society.

Social Media as a hiring signal. In recent years hiring managers have used social media (e.g., Facebook, LinkedIn) as a signal of an applicant's unobservable characteristics (Baert, 2015, Bangerter; et.al., 2012). Many applicants publicize personal information, which can provide hiring managers with a more comprehensive interpretation regarding an applicant. In addition to the personal information applicants post on social media, some applicants share their thoughts about their current employers and customers. These social media postings often provide hiring managers a better understanding about an applicant's thoughts and behaviors that may affect the workplace, and would otherwise be unobservable. Karl, Peluchette, & Schlaegel (2010) suggested that an applicant's postings on social media provide employers with information they can use to relate an applicant's personality traits to a particular position. Social media provides hiring managers with observable signals they may consider during the hiring process to be either appropriate or inappropriate for the workplace. The hiring signals provided by social media are many times not observable in other manners. Bangerter et al., (2012) referred to this type of hiring signal as an "honest signal" (p. 721), and recommended that organizations invest in mechanisms that search for this type of information.

Unemployment as a hiring signal. An applicant's unemployment history may be a negative signal that hiring managers use when screening applications for employment. Unemployment history has been used as a signal that relates an applicant's current situation to his or her future productivity. Unemployment history (e.g. past or current) has been suggested as a way to distinguish one candidate from another (Eriksson & Rooth, 2014). Theoretical models suggest that hiring managers have a negative

viewpoint regarding an applicant's unemployment history (Bangerter et al., 2012; Eriksson & Rooth, 2014); however, potential employers may view unemployment in conjunction with other types of hiring signals, which can lessen the unemployment signal effect. Bangerter, Roulin, & Konig (2012) proposed that applicant's longevity with their prior employer, and the initiatives they employ to demonstrate their commitment to join an organization (e.g., informed about the organization, accepting a lower wage), can send a positive signal about the applicant to potential employers, which in turn can neutralize any negativity surrounding the unemployment signal (Bangerter et al., 2012).

Other hiring signals. There are a variety of additional hiring signals available to employers today. Only a few have been identified in the literature review for this study. Some additional hiring signals that employers may use to recognize qualified job candidates include: (1) the applicant's professional reputation, (2) letters of recommendations, and (3) employment references (Bangerter et al., 2012). As previously noted, signaling theory has not provided hiring managers with a specific hiring signal or mechanism to guarantee an applicant will be a good fit for a particular job position or an organization. Many times hiring manager's use multiple signals in an effort to lower hiring errors. The use of multiple hiring signals can help potential employers validate the signals they receive during the employment process; however, the use of multiple signals also comes with the risk of "signal jamming" (Chan, 2013, p. 211). Signal jamming occurs when two signals compete in the same manner, which creates confusion during the transmittal process (Chan, 2013). While scholars acknowledge that more than one hiring signal may provide validity to the selection process (Aguinis et al., 2005; Cohen, 2012); Chan (2013) discussed the risk of signal

jamming occurring (e.g., academic credentialing, certification) without properly aligning the various hiring signals. For instance, signal jamming could be avoided if academic institutions and certification agencies work together to assure the indicators used by both signal activities clearly portrays the candidate's knowledge and skills to the employer.

Signaling theory in the field of accounting. Certification in the field of accounting dates back to 1896 when stricter oversight of the profession began and certification assessment in the form of the CPA examination was implemented (Aguinis, et.al., 2005; Flesher, Previts, & Flesher, 1996). The introduction of CPA certification was seen as a way to establish a minimum set of standards that could demonstrate an individual's competence in the field (Aguinis et al., 2005). Today, the CPA designation is recognized as a professional accounting credential in the form of licensure. This type of certification contains a certain educational requirement and demonstrates (e.g., through third-party examination) an individual has reached a certain level of knowledge and skills (Aguinis et al., 2005; American Institute of Certified Public Accountants, 2016).

However, unlike Accounting Paraprofessional certification, which is voluntary in nature, the CPA professional designation is a requirement to practice in the field of public accounting. Therefore, everyone invests in the signal the same way, which according to Spence (1973) can see the signal lose value as a hiring indicator. When hiring managers look to hire new CPA candidates, employers may need to rely on another hiring signals in order to differentiate applicants from one another. The CPA designation only holds a signaling value to eliminate applicants who do not meet the certification requirements of a job posting. Once this application sorting process is complete, the designation no longer holds value as a distinguishing hiring signal, since all remaining applicants in the

candidate pool hold the same designation. Hiring managers must then use supplemental hiring signals (e.g., voluntary certifications such as CMA, CIA, CFE, education, experience) to distinguish the remaining applicants from one another. Likewise, voluntary certification for accounting paraprofessionals may distinguish job applicants from each other when the candidate pool contains numerous people with similar experience and/or education.

Today's employers continue to place higher requirements on the knowledge, skills, abilities, and other personal attributes of employees (Celani & Singh, 2011). This means hiring managers will most likely place these same stringent standards on new hire applicants. Jackling and De Lange (2009) proposed that employers assume professional accounting graduates have certain technical skills. When translating this to the accounting paraprofessional field of study, one could interpret it to mean that occupational education (e.g., academic degree or certificate) may not be a distinguishable hiring signaling. As previously discussed regarding some of the other hiring signals presented in this chapter, hiring managers may need to use multiple hiring signals in combination with each other during the selection process.

The value of certification as a hiring signal is only thought to demonstrate value if it is perceived the same way by the employer and the applicant (e.g., provides a preferred hiring status or higher earning potential) (Wiley, 1995). In the case of professional accountants (e.g., those who worked in a field of public accounting and held the CPA designation), earnings were found to be higher than those who were employed in non-public accounting positions without the CPA designation (Aguinis et al., 2005). These

findings may be an indicator that certification leads to higher wages, but further research is still required.

Signal manipulation. Spence (1973) cautioned employers that signals can be altered and suggested that some signals are more easily manipulated by the applicant than others. He also proposed that applicants' often face a signaling cost if they elect to manipulate a hiring signal. For instance, if an individual invests in an academic certificate or degree, this investment is often made based on the belief that future employers will recognize the academic credential as a hiring signal, and in turn the individual's marketability, and/or earning prospects will be greatly improved. Job candidates' believe that these type of signals can be utilized by hiring managers, to identify them out of a pool of applicants, when little else is known about an applicant; especially if an organization uses a more formal hiring channel (Albrecht & Van Ours, 2006). However, it is important for hiring managers to understand that certain signals, such as education, may not successfully differentiate one applicant from another. For example, an accredited academic program is required to meet certain standards, but an individual's participation in the program itself does not ensure the individual obtained or retained the desired knowledge and skills (Cohen, 2012). Hansen (2011) further discussed how certain academic programs may only have a local reputation or are poorly run (e.g., certain proprietary schools), which may taint the signaling value of the education altogether. Therefore, the variables associated with education may not provide hiring managers with a clear-cut understanding about what the education represents. Some applicants may even lie about their educational background, which can go undetected (Bangerter et al., 2012).

Bangerter, Roulin, & Konig (2012) argued that, “personnel selection involves exchanges of information between job market actors (applicants and organizations)” (p. 719). Applicants are not always motivated to provide accurate information during the hiring process and there are multiple ways signal manipulation can occur. Some applicants may simply omit information, while others may intentionally mislead the potential employer. Applicants may purchase a fake degree and present it in a legitimate manner (Attewell & Domina, 2011, Bear & Ezell, as cited in Bangerter et al., 2012, p. 724). Others may misstate job history or experience on their resume (Aamodt as cited in Banangerter et al., 2012, p.724), or lie about their abilities during the interview process. When applicants mislead hiring managers, the deceptive signals employers receive can have long-term consequences for the employing organization (Bangerter et al., 2012). The concept of signal manipulation explains why it is important to utilize signaling theory as a framework toward understanding the perceived value of certification through the lens of the hiring manager, and why hiring managers may prefer one hiring signal over another. Cohen (2012) proposed, “Certification is but one piece to the puzzle, education attainment is but one piece of the puzzle and experience is but one piece of the puzzle” (p. 264). Wilkens (2013) concurred, noting that some employers value education as a signal, other value certification and some employers value both.

Signaling theory in summary. Paxton (2012) made the following proclamation: “I have not hired, fired, promoted or made any other employment decision solely on the basis of someone’s certification status” (p. 279). Considering this statement, are their other hiring managers who hold the same opinion? Paxton (2012) went on to say:

...what I want to understand is whether employing an individual who is certified will make a difference in how my HR organization will grow the firm's shareholder value. In other words, should I make an investment in developing my staff to become certified or should I have candidates that are certified because they are better able to deliver solutions that increase the performance and profitability of the organization? (p. 279)

Based on the literature review completed for this study, Paxton was not alone in wanting to grasp a better understanding about the value of certification. The purpose of this study was to provide further insight into this value. In particular accounting paraprofessional certification, from a hiring manager's perspective. This study examined the correlation between key value statements of certification (knowledge, competence, practice standard, professional commitment) and a preferred hiring status (increases marketability).

Signaling theory provided the theoretical/conceptual framework. This framework suggested that employers can use signals provided by job applicants in anticipating the quality of a candidates KSAs, or to identify characteristics and traits that may otherwise be unobservable. Ultimately, hiring signals appear to help hiring managers identify the best available talent, and align the new hire's compensation with his or her expected future productivity in the organization (Spence, 1973). Since no known scholarly research currently exists in the field of accounting paraprofessional certification, the use of signaling theory was not only appropriate for this study, but it also has important implications for future certification research in other occupations (Bangerter et al., 2012). Latham (2012) proposed that studying HR certification "is a research agenda that should prove valuable for doctoral students in HRM who are searching for dissertation topic of

practical significant” (p. 270). While the focus of this research involves accounting paraprofessional certification, the concepts between the two fields of study (i.e., accounting paraprofessional and HRM) are closely related. There is no universally accepted model or single theory for examining the perceived value of certification, in any field of study, from the hiring manager’s perspective. However, prior literature indicates a need for certification, and/or licensure, to verify and validate generalize and/or specialized knowledge that is indicative of the occupation (Delacruz, 2014). Signaling theory provides a valuable foundation for additional certification research in yet another field of study (e.g., accounting paraprofessional), and it allows accounting paraprofessionals to be viewed through a more specialized, professional lens (Compton, 2000).

The Accounting Paraprofessional

Overview

Public accounting firms and industry have utilized accounting paraprofessionals for many years; however, limited scholarly research exists in the theoretical body of knowledge for this occupation. After an extensive search of existing literature, much of what is available regarding accounting paraprofessionals was written in non-scholarly publications several years ago. These publications were relevant to accounting practitioners, but left a gap in the existing body of scholarly accounting paraprofessional knowledge. In the absence of scholarly literature specific to the accounting paraprofessional field of study, a limited body of scholarly literature for non-accounting paraprofessionals was located and reviewed for this study, then applied to accounting

paraprofessionals. The literature review for this study, noted the expanding role of paraprofessionals in various occupational fields and the need for standards that identify the knowledge and skills required for these positions (Christofferson, Christensen, LeBlanc, & Bunch, 2012).

The first recognized professional accounting association in the United States dated back to the late 1800's. The Bookkeepers' Beneficial Association of Philadelphia (BBAP) was established in 1874 and was the first known bookkeeping association in this country (Romeo & Leuby, 2004). Romeo and Leuby (2004) suggested that the contribution this early professional accounting organization made to the field of accounting had generally gone unnoticed. For example, the BBAP was the first organization to recognize the field of accounting as a profession. The history of the BBAP should be of interest to certifying agencies today, as the organization's failure to seek a professional status for its membership was considered to be a contributing factor toward its membership decline and the associations eventual demise. Romeo and Leuby (2004) contended that the dissolution of the BBAP was due to a lack of publicity, professional recognition and competition from other respected, professional accounting organizations (p. 20). The BBAP's failure to distinguish its members from those in other organizations was ultimately responsible for the end of this association. The history of the BBAP is a valuable lesson for certifying agencies today about the importance of the perceived value of certification for any profession.

Prior to 1880, public accountancy was a little known occupation in the United States, even though it was well respected at the time in the United Kingdom. In many areas of the country, the profession of public accountancy was not recognized at all. Lee

(2007) asserted the lack of recognition for public accountancy in the United States was due to the absence of a professional organization. The two recognized groups involved in the accounting field during this time were auditors and bookkeepers. The perception of public accounting as a profession had not yet surfaced and those who referred to themselves as accountants worked in banks and stores or for the railroad. The majority of accounting services provide during this time came from clerks and bookkeepers (Lee, 2007). It appears that bookkeepers actually provided most of the accounting services required by employers and the term bookkeeper or accounting clerk was more recognized and respected in many areas of the country, than public accountants. Lee (2007) suggested that employers relied heavily on bookkeepers during this period. The role bookkeepers or accounting clerks performed during this period has transcended into the accounting paraprofessionals of today.

While the role of the accounting paraprofessional may not be much different than it was in the 1800's, the perception or professional status for this field has significantly changed. Accounting paraprofessionals are no longer viewed as professionals; however, they are still a critical component of today's accounting workforce. Routine tasks are often performed by accounting paraprofessionals. Therefore, when an organization invests in accounting paraprofessionals as human capital, it becomes increasingly important for employers to understand the investment they are making in order to maximize an adequate return.

Defining the Role of Today's Accounting Paraprofessional

Accounting paraprofessionals are employed in a wide variety of organizations, including government (U. S. Department of Labor, Bureau of Labor Statistics, 2013). However, for the purpose of this study, accounting paraprofessionals were considered to be employed in either public accounting or in industry. Accounting paraprofessionals are defined as individuals who provide accounting support services of a routine nature for an organization. Accounting paraprofessionals normally require less expertise compared to that of the professional accountant and typically have less accounting education and training. Because accounting paraprofessionals face lower job requirements than the professional accountant, these individuals are not considered a professional member of the public accounting firm or industry organization (Loeb & Rymer, 1973). Compton (1980) suggested the value of the accounting paraprofessional, especially in a public accounting firm, is still significant and should not be minimized. When a public accounting firm uses the accounting paraprofessional to perform routine, repetitive activities, instead of utilizing the higher paid, entry-level, professional accountant; the cost savings strategy for the firm and the firm's clients can result in a competitive advantage for the firm (Compton, 1980, 2000). With the expected growth in business as well as the increase in government regulation, the demand for accounting paraprofessionals will continue to rise (U. S. Department of Labor, Bureau of Labor Statistics, 2013).

Determining Knowledge and Skills of the Qualified Accounting Paraprofessional

Accounting paraprofessionals, also known as bookkeepers or clerks, provide a wide range of tasks supporting the accounting activities of the organization. The skills generally required for positions in this field are basic math, computer skills and experience with industry software, such as spreadsheet applications and general ledger accounting software packages. Attention to detail is equally important (U. S Department of Labor, Bureau of Labor Statistics, 2013). With more and more employer's seeking to hire the "best and the brightest" (Cook & Finch, 1994, p. 136), it is important for employers to have a method of distinguishing the knowledge and skills accounting paraprofessional applicants present.

The Stakeholders of Accounting Paraprofessional Certification

Many stakeholders are involved in the accounting paraprofessional certification, value chain. Stakeholders include: (1) prospective certification candidates, (2) the certified employee, (3) the current or future employer, (4) academia, (5) clients or customers of an organization, and (6) certifying agencies (Wierschem et al., 2010). The employer may be the most significant stakeholder in this process, as they hold the key to employment opportunities. Without the employer acknowledging value in a certification, the value chain for this certification may eventually erode (Wiley, 1995).

History of Certification

Overview

Although various studies involving the value of certification from the certified individual exist, the employers' perceived value of certification remains unclear. Much of the prior literature has focused on certification from an employee's perspective as well as the variables of job skills and education (Wierschem et al., 2010). This area of focus has added limited information to the body of certification knowledge, but it has not clarified the overall value of certification, or the perceived value of certification from the hiring manager's perspective. Since hiring managers are the gatekeepers to employment, their perception regarding the value of any certification is significant and may ultimately be the key to a certification's longevity.

Certification appears to be a useful screening tool that employers can use during the hiring process. Certification defines a minimum set of knowledge and skills that the certified employee can demonstrate he or she has obtained. Certification is thought to increase the probability that the employer will make a good investment by selecting the best employee for the job (Wiley, 1995). Jarrar (2002) proposed employer's need to "recruit the best people" (p. 327). Certification is a way that hiring managers can validate an employee's expertise (Knapp & Naughton, 2010). Certification also provides "relevant social cues that assist decision making under uncertainty" (Polidoro, 2013, p. 599). As logical as these arguments sound, no empirical evidence exists to date to support the value of certification with regard to hiring accounting paraprofessionals from the employer's perspective. This study sought to empirically close the gap of scholarly knowledge in this area.

Certification Versus Licensure

Certification and licensure are two ways that individuals can demonstrate professional competency. Certification provides participants with a voluntary opportunity to demonstrate their knowledge and skills in a particular field. Certification is acquired through a certifying agency, which may be created by a professional, trade or vocational association. Certifying agencies verify an individual's competencies in their profession and in doing so enhances the certified individual's professional image (Lengnick-Hall & Aguinis, 2012; Lester et al., 2011; Wiley, 1995).

Licensure, on the other hand, is a requirement for an individual working in a profession. Doctors, lawyers, nurses, teachers and certified public accountants are all examples of licensed professions. Licensure involves a certifying agency that oversees the profession and licensing process (Rogers, C. O., 2014). Licensure is awarded to an individual after he or she meets education and experience requirements as well as passed a standardized exam (Williams & Counts, 2013). The intent of licensure is to eliminate individuals from the profession who are deemed incompetent (Wiley, 1995). Another objective of licensing is for individuals to demonstrate their knowledge and skills, similar to certification, however, licensure is further meant to protect the public from receiving inferior or harmful services (Wiley, 1995). Williams and Counts (2013) expanded the discussion, by proposing that licensure strictly validates a minimum knowledge standard, while certification indicates a higher level of knowledge or expertise.

Certification Versus Education

For many years, research about certification was discussed through the lens of education (Fertig, 2009). Certification was once associated with technical and vocational education (Cheng et al., 2012). The primary goal of business education has been and continues to be the preparation of graduates for employment (Abraham & Karns, 2009). Certification has often been part of this preparation process. Accounting, commonly known as the language of business, provides stakeholders a better understanding about the overall organization (Vargas-Hernandez & Noruzi 2010). Therefore, it is important that individuals involved in the field of accounting (professional or paraprofessional) are equip to perform the required tasks and communicate information appropriately. Education is one way to ensure accounting paraprofessionals have the necessary knowledge and skills to perform according to the expectations of today's organizations. Education in this study was defined as a training service (Vargas-Hernandez & Noruzi, 2010).

Professionals acquire knowledge through both formal education and on-the-job training (Hitt, Bierman, Shimizu, & Kochhar, 2001). Formal education provides individuals the ability to learn information that they can easily transmit to others, either in writing or verbally. On-the-job training generally produces tacit knowledge, which individuals may or may not be aware they hold. Tacit knowledge can be difficult to express. For the purpose of this study, knowledge and skills gained from on-the-job training was classified as experience, since it is consider difficult to adequately communicate tacit knowledge to employers during the interview process.

The educational requirements for an accounting paraprofessional are typically low. Compton (2000) explained that the education for accounting paraprofessionals varies. According to the U.S. Department of Labor, Bureau of Labor Statistics (2013), most employers hire individuals with only a high school diploma, although preference may be given to applicants with additional college or technical school training. Postsecondary training that involves accounting is also desired. As last reported in 2009, 25 percent of individuals classified as accounting paraprofessionals held an associate's degree or higher. Many individuals who entered the accounting paraprofessional field received some type of on-the-job training as well (U. S. Department of Labor, Bureau of Labor Statistics, 2013).

Since knowledge and skills in the accounting paraprofessional field can be acquired through formal education, certification is a way for the employer to measure the expected outcomes of knowledge and skills through third-part verification (Daniels, 2011). Berman and Ritchie (2006) stated the “concept of competence or standard for excellence in business” is not new to the world of education. Educators know that competencies are used in business for a variety of activities: (1) hiring, (2) determining compensation, (3) assessing training needs and outcomes, and (4) strategic planning (p. 205).

While education is an important hiring signal, it may no longer be enough to prove to employers that applicants have the knowledge and skills needed to be successful upon joining the organization. More and more, employers are looking for valid and reliable evidence that applicants hold a certain level of proficiency in their field.

Certification is one way for employers to receive validation of the required knowledge and skills (Boyd, Boyd, & Berry, 2009).

Certification Versus Experience

Currently, educational requirements for entry into the accounting paraprofessional field are low. In 1999, Lewis & Clark Research completed a survey for the American Institute of Professional Bookkeepers (AIPB), the certifying agency for the accounting paraprofessional designation: Certified Bookkeeper (CB). The results from this survey indicated that accounting paraprofessionals learned bookkeeping skills almost completely through on-the-job training or a mixture of on-the-job training and formal education. Less than nine percent of the respondents from the AIPB (1999) survey stated they had gained their bookkeeping knowledge and skills entirely through formal education (American Institute of Professional Bookkeepers, 2007).

The AIPB study considered knowledge and skills gained from on-the-job training as experience rather than education (American Institute of Professional Bookkeepers, 2007). On-the-job training is a method to increase knowledge; however, it is often difficult for individuals to adequately communicate this knowledge to employers during the interview process. The experience gained from on-the-job training activities may be easier for the applicant to relate to employers and for employers to understand from the perspective of experience (Hatch & Dyer, 2004).

On-the-job training provides two challenges for employers. First, employers need to determine how to verify the newly acquired knowledge and evaluate skill proficiency. Second, employers face the challenge of how to prevent current employees from taking

their newly acquired on-the-job training skills or human capital investment elsewhere (Hatch & Dyer, 2004). Certification is a way for employers to solve both of these problems. First, certification allows hiring managers to validate an applicant's knowledge and skill proficiency. Certification helps employers properly assess and value the results of on-the-job training. Employers typically pay less upon hiring when they know an additional training investment is required. However, once additional training has been completed, employers may not reassess or revise the employee's compensation. The failure to properly reassess an employee's value may lead the employee to take their human capital investment elsewhere. Certification is a method of valuation for on-the-job training or experience that employers can use as a initial signal upon hiring or as an on-going signal for retaining current employees (Hatch & Dyer, 2004).

Accounting Paraprofessional Certifications

Hutchinson & Fleischman (2003) suggested that certification should be selected based on how it will improve an individual's marketability or increase opportunities for their advancement. In the accounting paraprofessional field, several opportunities for certification ranging from general bookkeeping skills to more specialized certifications such as payroll and software applications. Many accounting paraprofessional certifications can help the certified individual distinguish themselves from others in their field as well as serve as signals to potential employers about the knowledge and skills the applicant brings with them upon joining the organization. However, the question for employers remains; Which accounting paraprofessional certifications hold value to the organization? The differences between certifications can be determined as follows: (1)

scope of the certification designation (national or international), (2) competencies examined, (3) certification requirements, (4) preparation required, (5) time required, (6) number of exams, (7) exam administration method, and (8) continuing education requirements (Boyd et al., 2009; Wiley, 1995). The differences in certification criteria may also influence the perceived value of the certification.

The Value of Certification

The hiring managers' value of accounting paraprofessional certification can be partially related to the competencies the certification implies about the applicant. The more reliable or trustworthy the certification is in measuring the knowledge and skills of the certified individual, the more value it brings to the potential employer (Goetz, Zhu, Hampton, Chatterjee, & Salter, 2011). Osterwalder (2001) explained that trust is a "risky investment" as those who invest in trust can be disappointed (p. 37). If employers rely on certification as a signal for hiring qualified employees, it is important that they trust their investment decision will be accurate. Understanding the advantages and disadvantages of certification for the employee and the organization can help hiring managers better evaluate the trust they place in a particular certification.

Advantages of Certification

Certification can benefit both the individual and the organization in a variety of ways. For the individual, certification can mean more marketability of employment, and higher earning potential (Coe & Delaney, 2008). Certification can be a way for the individuals to demonstrate their knowledge and skills to potential employers as well as

create more opportunities for advancement on the job (Coppage et al., 2012). Some employees have seen certification as a way to gain professional recognition or prestige (Baretich, 2012).

Certification provides benefits to the organization as well. Relying on an independent validation system regarding the knowledge and skills the employee brings to the organization, provides a signal to employers who desire hiring the best talent (Knapp & Naughton, 2010). Employees who seek certification tend to demonstrate a level of commitment and motivation that hiring managers can use to predict if presented knowledge and skills will carry over into performance. Maintaining certifications often requires that employee's complete continuing education. Employees who regularly update their skills by completing the continuing education requirements of certification, send an on-going signal to their employers that the organization's human capital assets are up-to-date. Ultimately, many employers hire certified employee as a way of obtaining a long-term competitive advantage (Davenport, 2006).

Disadvantages of Certification

Disadvantages of certification exist from both the individual and organizational perspectives. Disadvantages of certification for individuals include: (1) prospective certification candidates may find the process too difficult and fail to finish the process (Sahlein, 2006), (2) no guarantee exists that certification will lead to career advancement, (3) no guarantee exists that certification will lead to increases earnings, and (4) no guarantee exists that certification will lead to professional recognition (Wiley, 1995). From the organization's perspective, some of the advantages to certification for the

individual can be disadvantages for the organization. For example, the expectation of higher wages by the certified employee requires the employer to meet these demands in order to hire or retain the best talent. Likewise, when an employer uses certification as a hiring signal, then other employers can use this same signal to relocate the certified employee to a new firm. Furthermore, some firms may be located in a geographical area where certified employees do not exist; therefore availability of certification in a particular field is irrelevant for hiring purposes (Sahlein, 2006). Finally, assessments from some certifying organizations may not truly measure the individual's competencies or match demonstrated effectiveness in the workplace (Kolo, 2006). Cohen (2012) proposed that certification may not always be significant in hiring and promoting certified candidates. The individual's ability to be effective on the job may be more important.

Summary

Professional certifications can offer individuals recognition and credibility in an employment field. Certification can also be a signal to employers about the level of knowledge and skills the applicant brings with them when joining the organization. Various theories, including human capital theory, resource-based view and signaling theory have been presented within certification literature about the competitive advantages that voluntary employee certification provides to an organization. However, little is really known about the overall value of voluntary certification to employers, and no prior research exists about how hiring managers value accounting paraprofessional certification. Since hiring managers are the gatekeepers to employment with organizations, the value that hiring managers' place on voluntary certifications during the

hiring process is important, especially when other hiring factors exist such as education and experience. Prospective certification candidates, certified employees, employers, hiring managers, academia and certifying agencies can all benefit from gaining a better understanding about the value of voluntary certification to an organization. In order to bridge the gap in existing theoretical certification knowledge, this study sought to add to the existing body of certification knowledge by identifying the value of certification hiring signals to employers from yet another field of study. More specifically, by applying the signaling theory to explore the correlation, between hiring managers' self-reported value of certification as a signal of a candidates specialized knowledge, accounting competence, attainment of practice standard, and professional commitment, compared to hiring managers' views toward the certified candidates receiving a preferred hiring status (increases marketability).

CHAPTER 3. METHODOLOGY

Research Design

This correlational study used quantitative survey methodology to collect data for the purpose of exploring the relationships between hiring managers' self-reported value of four accounting paraprofessional certification hiring signals (knowledge, competence, practice standard and professional commitment) and hiring managers' self-reported opinion regarding a preferred hiring status (increases marketability) for certified candidates. More specifically, this study explored hiring managers' self-reported value of accounting paraprofessional certification involving four specific certification hiring signals: knowledge, competence, practice standard and professional commitment in correlation to hiring managers' self-reported opinion that certification provides the certified candidate a preferred hiring status (increases marketability). The four value statements of: (1) validates specialized knowledge, (2) indicates level of accounting competence, (3) indicates attainment of practice standard, and (4) provides evidence of professional commitment were selected as key hiring signals based on a high percentage of employer agreement from past research (Bekemeier, 2007; Byrne et al., 2004; Sechrist & Berlin, 2006; Sechrist et al, 2006).

A survey design is commonly used to collect information from a population, than the collected data is utilized to identify characteristics and relationships (Cooper &

Schindler, 2006; Leedy & Ormrod, 2005; Swanson & Holton, 2005). A survey is an appropriate research design for this study. An existing survey instrument, the Perceived Value of Certification Tool (PVCT[®]), which had previously been utilized to examine the perceived value of certification in other research was used to collect data that measured the variables in this study (Bekemeier, 2007; Byrne et al., 2004; Ellis, 2015; Fox, 2010; Gaberson et al., 2003; Messmer et al., 2011; Niebuhr & Biel, 2007; Rogers, T. J., 2014; Sechrist & Berlin, 2006; Sechrist et al., 2006; Williams & Counts, 2013).

The target population for this study was CPA hiring managers in the State of Texas, who were members of the Texas Society of Certified Public Accountants (TSCPA). CPA hiring managers were chosen because they can work in either public accounting or industry, and they were reasonably easy to identify and contact. Prior certification research also successfully utilized a sample population from the TSPCA database (Cory & Huttenhoff, 2011). For the purpose of this study, hiring managers were defined as those individuals who currently hire or have previously hired accounting paraprofessionals.

Through a stratified sampling technique, a working population was computer-generated by TSCPA, which included individuals who held the designation CPA for more than five years, were members of the TSCPA and employed in public accounting or industry. TSCPA identified 15,684 individuals meeting the above criteria out of a total membership population of approximately 27,000. TSCPA then conducted another computer-generated random sample of this population, which created a database of 1,498 hiring managers for the study.

Random sampling is an appropriate design for use with the PVCT© instrument (Competency and Credentialing Institute, 2015; Leedy & Ormrod, 2005). Leedy & Ormrod (2005) explained there are many variances of random selection. This study utilized a stratified random sampling technique as had previously been performed in other certification studies (Sechrist & Berlin, 2006; Sechrist et al., 2006).

The Competency and Credentialing Institute (CCI) who owns and controls the PVCT© survey instrument, provided permission to use of the PVCT© in this study. The CCI (2015) also provided the researcher with a summary of prior studies that had utilized this tool to examine the perceived value of certification for both certified individuals and employers. Based on a statement from the CCI (2015), the PVCT© instrument was expected to generate minimal bias when random sampling was involved. The CCI's (2015) statement was further supported through a review of scholarly research, as no evidence of sampling bias was identified in studies that utilized the PVCT© instrument (Bekemeier, 2007; Fox, 2010; Gaberson et al., 2003; Messmer et al. 2011; Niebuhr, & Biel, 2007; Sechrist & Berlin, 2006; Sechrist et al. 2006).

A single survey approach, using the PVCT© instrument, was applied to this study. A survey approach was deemed appropriate because: (1) it was utilized in other certification studies involving the perceived value of certification (Bekemeier, 2007; Fertig, 2011; Fertig, 2009; Fox, 2010; Gaberson et al., 2003; Roberts, 2005; Sechrist et al., 2006); and (2) it provided the data to explore the correlation between identified hiring signals of certification (knowledge, accounting competence, practice standard, professional commitment), and hiring managers' attitudes toward a preferred hiring status (increases marketability). A single survey approach was a requirement of the database

usage agreement. The database rental agreement allowed the researcher to contact potential respondents one time, by United States postal mail. No other methods of contact were allowed, and no follow up contact was permitted.

Participants for this study received an invitation to participate by postal mail. Those who chose to participate were directed to a SurveyMonkey® web link to participate in the survey. The survey opened with the Capella University required and approved informed consent statement. Once participants read and accepted this statement, they were directed to the next part of the survey. The second part of the survey asked respondents a qualifying question about the respondent's role in hiring accounting paraprofessionals. Those who answered "No" to the qualifying question about their hiring manager role (current or past) were automatically exited from the survey. Individuals who had not acted in the role of hiring accounting paraprofessionals were not eligible to participate. Those participants who answered "Yes" to the qualifying question were eligible to take the survey and SurveyMonkey® advanced respondents to the next question.

Participants deemed eligible to continue with the survey were asked one employment demographic question. The employment demographic question asked participants', if they worked for a Public Accounting Employer or an Industry Employer. Respondent's answer to the employer demographic question did not disqualify them from participating in the survey. This demographic information provided additional insight into the study's overall findings.

After completing the demographic question, participants were asked to respond to 18 value statements presented in the PVCT© survey instrument. The PVCT© value

statements were replicated in SurveyMonkey©, however, these value statements in SurveyMonkey© were presented one question at a time, rather than in the original survey tool's single page format. The PVCT© survey tool collected responses using a five-point Likert-type scale. Respondents could select from the options of *Strongly Agree*, *Agree*, *Disagree*, *Strongly Disagree* and *No Opinion* in this a left to right presentation format. *No Opinion* was presented as the far right end-point, rather than in a mid-point (neutral) position. The presentation order of the PVCT© response options will be discussed further as a potential limitation of this study in Chapter 5.

Based on prior studies that utilized the PVCT© survey instrument, responses of *No Opinion* were treated as missing data and the five-point Likert-type scale was condensed to a four-point scale of *Strongly Agree* = 4, *Agree* = 3, *Disagree* = 2 and *Strongly Disagree* = 1 (Competency and Credentialing Institute, 2015; Sechrist & Berlin, 2006). The original intent of this study proposed to handle the coding of the data in a similar fashion. However, after an extensive literature review, the researcher chose to use a more traditional Likert-type scale approach, incorporating a five-point scale with the *No Opinion* option treated as a neutral response, rather than missing data. The purpose of utilizing a traditional Likert-type scale approach was to measure any affect that the *No Opinion* response might have on the findings of this study. Cox, McIntosh, Reason, & Terenzini (2014) explained that incomplete or missing responses will occur. Respondents might skip a survey question or simply refuse to answer. How missing data are handled can influence research findings. While no one approach for handling missing data can effectively remove potential biases associated with non-responses, this researcher chose to address any concerns about missing data with a traditional listwise

approach (Cox et al., 2014). Cox, McIntosh, Reason, & Terenzini (2014) referenced the handling of missing data by suggesting that researchers, at times, tend to “ignore – a problem for which there is no perfect solution” (p. 378). Prior studies where the PVCT© *No Opinion* response was treated as missing data (CCI, 2015) not only appeared to ignore *No Opinion* as a valid response, but those studies also did not provide a means for distinguishing actual non-responses from a response of *No Opinion*. This study did not want to risk ignoring any given response.

The five-point Likert-Type scale value statements selected for analysis in this study involved *Strongly Agree* = 1, *Agree* = 2, *No Opinion* = 3, *Disagree* = 4 and *Strongly Disagree* = 5. The coding order for this study was assigned by SurveyMonkey®, based on the presentation of the response options, with the exception of missing data. Missing data was not coded by the SurveyMonkey® application. While traditional Likert-type scales typically follow a reversed coding pattern (*Strongly Disagree* = 1, *Disagree* = 2, *No Opinion* = 3, *Agree* = 4 and *Strongly Agree* = 5) (Joshi, Kale, Chandel, & Pal (2015), Likert-type scales have been coded in the same manner as presented in this study. A more significant consideration for this study was the handling of the *No Opinion* responses and the treatment of missing data. This study chose to use a traditional Likert-type scale approach, that treated *No Opinion* in the neutral position, when coding the scale results, compared to some past PVCT© studies that treated *No Opinion* as missing data (Competency and Credentialing Institute, 2015). The treatment of *No Opinion* in this study allowed the researcher to identify actual *No Opinion* responses, which might have influenced the findings, from non-responses (No Answers), which were actually missing data. No bias was expected to result from the method of

coding data in this study. Any bias that might have occur would more likely have been the result of the response statements order of presentation, *Strongly Agreed* to *Strongly Disagree* (positive to negative) with *No Opinion* as the end-point (Friedman, Herskovitz, & Pollack, *n.d.*); Frey 2013; Weijters, Geuens, & Baumgartner, 2013) or from the inappropriate treatment of missing data (Cox et al., 2014). SurveyMonkey® automatically coded the data in the order of presentation, starting with *Strongly Agreed* = 1, *Agreed* = 2, *Disagreed* = 3, *Strongly Disagreed* = 4, and *No Opinion* = 5. Due to the desired traditional Likert-type scale treatment of *No Opinion* as a neutral response, the downloaded data from the SurveyMonkey® response of was *No Opinion* was recoded from a 5 to a 3, which changed the Likert-type scale coding as follows: *Strongly Agreed* = 1, *Agreed* = 2, *No Opinion* = 3, *Disagreed* = 4, and *Strongly Disagreed* = 5. SurveyMonkey® did not code missing data. Missing data fields were left blank. In order for SPSS to perform analysis calculations, the missing data fields required coding. For the purpose of this study, missing data only involved non-responses. Missing data for non-responses was coded as a 6. In SPSS, missing data required identification in the software. Assigning a code for missing data, allowed proper identification of non-responses. There was no missing data involved for the value statements examined to answer the research questions in this study (knowledge, competence, practice standard, professional commitment, marketability). A listwise deletion process was later used during the analysis computations to handle any missing data.

Listwise deletion, a selection option in SPSS, only uses complete cases for analysis. The listwise deletion approach to missing data is one of the most commonly used tactics for dealing with missing data (Cox et al., 2014). This process of handling

missing data is popular because it is easy to apply and can be used with any kind of statistical analysis (Cox et al., 2014). In this study, there was no missing data for the studied variables of knowledge, competence, practice standard, professional commitment or marketability. There were limited missing data for some of the other PVCT© variables discussed in Chapter 5, but any missing data had no effect on the variable's involved in this study, their analysis or the reported findings.

Likert-type scales were first designed to alleviate the need for evaluators in research (Edmondson, Edwards, & Boyer, 2012). They are one of the most used psychometric tools in educational and social science research (Joshi et al., 2015). Rating scales, such as a Likert-type scale, are often used to measure respondent's attitudes (Croasmun & Ostrom, 2011). These scales provide the order of respondents' attitudes, but they cannot measure differences between the responses (Thomas, 2011). Therefore, Likert-type scales, like the PVCT©, are ordinal in nature, which means that they require the use of non-parametric measurements for analysis purposes (Edmondson et al., 2012; Thomas, 2011). While non-parametric measures are less "authoritative" than parametric measures (Thomas, 2011, p. 253), they do provide the researcher an ability to describe the data and determine relationships.

Since this study involved exploring the relationships, between hiring managers' self-reported value of four key accounting paraprofessional certification hiring signals (knowledge, competence, practice standard and professional commitment) and hiring managers' self-reported opinion regarding a preferred hiring status (increases marketability) for certified candidates, Spearman's rho, a non-parametric correlation measurement, was utilized. The correlation or relationship between variables for the

research sub-questions were measured using Spearman's rho and the primary research question was answer based on the findings of the subquestions. The primary research question encompassed all of the variables involved in the subquestions.

Spearman's rho correlation, a nonparametric statistical test was used to measure two of the ordinal variables at a time (Cooper & Schindler, 2006; Leedy & Ormrod, 2005). The variables of knowledge, competence, practice standard, and professional commitment were examined in relationship to the variable of a preferred hiring status (increases marketability). The four value statements (knowledge, competence, practice standard, and professional commitment) were identified as key certification hiring signals in prior research (Bekemeier, 2007; Byrne et al., 2004; Sechrist & Berlin, 2006; Sechrist et al, 2006). This study determined if a correlation existed between each of the four value statements (knowledge, commitment, practice standard and professional commitment) and a preferred hiring status (increases marketability).

In this study, when a correlation or relationship existed, then the null hypothesis was rejected. A positive correlation existed between each value statement involving knowledge, competence, practice standard, professional commitment and marketability; therefore, the null hypothesis for each of the sub questions and the primary research question were rejected. If no correlation or relationship had existed between variables ($r_s = 0$), then the null hypothesis would not have been rejected.

Descriptive statistics, including median, frequency, interquartile range and percentage of agreement were used, as appropriate, to describe the data (Bekemeier, 2007; Edmondson et al., 2012; Sechrist & Berlin, 2006). Median is the appropriate measure of central tendency when dealing with ordinal data and percentiles or

interquartile range describe the variability in the data (Edmondson et al., 2012). It is important to note, “correlation does not necessarily indicate causation” (Leedy & Ormrod, 2005, p. 267). In this study, it was not statistically possible to determine if one variable causes another (Bartlett, 2012). Therefore, this study only discussed the relationship found between the four variables of knowledge, commitment, practice standard and professional commitment, and a preferred hiring status (increases marketability). Future research would be required in order to determine if one or all four variables caused a preferred hiring status (increases marketability).

Population/Sample

The target population for this study involved individuals who held the CPA designation in public accounting or industry, were members of the Texas Society of Certified Public Accountants (TSPCA) and were currently or had been involved in hiring accounting paraprofessionals. According to TSPCA, “there are roughly 27,000 members” in the TSPCA membership database and 15,684 members met this study’s desired population criteria. This sampling frame was representative of the target population. Leedy & Ormrod (2005) discussed that once a population size reaches a certain point, the sample size of the population is “irrelevant” (p. 207). Having an estimated count (rather than an exact count) for the target population did not negatively affect this study.

As previously stated, the sample population involved CPA hiring managers of accounting paraprofessionals (in public accounting or industry), and those hiring managers who were members of the Texas Society of Certified Public Accountants (TSPCA). Participants for this study also held the CPA designation for five or more

years. TSCPA members, who held the CPA designation for less than five years were considered entry-level employees, assumed to have limited, if any, hiring experience. Only TSCPA members, who held the CPA designation, for five or more years were included in this study's database. The purpose of eliminating respondents, who held the CPA designation for fewer than five years; was to increase the number of participants who answered "Yes" to the qualifying survey question, "Are you or have you ever been responsible for hiring accounting paraprofessionals, such as accounting clerks, accounts receivable clerks, accounts payable clerks, payroll clerks, inventory clerks, bookkeepers, or any other accounting support staff for your organization?"

In general, those in academia (faculty members) do not hire or supervise accounting paraprofessionals, therefore, these individuals were excluded from the database for this study. Due to the uncertainty behind how long someone listed as "retired" may have been out of the workforce, those identified as retired were also excluded from the database. Members of TSCPA reside primarily in the State of Texas; however, TSCPA's membership does include members who reside outside the State of Texas. Residency did not exclude respondents from participating.

Instrumentation/Measures

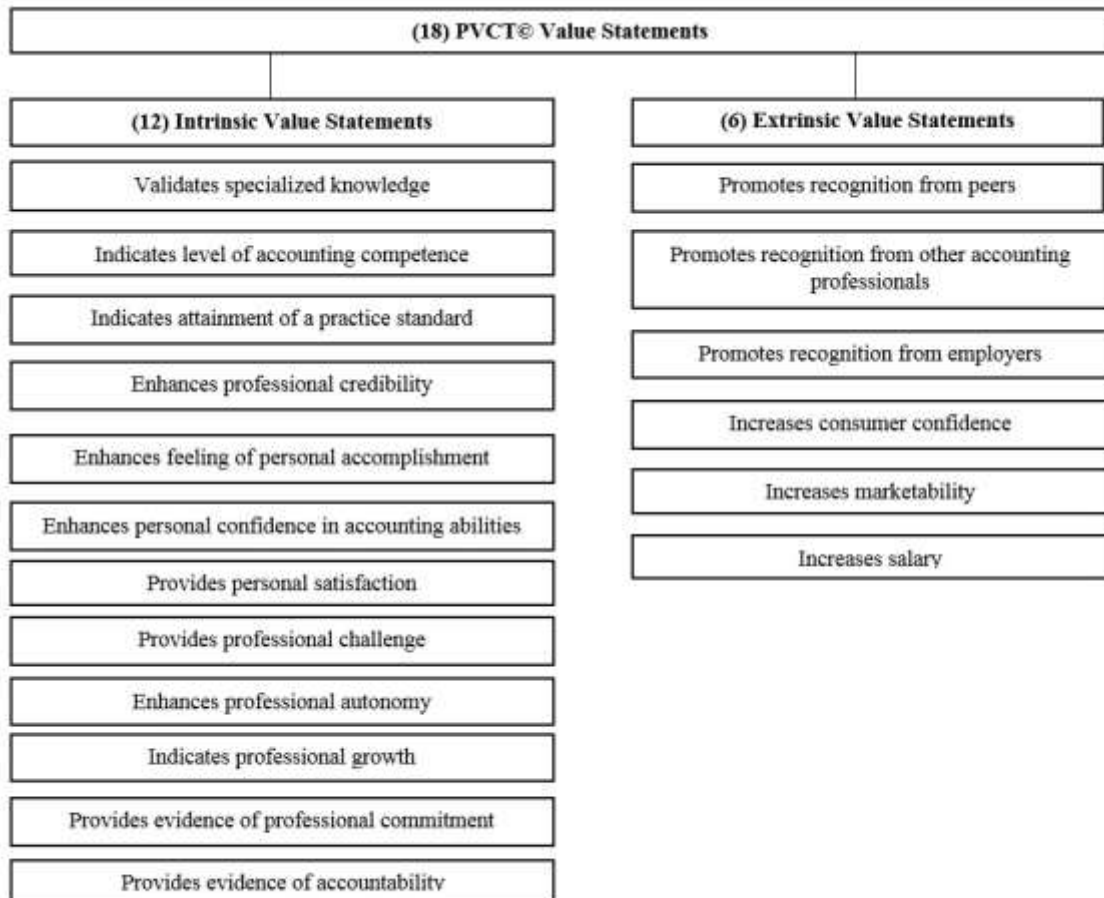
The Perceived Value of Certification Tool (PVCT©) was selected for use with this study in order to determine the correlation, if any, between four of the 18 PVCT© value statements: knowledge, competence, practice standard, professional commitment and the preferred hiring status of increases marketability. These value statements were identified as possible key hiring signals based on a high percentage of employer

agreement in prior research (Bekemeier, 2007; Byrne, et al., 2004; Sechrist & Berlin, 2006; Sechrist et al., 2006). The PVCT© survey tool was originally developed for use in determining the perceived value of nursing certification by the Competency and Credentialing Institute (CCI); however this instrument has been used in non-nursing certification studies as well (Fox, 2010). The PVCT© contains 12 intrinsic value statements and 6 extrinsic value statements related to the perceived value of certification as shown in Figure 2 on page 82. The key variables identified for this study involved the intrinsic variables of knowledge, competence, practice standard and professional commitment, in relationship to the extrinsic variable of increases marketability.

Permission to use the PVCT© survey tools was granted on July 30, 2015. The PVCT© survey tool was used in its original form, with the exception of the word clinical being changed to accounting in order to be appropriate with this research study's audience. The PVCT© survey tool used 18 previously tested value statements with a Likert-type scale ranging from *strongly agree*, *agree*, *disagree*, *strongly disagree* and *no opinion*. Likert scales are affective for collecting ordinal data about attitudes and preferences (Cooper & Schindler, 2006). After an extensive literature review, and review of several existing survey instruments, the researcher concluded that the PVCT© survey tool was a good fit for this study.

The PVCT© survey instrument was accompanied with questions developed by the researcher and based on existing studies about the respondent's qualifications to participate in the study. A demographic question regarding the respondent's employment was incorporated in the survey in order to view responses based on employer type (public accounting or industry) as well as responses in total. The first question in the survey

identify those participants who were not involved in the hiring of accounting paraprofessionals. Every effort was made for the survey to reach only qualified participants'; however, the researcher was aware that some members of the database may not meet the qualification for hiring manager. The qualifying question in the survey simply helped to remove any unqualified responses from the results. The survey was expected to take approximately 10 minutes to complete, which was within the guidelines suggested by Rea and Parker (2005). Most respondents completed the survey in less than 10 minutes.



Note: Figure based on PVCT®, Competency and Credentialing Institute (2015)

Figure 2. PVCT® Value Statements

Data Collection

A single survey approach, using the PVCT© instrument was used for this study. A survey approach was deemed appropriate because the PVCT© was used in prior perceived value of certification studies (Bekemeier, 2007; Biel, 2007; Byrne, et al., 2004; Fox, 2010; Gaberson, et al., 2003; Roberts, 2005; Sechrist, et al., 2006). Additionally, the PVCT© provided the data to explore correlation between intrinsic values of certification (knowledge, competence, practice standard and professional commitment) and the extrinsic value of certification, regarding hiring managers' attitudes toward a preferred hiring status, (increases marketability) for the certified candidate. Data collection activities for this study were performed over a three-week period, after receiving approval to conduct the study by the Capella University Institutional Review Board (IRB). Since the survey participants' email addresses were unavailable, per the TSCPA database contract, participants were contacted by postal mail. The survey invitation letter provided details about the survey, an invitation to participate, and a link to the web-based survey. A one-week timeframe was allocated for the delivery of the initial survey invitation letter. Web-based surveys have been touted as saving time with regard to collecting completed survey data; however, the response rate for web-based surveys has been noted to improve when available over two weekends (Schonlau, Fricker, & Elliott, 2002). Therefore, a 20-day period was allocated for participants to complete the web-based survey from the mailing date of the initial contact letter. Due to the restrictions of the database rental agreement, only one mailer was allowed.

Data was collected using a secure, web-based survey provider called SurveyMonkey®. The invitation letter explaining the nature of the study, and requesting

participants to complete the web-based survey was mailed to the 1,498 participants. Responses were collected over three weeks from the original mailing. This was a similar timeframe used in other PVCT© studies (Bekemeier, 2007). The survey was conducted in English. The study assumed that all surveyed participants were able to read and write in English as their primary language or they were bilingual, with English as their secondary language. Participants were informed that the survey responses were anonymous and confidential. Participants were also informed that involvement in this study was strictly on a volunteer basis and they were given the opportunity to opt-in or opt-out at any time.

Survey participants were instructed that they could elect to contact the researcher for a copy of the survey results if desired. The researchers email address was included in the invitation letter. Only one potential participant contacted the researcher in order to verify the legitimacy of the survey request. Once the research validated the legitimacy, the potential respondent agreed to participate. The researcher is not aware if this individual actually participated or not, since the participant responses were anonymous. No other contact between the researcher and the survey participants occurred, other than the initial invitation mailer, the participant who contacted the researcher about the legitimacy of the survey, and the potential request by a participant for a copy of the results.

Upon completion of the survey window, survey data were coded and download into Excel® and SPSS software format for analysis. The coded data resides in various SurveyMonkey® download file formats, on the researcher's computer, and in back-up files in the researchers' secured Dropbox® data storage on the cloud. The data also

resides on the researcher's secured account in SurveyMonkey®. Only the researcher has access to this information, as all of the applications (the researcher's computer, cloud back up and SurveyMonkey® account) are password protected.

The PVCT© is a Likert-type scale with the responses collected for this study to the variables of knowledge (K), competence (C), Practice Standard (PS), Professional Commitment (PC) and Marketability (M) treated as ordinal-level data. For correlational studies, the findings can indicate relationships, but those relationships do not necessarily provide causation (Leedy & Ormrod, 2005). Therefore, the variables in this study do not truly reflect independent variable(s) (the variable(s) that causes a change in the dependent variable) or a dependent variable (the variable affected by the independent variables). This study strictly focused on the relationship, if any, between the four variables of knowledge, competence, practice standard and professional commitment compared to a preferred hiring status (increases marketability). Future research would be required to look at causation between these variables.

Data Analysis

Early in this study, an appropriate sample size was calculated. A sample size of 400 was determined to be more than adequate for a population greater than 5,000 (Gay & Airasian, 2003). SurveyMonkey® (2015) provided an online sample size calculator, which suggested a similar size sample of 375 for a confidence level of 95 percent, with a 5 percent margin of error. Rea and Parker (2005) recommended a sample size of 370 to 377 for a population of 10,000 to 20,000 with a ± 5 percent margin of error. This study's total qualifying population was 15,684. Therefore, the TSCPA's sample database of

1,498 seemed appropriate to achieve the desired sample size; however, a G*Power3 calculation was also performed prior to finalizing the database rental agreement.

The response rates on previous PVCT© certification studies had ranged from 12.1 percent to 61 percent (Bekemeier, 2007; Byrne et al., 2004); Gaberson et al., 2003; Messmer et al., 2011; Niebuhr & Biel, 2007), with a mean of 35.67 percent. A G*Power3 calculation was completed prior to the start of this study, with an alpha of .05, power of .80 and an effective size of $p = .30$, or a medium group. The sample size for each group from the G*Power3 calculation was 105 for CPA hiring managers in public accounting and 105 for CPA hiring managers in industry or a total sample size of 210. Based on the mean response rate for prior PVCT© studies, a sample population of 535 would have been sufficient to obtain the recommended sample size of 375 to 400. The G*Power3 calculation indicated that a smaller sample size would have also have been appropriate.

The response rate for this study, at slightly less than seven percent, was unexpected and significantly less than the mean of prior PVCT© studies. The actual effect size for this study was $p = .34$, which was still a medium group. The low response rate for this study did not appear to affect the ability for transferability or generalizability of the results.

The use of the TSCPA database provided access to CPA hiring managers who were assumed to have similar knowledge regarding the occupational requirement for accounting paraprofessionals. TSCPA's computer-generated, random sampling technique provided equal opportunity for participants to be included in the survey database. Cooper and Schindler (2006) proposed that a sound sample design properly

represents the population it is intended to resemble and is free from bias. Similar to prior research, the database for this survey was expected to reflect the larger TSCPA population of CPA hiring managers as well as CPA hiring managers outside of the State of Texas or TSCPA membership (Cory & Huttenhoff, 2011).

The data collected using the PVCT© instrument in SurveyMonkey® were exported into Microsoft Excel® and IBM SPSS Statistic, Version 23 software. The PVCT© Likert-type scale involved collecting ordinal-level data. The five-point Likert-type scale used the following coding system in this study: *Strongly Agree* = 1, *Agree* = 2, *No Opinion* = 3, *Disagree* = 4, and *Strongly Disagree* = 5. The missing data only involved non-responses and was coded as a 6. Coding the missing data allowed the researcher to use listwise deletion in the SPSS software.

Missing data can occur for a variety of reasons. Using a web-based survey can help avoid item nonresponses (where the participant's miss answering a question) or data entry errors in coding. Item nonresponses were limited in this study by offering a reminder in the web-based survey as to how many questions were included in the survey and how many questions the participant had answered or needed to answer (Schonlau, et al., 2002). Every effort was made to avoid missing data; however, this researcher understood unit nonresponses and possible item nonresponses could occur. Overall, 103 survey respondents participated in this study. Eight respondents were eliminated from participating in the study by either leaving the survey before answering the qualifying question or by identifying themselves as a non-hiring managers during the qualifying question. There were 95 respondents who participated in the entire survey. For the variables examined in this study, there were no missing data. Therefore, all 95

participants responded to the value statements examined in this study: (1) validates specialized knowledge, (2) indicates level of accounting competence, (3) indicates attainment of a practice standard, (4) provides evidence of professional commitment, and (5) increases marketability.

Spearman's rho was used to determine the correlation between variables for Sub-Q1 through Sub-Q4. Spearman's rho is a non-parametric statistical test used with ordinal-level data. It is the alternative to the Pearson r statistical test used in some previous PVCT© certification studies (Fox, 2010; Kolo, 2006; Messmer, et al., 2011). For this study, Spearman's rho correlation helped to understand the "nature of the relationship" between variables in order to answer the research sub questions and ultimately the primary research question (Leedy & Ormrod, 2005, p. 265). A level of .05 significance was used in this study.

Descriptive statistics, while not acceptable as a primary analysis method in dissertation research, was helpful as a method to describe the data. It was also useful in comparing the percentage of agreement results from this study, with the percentage of agreement results from other certification studies that used the PVCT© instrument. In addition to correlation analysis, this study used descriptive statistics including median, frequency, interquartile range and percentage of agreement as appropriate. The percentage of agreement for PVCT© value statements of validates specialized knowledge, indicates level of accounting competence, indicates attainment of a practice standard, provides evidence of professional commitment and increases marketability were calculated as a method of comparison against prior research (Sechrist, et al., 2006).

The analysis completed in this study was then used to answer the following research questions.

Primary Research Question: What is the correlation, if any, between hiring managers' self-reported value of accounting paraprofessional certification hiring signals (knowledge, competence, practice standard, professional commitment) to hiring managers' self-reported opinion toward a preferred hiring status (increases marketability) for certified candidates?

H₀: There is no statistically significant correlation between hiring managers' self-reported value of accounting paraprofessional certification hiring signals (knowledge, competence, practice standard, professional commitment) to hiring managers' self-reported opinion toward a preferred hiring status (increases marketability) for certified candidates.

H_A: There is a statistically significant correlation between hiring managers' self-reported value of accounting paraprofessional certification hiring signals (knowledge, competence, practice standard, professional commitment) to hiring managers' self-reported opinion toward a preferred hiring status (increases marketability) for certified candidates.

Sub-Q1: What is the correlation, if any between hiring managers' self-reported value of accounting paraprofessional certification as a hiring signal that validates the certified candidates' specialized knowledge and hiring managers' self-reported opinion toward a preferred hiring status (increases marketability) for certified candidates?

H₀₁: There is no statistically significant correlation between hiring managers' self-reported value of accounting paraprofessional certification as a hiring signal that validates the certified candidates' specialized knowledge and hiring managers' self-reported opinion toward a preferred hiring status (increases marketability) for certified candidates.

H_{A1}: There is a statistically significant correlation between hiring managers' self-reported value of accounting paraprofessional certification as a hiring signal that validates the certified candidates' specialized knowledge and hiring managers' self-reported opinion toward a preferred hiring status (increases marketability) for certified candidates.

Sub-Q2: What is the correlation, if any, between hiring managers' self-reported value accounting paraprofessional certification as a hiring signal that indicates the certified candidates' level of accounting competence and hiring managers' self-reported opinion toward preferred hiring status (increases marketability) for certified candidates?

H₀₂: There is no statistically significant correlation between hiring managers' self-reported value of accounting paraprofessional certification, as a hiring signal that indicates the certified candidates' level of accounting competence, and hiring managers' self-reported opinion toward preferred hiring status (increases marketability) for certified candidates.

H_{A2}: There is a statistically significant correlation between hiring managers' self-reported value of accounting paraprofessional certification, as a hiring signal that indicates the certified candidates' level of accounting competence, and hiring managers' self-reported opinion toward preferred hiring status (increases marketability) for certified candidates.

Sub-Q3: What is the correlation, if any, between hiring managers' self-reported value of accounting paraprofessional certification as a hiring signal, that indicates the certified candidates' attainment of a practice standard and hiring managers' self-reported opinion toward preferred hiring status (increases marketability) for certified candidates?

H₀₃: There is no statistically significant correlation between hiring managers' self-reported value of accounting paraprofessional certification as a hiring signal that indicates the certified candidates' attainment of a practice standard and hiring managers' self-reported opinion toward preferred hiring status (increases marketability) for certified candidates.

H_{A3}: There is a statistically significant correlation between hiring managers' self-reported value of accounting paraprofessional certification as a hiring signal that indicates the certified candidates' attainment of a practice standard and hiring managers' self-reported opinion toward preferred hiring status (increases marketability) for certified candidates.

Sub-Q4: What is the correlation, if any between hiring managers' self-reported value of accounting paraprofessional certification as a hiring signal that provides evidence of the certified candidates' professional commitment and hiring managers' self-reported opinion toward preferred hiring status (increases marketability) for certified candidates?

H_{04} : There is no statistically significant correlation between hiring managers' self-reported value of accounting paraprofessional certification as a hiring signal that provides evidence of the certified candidates' professional commitment and hiring managers' self-reported opinion toward preferred hiring status (increases marketability) for certified candidates.

H_{A4} : There is a statistically significant correlation between hiring managers' self-reported value of accounting paraprofessional certification as a hiring signal that provides evidence of the certified candidates' professional commitment and hiring managers' self-reported opinion toward preferred hiring status (increases marketability) for certified candidates.

Validity and Reliability

The validity and reliability of the survey tool drives the conclusions drawn from the research. Attitude scales, like the PVCT© need to be checked for validity and reliability (Croasmun & Ostrom, 2011). It is critical that the survey tool measures what it is expected to measure (validity) (Cooper & Schindler, 2006). For the survey instrument to pass the validity test, three primary factors must be considered: (1) content validity, (2)

criterion-related validity, and (3) construct validity. It is important for researchers to understand each of these individually, but recognize they are interrelated. The content validity is determined by the degree the survey instrument measures the research questions in the study. The criterion-related validity measures the predicted outcome and the construct validity verifies how well the survey instrument measures the assumptions of the study.

In order for attitude scales to be reliable all statements and instructions must be clear-cut and understood by respondents in the same way (Thomas, 2011). Leedy & Ormrod (2005) concurred by proposing that researchers could increase the reliability of a survey instrument by standardizing the instrument and administering it consistently. The survey instrument also needs to display accuracy and precision. For the instrument to be considered reliably, it must produce consistent results or be free from errors (Cooper & Schindler, 2006).

Prior to use in this study, the PVCT© survey instrument was tested for both validity and reliability in other research. The PVCT© tool used in this study was done so without modification, except for a single word change. The term clinical was changed to accounting. This modification was made to align the PVCT© survey tool with the accounting paraprofessional certification field of study. Since the PVCT© tool is already a validated and reliable instrument, using this survey instrument for the purpose of this study did not require additional testing (Cooper & Schindler, 2006). However, Croasmun and Ostrom (2011) proposed that researchers using Likert-type scales compute and report the Cronbach's alpha for internal consistency, reliability. The Cronbach's alpha was computed for the study variables of knowledge, competence, practice standard,

professional commitment and marketability. The results was reported in Chapter 4, along with the other findings.

Ethical Considerations

No known ethical issues were involved in the sampling procedures proposed for this study. Cooper and Schindler (2006) explained that research must be designed to protect participants and their employers from harm, protect the privacy of the participants, and to protect the integrity of the data. This study was designed to meet all of the ethical standards described above.

Anonymity and confidentiality are an important part of this study. The researcher assured participants that both would be strictly adhered too. The researcher did not knowingly have contact with any participant in this study, with the exception of mailing the initial invitation to participate in the survey, and responding to a participant's emailing about the legitimacy of the survey request. To date, no participants have requested the results of this survey. The research in this study did not endanger, threaten, harm or impose risk to anyone involved.

The demographic question in the survey only identified respondents who were eligible to participate in the survey (hiring managers of accounting paraprofessionals) and the type of organization these individuals work for; Public Accounting Employer or Industry Employer. The information collected from these descriptors were not a sufficient means to identifying any participants.

All data collected were securely stored on the researcher's computer and backed up on the cloud. Both the researcher's computer and the cloud backup data were only accessible by the researcher. Each were password protected. It is this researcher's

opinion that if someone did gain access to the backed up data on the cloud, nothing in the data that would identify participants, employers or cause harm to either. All data stored for this study will be destroyed after 7 years.

Another ethical consideration of this study involved funding. The researcher self-funded this study. The researcher rented a database for one time use from TSCPA for \$125.00. No sponsoring organizations were involved in this study and no known potential conflicts of interest existed. The researcher had no affiliations with any accounting paraprofessional certifying agency. The researcher is an academic member of TSCPA; however, all academic members who might be known to the researcher were eliminated from the database.

As a condition of permission granted by the Competency and Credentialing Institute (CCI) to use the PVCT© instrument with this study, the researcher is required to submit a copy of the study results to the CCI. The CCI does not require review or approval of the dissertation before publication, but it does require the PVCT© survey instrument carry the copyright statement in all forms of use. The CCI does allow the PVCT© instrument to be uploaded to SurveyMonkey® in order to utilized the online survey format (Competency and Credentialing Institute, 2015, p. 2).

This study benefits the field of business, particularly the area of organization and management by providing greater insight into the general certification field of study. It also provides new insight into the previously un-researched field of accounting paraprofessional certification. The results of this study provide all members of the accounting paraprofessional value chain a better understanding regarding the correlation, between hiring managers' perceived value of accounting paraprofessional certification

key hiring signals (knowledge, competence, practice standard, professional commitment), and hiring managers' attitude toward certification creating a preferred hiring status (increases marketability). Hiring managers from all fields, prospective certification candidates, certified employees, academia and certifying agencies all benefit from an increased understanding about the significance voluntary certification has as a signal to hiring managers who are looking to employ the best human capital available.

CHAPTER 4. RESULTS

Introduction

Certification can be a signal to employers about the level of knowledge and skills the applicant brings with them when joining an organization. Various studies have touted the benefits that voluntary employee certification provides to an organization (Bruce & Sauer, 2008; Gaberson et al., 2003; Phillips, 2004; Roberts, 2005; Wiley, 1995); however, little is actually known about the overall value of this type of certification from the perspective of the hiring managers. No prior research exists about how individuals who hire accounting paraprofessionals value accounting paraprofessional certifications. With hiring managers being the gatekeepers to employment and other hiring signals such as education and experience in place, it is important to understand the value that hiring managers' place on voluntary certifications during the hiring process. Prospective certification candidates, certified employees, employers, academia and certifying agencies can all benefit from gaining a better understanding about the value hiring managers' place on voluntary certification during the hiring process.

In order to bridge the gap in existing theoretical certification knowledge, this study explored the correlation, between hiring managers' self-reported value of accounting paraprofessional certification as a hiring signal that validates the certified candidates' knowledge, competence, attainment of a practice standard, level of professional commitment and a preferred hiring status (increases marketability) for

certified candidates. Chapter 4 was organized into three sections: (a) description of the sample, (b) summary of the results, and (c) detailed analysis of the results. A summary of results, associated with the findings, for the primary research question and the four research sub-questions was also provided. The results for each research question, with its corresponding null and alternative hypotheses, were explained. Additionally, the types of statistical methods used in this study were presented as well as a discussion of how the data analysis results were achieved.

Description of the Population and Sample

The purpose of this quantitative, non-experimental, exploratory, correlational study was to assess the correlation, if any, between hiring managers' self-reported value of accounting paraprofessional certification hiring signals to hiring managers' self-reported view regarding certified candidates receiving a preferred hiring status (increases marketability). More specifically, this study explored the correlation between four specific hiring signals identified in prior research (knowledge, competence, practice standard, professional commitment); and hiring managers' self-reported view regarding a preferred hiring status (increases marketability) for certified candidates (Coe & Delaney, 2008; Compton, 2000; Coppage et al., 2012; Davenport, 2006; Fertig, 2011; Gaberson et al., 2003; Gilley & Galbraith, 1986; Hutchison & Fleischman, 2003; Phillips, 2004; Roberts, 2005; Wiley, 1995; Wierschem et al., 2010).

The target population for this study was individuals who held the CPA designation in public accounting or industry. These individuals were also members of the Texas Society of Certified Public Accountants (TSCPA), have held the CPA designation

for five years or more, and were currently or had been involved in the hiring of accounting paraprofessionals. Members of TSCPA reside primarily in the State of Texas; however, TSCPA's membership does include members who reside outside the State of Texas. Residency did not exclude participants from being included in this survey.

According to TSCPA, there were roughly 27,000 members in the TSCPA membership database. The sampling frame was representative of the target population. Leedy & Ormrod (2005) discussed that once a population size reaches a certain point, the sample size of the population is immaterial (p. 2007). Therefore, having an estimated count, rather than an exact count, for the target population did not negatively affect this study.

Using a computer-generated, stratified sampling technique, TSCPA identified 15,684 individuals meeting the criteria developed for this study. Next, two organizational types were identified for accounting paraprofessional hiring managers (Public Accounting Employers and Industry Employers). From the additional criteria for hiring managers, TSCPA applied another computer-generated, random sampling technique with the initial sample population in order to obtain the database used for with this study. A contractual, rental database sample of 1,498 (749 CPA Hiring Managers from Public Accounting Employers and 749 CPA Hiring Managers from Industry Employers) was derived. A random sampling is an appropriate design for use with the PVCT© instrument based on previous studies, with "minimal sampling bias anticipated" (Competency and Credentialing Institute, 2015, p. 3; Leedy & Ormrod, 2005; Sechrist & Berlin, 2006; Sechrist et al., 2006).

A sample size of 400 was deemed adequate for studies where the population is greater than 5,000 (Gay & Airasian, 2003, p. 113). SurveyMonkey® (2015) also provided the researcher with an online sample size calculator, which suggested a similar size sample of 375. The SurveyMonkey® sample size provided a confidence level of 95 percent and a 5 percent margin of error. Rea and Parker (2005) also recommended a sample size of 370 to 377 for a population of 10,000 to 20,000, with a ± 5 percent margin of error. The working population for this study was 15,684. TSCPA's suggested a sample database of 1,498 in order to achieve the desired response rate with a single mailer. The response rates on previous PVCT© certification studies ranged from 12.1 percent to 61 percent (Bekemeier, 2007; Byrne, et al., 2004; Gaberson, et al., 2003; Messmer, et al., 2011; Niebuhr & Biel, 2007), with a mean of 35.67 percent. Additionally, a G*Power3 calculation was completed for means (two groups) using a two-tailed test, with an alpha of .05, power of .80 and an effective size of .30. The sample size G*Power3 calculation of each group is 105 for CPA Hiring Managers for Public Accounting Employers and 105 for CPA Hiring Managers for Industry Employers. In total the G*Power3 computation equaled a total recommended sample size of 210. Based on the mean response rate for prior PVCT© studies, a sample population of 535 seemed sufficient to obtain the desired sample size of 375 to 400. Based on the G*Power3 calculation, a smaller sample size also appeared to be appropriate. Based on the prior research and the G*Power3 computation, the TSCPA's suggested sample database of 1,498 appeared to be adequate for this study.

The actual response rate for this study was less than seven percent, $N = 103$. This response rate was significantly lower than anticipated. Several reasons could explain the

lower than anticipated response rate: (1) TSCPA required survey invitations mailed, rather than emailed. Under this scenario it is difficult to know how many potential respondent's received the mailer and did not respond, versus how many potential respondents did not receive the mailing, (2) TSCPA's database rental agreement only allowed one mailing to the contracted database. This prevented any follow up activities to support the initial mailing, which may have improved the response rate (Dillman, Smyth, & Christian, 2014), (3) the survey was mailed in early November and remained open for three weeks. However, the survey closed during a holiday week, which might has shortened the response time for participants who may have left for the holiday early, and (4) one respondent emailed the researcher to verify the legitimacy of the survey request. It is possible that other potential survey participants may have had a similar concern, and did not follow up with the researcher for verification. Of the 103 total respondents, eight respondents were disqualified during the initial qualifying questions. This left 95 respondents who were eligible to participate in the study. A listwise deletion method was applied to the missing data; however, none of the studied variables (knowledge, competence, practice standard, professional commitment, or marketability) had non-responses that would be considered missing data.

Summary of Results

The purpose of this quantitative, non-experimental, exploratory, correlational study was to assess the correlation between hiring managers' self-reported value of accounting paraprofessional certification hiring signals to hiring managers' self-reported view regarding certified candidates receiving a preferred hiring status (increases

marketability). More specifically, this study explored the correlation between four specifically identified hiring signals from prior research: (1) knowledge, (2) accounting competence, (3) practice standard, and (4) professional commitment and hiring managers' self-reported view regarding certified candidates receiving a preferred hiring status (increases marketability). Spearman's rho, a non-parametric correlation measure was used with the ordinal data responses collected using the PVCT©, Likert-type scale survey instrument. To determine the internal consistency reliability of this study, Cronbach's alpha coefficient was also computed. Croasmun and Ostrom (2011) suggested the importance of computing and reporting Cronbach's alpha coefficient for studies that use Likert-type scales. Descriptive statistics, while not acceptable as a primary analysis method in dissertation research, was helpful to describe the data in this study. The descriptive statistics of frequency, percentage of agreement, interquartile range and median were also calculated and reported. Cronbach's alpha coefficient was calculated among the value scales of knowledge, competence, practice standard, professional commitment and marketability. The findings indicated a high internal consistency (.874).

Of the 1,498 individuals surveyed (749 Public Accounting Employer, 749 Industry Employer), there was an initial 6.9% response rate, $N = 103$. Eight of the initial respondents were either, disqualified or left the survey prior to reaching the employment demographic question. Of the remaining respondents (95), the hiring managers who completed the survey were representatives of the following employer group: Public Accounting Employer (35) and Industry Employer (60). Missing data consisted of non-responses to value statements. A listwise deletion method to handle missing data was implement. For the variables being studied (knowledge, competence, practice standard,

professional commitment, marketability), there were no non-responses that would have generated missing data. For the purpose of this study, missing data that involved any of the other 18 value statements in the PVCT© was coded as a 6 in SPSS. This allowed the SPSS software to compute descriptive statistics for all variables as appropriate. After the listwise deletion method was applied to the data set, 95 cases still remained (Public Accounting Employer, $N = 35$ versus Industry Employer, $N = 60$) (Table 1). The median for all variables examined in this study, in total and by individual employer groups (Public Accounting Employer and Industry Employer) was 2.000 (Table 1).

Table 1 Hiring Managers Responses to Key Value Statements by Employer Type

Employer Type	Key Value Statements				
	Knowledge	Competence	Practice Standard	Professional Commitment	Marketability
Public Accounting	35	35	35	35	35
Industry	60	60	60	60	60

Note. No missing data

a. Median = 2.000 for all key value statements

Overall, the remaining respondents had a high percentage of agreement to all five value statements analyzed in this study (knowledge, competence, practice standard, professional commitment and marketability). The participants in this study were given five response options for each value statement presented with the PVCT©. This Likert-type scale instrument presented the following responses (from left to right) *Strongly Agreed (SA)*, *Agreed (A)*, *Disagree (D)*, *Strongly Disagreed (SD)* and *No Opinion (NO)*. As done in prior research, the percentage of agreement responses of *Strongly Agree (SA)*

and *Agree* (A) were combined in this study (Bekemeier, 2007; Sechrist et al., 2006). For each of the five value statements, the hiring managers' percentage of agreement, in total, was over (90%) for the value statements examined in this study. Responses were consistent between the two hiring manager employer groups (Public Accounting and Industry), with the exception of indicates attainment of a practice standard. Hiring managers who worked for Public Accounting Employers reported a lower percentage of agreement (88.6%) for indicates attainment of a practice standard, compared to their Industry counterparts (93.3%).

The first certification value statement addressed in this study was PVCT© Value Statement, validates specialized knowledge. Hiring managers responded, in total, with a high percentage of agreement (92.6%). More hiring managers selected the response *Agreed* (66.3%), compared to those who responded to *Strongly Agreed* (26.3%), however, the overall agreement that certification validates specialized knowledge was significantly higher than those who responded with *No Opinion* (1.1%) or *Disagree* (6.3%).

Table 2 Percentage of Agreement with Value Statement Validates Specialized Knowledge

Selected Response	Frequency	Percentage of Agreement	Cumulative Percent*
Strongly Agree (SA)	25	26.3	26.3
Agree (A)	63	66.3	92.6
No Opinion (NO)	1	1.1	93.7
Disagree (D)	6	6.3	100.0
Strongly Disagree (SD)	0	0.0	100.0

Note. No missing data

a. $N = 95$

b. Median = 2.000

Table 3 displays the hiring managers' Percentage of Agreement with the PVCT© value statement, validates specialized knowledge by Employer Type. The Industry Employer group's combined percentage of agreement for this value statement was slightly higher at (93.3%) compared to the Public Accounting Employer hiring managers' response of (91.4%). The median for total responses and by each employer group for validates specialized knowledge was 2.000, with an interquartile range of 3.000. A strong percentage of agreement by hiring managers, in total and by employer group, pointed to hiring managers' viewing certification as an important indicator of specialized knowledge.

Table 3 Percentage of Agreement with Value Statement Validates specialized knowledge by Employer Type

Employer Type/ Selected Response	Frequency	Percentage of Agreement	Cumulative Percent
Public Accounting Employer			
Strongly Agree (SA)	10	28.6	28.6
Agree (A)	22	62.9	91.4
No Opinion (NO)	0	0.0	91.4
Disagree (D)	3	8.6	100.0
Strongly Disagree (SD)	0	0.0	100.0
Industry Employer			
Strongly Agree (SA)	15	25.0	25.0
Agree (A)	41	68.3	93.3
No Opinion (NO)	1	1.7	95.0
Disagree (D)	3	5.0	100.0
Strongly Disagree (SD)	0	0.0	100.0

Note. No missing data

- Public Accounting Employer, $N = 35$
- Industry Employer, $N = 60$
- Median = 2.000
- Interquartile range = 3.000

For the value statement indicates level of accounting competence, Table 4 displays the hiring managers' Percentage of Agreement at (90.5%), in total. In a breakdown of the agreement response, more hiring managers' selected the response Agreed (65.3%), compared to those who responded Strongly Agreed (25.3%); however, the overall agreement that certification indicates level of accounting competence was significantly higher than those who responded with No Opinion (1.1%) or were in disagreement with this statement (8.4%).

Table 4 Percentage of Agreement with Value Statement Indicates Level of Accounting Competence

Selected Response	Frequency	Percentage of Agreement	Cumulative Percent*
Strongly Agree (SA)	24	25.3	25.3
Agree (A)	62	65.3	90.5
No Opinion (NO)	1	1.1	91.6
Disagree (D)	8	8.4	100.0
Strongly Disagree (SD)	0	0.0	100.0

Note. No missing data

a. $N = 95$

Table 5, Percentage of Agreement with Value Statement indicates level of accounting competence by Employer Type, found hiring managers from both employer groups virtually responding the same, (91.4%) Public Accounting Employer and (90.0%) Industry Employer. The median for total responses and by each employer group for indicates level of accounting competence was 2.000, with an interquartile range of 3.000.

A strong percentage of agreement by hiring managers, in total and by employer group, pointed to hiring managers' viewing certification as an important indicator of accounting competence.

Table 5 Percentage of Agreement with Value Statement Indicates Level of Accounting Competence by Employer Type

Employer Type/ Selected Response	Frequency	Percentage of Agreement	Cumulative Percent
Public Accounting Employer			
Strongly Agree (SA)	8	22.9	22.9
Agree (A)	24	68.6	91.4
No Opinion (NO)	0	0.0	91.4
Disagree (D)	3	8.6	100.0
Strongly Disagree (SD)	0	0.0	100.0
Industry Employer			
Strongly Agree (SA)	16	26.7	26.7
Agree (A)	38	63.3	90.0
No Opinion (NO)	1	1.7	91.7
Disagree (D)	5	8.3	100.0
Strongly Disagree (SD)	0	0.0	100.0

Note. No missing data

a. Public Accounting Employer, $N = 35$

b. Industry Employer, $N = 60$

c. Median = 2.000

d. Interquartile range = 3.000

The value statement indicates attainment of a practice standard in Table 6, also had a high combined agreement response (91.6%). More hiring managers' selected the *Agreed* (66.3%) response compared to those who selected *Strongly Agree* (25.3%); however, the overall agreement that certification indicates attainment of a practice standard was significantly higher than those who responded with *No Opinion* (2.1%) or were in disagreement (6.3%).

Table 6 Percentage of Agreement with Value Statement Indicates Attainment of a Practice Standard

Selected Response	Frequency	Percentage of Agreement	Cumulative Percent*
Strongly Agree (SA)	24	25.3	25.3
Agree (A)	63	66.3	91.6
No Opinion (NO)	2	2.1	93.7
Disagree (D)	6	6.3	100.0
Strongly Disagree (SD)	0	0.0	100.0

Note. No missing data

a. $N = 95$

Breaking out the responses to value statement indicates attainment of a practice standard by employer group in Table 7, the Industry Employer group indicated a higher level of agreement (93.3%) compared to the Public Accounting Employer group (88.6%). The median for total responses and by each employer group for indicates attainment of a practice standard was 2.000, with an interquartile range of 3.000. Even though there was a (4.7%) difference between employer group responses, a strong percentage of agreement by hiring managers', in total and by employer group still existed. The responses to this value statement, still pointed to hiring managers' viewing certification as an important indicator of attainment of a practice standard.

Table 7 Percentage of Agreement with Value Statement Indicates Attainment of a Practice Standard by Employer Type

Employer Type/ Selected Response	Frequency	Percentage of Agreement	Cumulative Percent
Public Accounting Employer			
Strongly Agree (SA)	8	22.9	22.9
Agree (A)	23	65.7	88.6
No Opinion (NO)	1	2.9	91.4
Disagree (D)	3	8.6	100.0
Strongly Disagree (SD)	0	0.0	100.0
Industry Employer			
Strongly Agree (SA)	16	26.7	26.7
Agree (A)	40	66.7	93.3
No Opinion (NO)	1	1.7	95.0
Disagree (D)	3	5.0	100.0
Strongly Disagree (SD)	0	0.0	100.0

Note. No missing data

- Public Accounting Employer, $N = 35$
- Industry Employer, $N = 60$
- Median = 2.000
- Interquartile range = 3.000

The response to value statement provides evidence of professional commitment in Table 8, had an overall (95.8%) percentage of agreement, in total. The outcomes for the agreement responses involving the professional commitment value statement showed more similarities than the findings for prior value statements. Hiring managers' still selected the response *Agreed* (51.6%) more than those who selected the response *Strongly Agree* (44.2%); however, the overall agreement that certification provides evidence of professional commitment was higher than the responses of *No Opinion* (1.1%) or *Disagree* (3.2%).

Table 8 Percentage of Agreement with Value Statement Provides Evidence of Professional Commitment

Selected Response	Frequency	Percentage of Agreement	Cumulative Percent*
Strongly Agree (SA)	42	44.2	44.2
Agree (A)	49	51.6	95.8
No Opinion (NO)	1	1.1	96.8
Disagree (D)	3	3.2	100.0
Strongly Disagree (SD)	0	0.0	100.0

Note. No missing data

a. $N = 95$

The two employer groups in Table 9 responded almost identical again, with the Public Accounting Employer response of (94.3%) and the Industry Employer response of (96.7%). The median for the value statement, provides evidence of professional commitment, was 2.000 (in total and by each employer group), with a interquartile range of 3.000. A strong percentage of agreement by hiring managers', in total and by employer group, pointed to hiring managers' viewing certification as an important indicator that certification is an important indicator of the certified candidate's professional commitment.

Table 9 Percentage of Agreement with Value Statement Provides Evidence of Professional Commitment by Employer Type

Employer Type/ Selected Response	Frequency	Percentage of Agreement	Cumulative Percent
Public Accounting Employer			
Strongly Agree (SA)	15	42.9	42.9
Agree (A)	18	51.4	94.3
No Opinion (NO)	1	2.9	97.1
Disagree (D)	1	2.9	100.0
Strongly Disagree (SD)	0	0.0	100.0
Industry Employer			
Strongly Agree (SA)	27	45.0	45.0
Agree (A)	31	51.7	96.7
No Opinion (NO)	0	0.0	96.7
Disagree (D)	2	3.3	100.0
Strongly Disagree (SD)	0	0.0	100.0

Note. No missing data

- a. Public Accounting Employer, $N = 35$
- b. Industry Employer, $N = 60$
- c. Median = 2.000
- d. Interquartile range = 3.000

For value statement increases marketability, the percentage of agreement findings, in total, displayed in Table 10 was (95.8%). In a breakdown of the agreement responses, more hiring managers' selected *Agreed* (63.2%), compared to those who selected *Strongly Agree* (32.6%). However, the overall agreement that certification increases marketability (a preferred hiring status) was significantly higher than those who responded with *No Opinion* (3.2%) or were in disagreement (1.1%).

Table 10 Percentage of Agreement with Value Statement Increases Marketability

Selected Response	Frequency	Percentage of Agreement	Cumulative Percent*
Strongly Agree (SA)	31	32.6	32.6
Agree (A)	60	63.2	95.8
No Opinion (NO)	3	3.2	98.9
Disagree (D)	1	1.1	100.0
Strongly Disagree (SD)	0	0.0	100.0

Note. No missing data

a. $N = 95$

In Table 11, the Industry Employer group were in agreement with the increases marketability value statement slightly more (96.7%) than the Public Accounting Employer group (94.3%). The median for increases marketability, in total and by employer group, was 2.000, with an interquartile range of 3.000. A strong percentage of agreement by hiring managers, in total and by employer group, pointed to hiring managers' viewing certification as an important indicator of a preferred hiring status (increases marketability).

Table 11 Percentage of Agreement with Value Statement Increases Marketability by Employer Type

Employer Type/ Selected Response	Frequency	Percentage of Agreement	Cumulative Percent
Public Accounting Employer			
Strongly Agree (SA)	7	20.0	20.0
Agree (A)	26	74.3	94.3
No Opinion (NO)	2	5.7	100.0
Disagree (D)	0	0.0	100.0
Strongly Disagree (SD)	0	0.0	100.0
Industry Employer			
Strongly Agree (SA)	24	40.0	40.0
Agree (A)	34	56.7	96.7
No Opinion (NO)	1	1.7	98.3
Disagree (D)	1	1.7	100.0
Strongly Disagree (SD)	0	0.0	100.0

Note. No missing data

- a. Public Accounting Employer, $N = 35$
- b. Industry Employer, $N = 60$
- c. Median = 2.000
- d. Interquartile range = 3.000

In comparing the percentage of agreement between the results of this study and the results of another study that used the PVCT© instrument to survey nursing administrators (Bekemeier, 2007; Sechrist et al., 2006), the value statements of validates specialized knowledge and provides evidence of professional commitment were similar in both studies at over (90%). For the value statement of indicates attainment of a practice standard, there was a discrepancy between the percentage of agreement for hiring managers' employed by Public Accounting Employers (88.6%) and hiring managers' employed by Industry Employers (93.3%). The Sechrist et al. (2006) study percentage of agreement (89.2%) was closer to the percentage of agreement for the hiring managers' in public accounting at (88.6%), compared to the percentage of agreement found among hiring managers' in industry (93.3%). At first glance, one might think that

the hiring processes in the field of public accounting and nursing may more closely mirror each other, than the hiring requirements for industry; however, the percentage of agreement in the Bekemeier (2007) nursing study (94.0%) more closely mirrored the percentage of agreement for hiring managers' in industry (93.3%). Additional research would be required in order to understand any similarities or differences in responses for this value statement. The percentage of agreement indicates level of competence and increases marketability were significantly less in nursing studies such as, Sechrist et al., (2006) (72.9%, indicates level of competence; 76.9%, increases marketability), and Bekemeier (2007) (83.4%, indicates level of competence; 72.4% increases marketability), compared to accounting paraprofessional hiring managers' in this study (90.5%, indicates level of competence, 95.8% increases marketability). Further research would be required in order to understand the differences between the responses to these value statements by accounting paraprofessional hiring managers' compared to nursing administrators.

The Spearman's rho correlation completed for each of the four key hiring signals (knowledge, competence, practice standard, professional commitment) and a preferred hiring status (increases marketability), showed a moderate to high correlation between the four hiring signals (knowledge, competence, practice standard, professional commitment) and increases marketability. The detailed results of the correlation findings are discussed further in the next section.

Details of Analysis and Results

The focus of the analysis for this study involved answering the primary research question and four associated sub questions. The consistency in findings (i.e., positive correlation) for all sub questions in this study, allowed the researcher to answer the primary research question from the results of the sub questions. The results of this study were interpreted based on the existing theoretical framework surrounding certification research and the PVCT© instrument as found in a literature review.

The primary research question for this study was “What is the correlation, if any, between hiring managers’ self-reported value of accounting paraprofessional certification hiring signals (knowledge, competence, practice standard, professional commitment) to hiring managers’ self-reported opinion toward a preferred hiring status (increases marketability) for certified candidates?” Before the primary research questions could be answered the following four sub questions needed to be examined.

Sub-Q1: What is the correlation, if any between hiring managers’ self-reported value of accounting paraprofessional certification as a hiring signal that validates the certified candidates’ specialized knowledge and hiring managers’ self-reported opinion toward a preferred hiring status (increases marketability) for certified candidates?

H₀₁: There is no statistically significant correlation between hiring managers’ self-reported value of accounting paraprofessional certification as a hiring signal that validates the certified candidates’ specialized knowledge and hiring managers’ self-reported opinion toward a preferred hiring status (increases marketability) for certified candidates.

H_{A1}: There is a statistically significant correlation between hiring managers' self-reported value of accounting paraprofessional certification as a hiring signal that validates the certified candidates' specialized knowledge and hiring managers' self-reported opinion toward a preferred hiring status (increases marketability) for certified candidates.

To answer Sub-Q1, a Spearman's rho correlation was performed to establish a correlation, if any, between the certification value statements, validates specialized knowledge and increases marketability. The survey value statement (validates specialized knowledge) was Value Statement 1 on the PVCT© survey instrument. The results of the correlation analysis are shown in Table 12. The self-reported certification value statements of validates specialized knowledge and increases marketability were measured using the following Likert-type scale:

1 = *Strongly Agree*, 2 = *Agree*, 3 = *No Opinion*, 4 = *Disagree*, 5 = *Strongly Disagree*, and 6 = *No Answer*. The missing data (6 = *No Answer*) only involved non-responses. Coding the missing data allowed the researcher to use listwise deletion in the SPSS software as appropriate. The results of the Spearman's rho correlation to determine the relationship between the variables of validates specialized knowledge and increases marketability indicated a moderate, positive correlation between knowledge and marketability, with $p < .05$ ($r_s = .573$, Listwise $N = 95$, $p < .001$), which led the null hypothesis to be rejected. The correlation between validates specialized knowledge and increases marketability is considered significant at the 0.01 level utilizing a 2-tailed analysis.

Table 12 Correlation Between Validates Specialized Knowledge and Increases Marketability

	Validates specialized knowledge	Increases marketability
Spearman's rho		
Validates specialized knowledge		
Correlation Coefficient	1.000	.573*
Sig. (2-tailed)		.000
Increases marketability		
Correlation Coefficient	.573*	1.000
Sig. (2-tailed)	.000	

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

a. Listwise $N = 95$

The results of the Spearman's rho correlation (Table 13), to determine the relationship between the variables of validates specialized knowledge and increases marketability, indicated a slightly higher positive correlation between knowledge, and marketability for the hiring managers of Public Accounting Employer, ($p < .05$) ($r_s = .700, p < .001$), compared to hiring managers of Industry Employers ($p < .05$) ($r_s = .543, p < .001$). The correlation between validates specialized knowledge and increases marketability is considered significant at the 0.01 level utilizing a 2-tailed analysis.

Table 13 Correlation Between Validates Specialized Knowledge and Increases Marketability by Employer Group

	Validates specialized knowledge	Increases marketability
Spearman's rho		
Public Accounting Employer		
Validates specialized knowledge		
Correlation Coefficient	1.000	.700*
Sig. (2-tailed)		.000
Increases marketability		
Correlation Coefficient	.700*	1.000
Sig. (2-tailed)	.000	
Industry Employer		
Validates specialized knowledge		
Correlation Coefficient	1.000	.543*
Sig. (2-tailed)		.000
Increases marketability		
Correlation Coefficient	.543*	1.000
Sig. (2-tailed)	.000	

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

a. Public Accounting Employer: Listwise $N = 35$

b. Industry Employer: Listwise $N = 60$

Sub-Q2: What is the correlation, if any, between hiring managers' self-reported value accounting paraprofessional certification as a hiring signal that indicates the certified candidates' level of accounting competence and hiring managers' self-reported opinion toward preferred hiring status (increases marketability) for certified candidates?

H₀₂: There is no statistically significant correlation between hiring managers' self-reported value of accounting paraprofessional certification as a hiring signal that indicates the certified candidates' level of accounting competence, and hiring managers' self-reported opinion toward preferred hiring status (increases marketability) for certified candidates.

H_{A2}: There is a statistically significant correlation between hiring managers' self-reported value of accounting paraprofessional certification as a hiring signal that indicates the certified candidates' level of accounting competence, and hiring managers' self-reported opinion toward preferred hiring status (increases marketability) for certified candidates.

To answer Sub-Q2, Table 14 presents the Spearman's rho correlation results for analyzing the correlation between the certification value statements, indicates level of accounting competence and increases marketability. The self-reported certification value statements of indicates level of accounting competence and increases marketability were measured using the following Likert-type scale: 1 = *Strongly Agree*, 2 = *Agree*, 3 = *No Opinion*, and 4 = *Disagree*, 5 = *No Opinion* and 6 = *No Answer*. The missing data (6 = *No Answer*) only involved non-responses. Coding the missing data allowed the researcher to use listwise deletion in the SPSS software.

The survey value statement (indicates level of accounting competence) is Value Statement 2 on the PVCT© survey instrument. The results of the Spearman's rho correlation to determine the relationship between the variables of indicates level of accounting competence and increases marketability indicated a moderate, positive

correlation between knowledge and marketability ($p < .05$) ($r_s = .550$, Listwise $N = 95$, $p < .001$), led the null hypothesis for Sub Q-2 to be rejected. The correlation between indicates level of accounting competence and increases marketability is considered significant at the 0.01 level utilizing a 2-tailed analysis.

Table 14 Correlation Between Indicates Level of Accounting Competence and Increases Marketability

	Indicates Level of Accounting Competence	Increases Marketability
Spearman's rho		
Indicates level of accounting competence		
Correlation Coefficient	1.000	.550*
Sig. (2-tailed)		.000
Increases marketability		
Correlation Coefficient	.550*	1.000
Sig. (2-tailed)	.000	

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

a. Listwise $N = 95$

In Table 15, the results of the Spearman's rho correlation between the variables of indicates level of accounting competence and increases marketability, indicated a slightly higher positive correlation between competence and marketability for the hiring managers of Public Accounting Employer ($p < .05$) ($r_s = .666$, $p < .001$), compared to hiring managers of Industry Employers ($p < .05$) ($r_s = .516$, $p < .001$). The correlation between indicates level of accounting competence and increases marketability is considered significant at the 0.01 level utilizing a 2-tailed analysis.

Table 15 Correlation Between Indicates Level of Accounting Competence and Increases Marketability by Employer Group

	Indicate Level of Accounting Competence	Increases Marketability
Spearman's rho		
Public Accounting Employer		
Indicates level of accounting competence		
Correlation Coefficient	1.000	.666*
Sig. (2-tailed)		.000
Increases marketability		
Correlation Coefficient	.666*	1.000
Sig. (2-tailed)	.000	
Industry Employer		
Indicates level of accounting competence		
Correlation Coefficient	1.000	.516*
Sig. (2-tailed)		.000
Increases marketability		
Correlation Coefficient	.516*	1.000
Sig. (2-tailed)	.000	

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

a. Public Accounting Employer: Listwise $N = 35$

b. Industry Employer: Listwise $N = 60$

Sub-Q3: What is the correlation, if any, between hiring managers' self-reported value of accounting paraprofessional certification as a hiring signal that indicates the certified candidates' attainment of a practice standard and hiring managers' self-reported opinion toward preferred hiring status (increases marketability) for certified candidates?

H₀₃: There is no statistically significant correlation between hiring managers' self-reported value of accounting paraprofessional certification as a hiring signal that indicates the certified candidates' attainment of a practice standard and hiring managers' self-reported opinion toward preferred hiring status (increases marketability) for certified candidates.

H_{A3}: There is a statistically significant correlation between hiring managers' self-reported value of accounting paraprofessional certification as a hiring signal that indicates the certified candidates' attainment of a practice standard and hiring managers' self-reported opinion toward preferred hiring status (increases marketability) for certified candidates.

To answer Sub-Q3, Table 16 presents the Spearman's rho correlation results for analyzing the correlation between the certification value statements, indicates attainment of a practice standard and increases marketability. The self-reported certification value statements of indicates attainment of a practice standard and increases marketability were measured using the following Likert-type scale: 1 = *Strongly Agree*, 2 = *Agree*, 3 = *No Opinion*, 4 = *Disagree*, 5 = *Strongly Disagree*, and 6 = *No Answer*. The missing data (6 = *No Answer*) only involved non-responses. Coding the missing data allowed the researcher to use listwise deletion in the SPSS software.

The survey value statement (indicates attainment of a practice standard) is Statement 3 on the PVCT© survey instrument. The results of the Spearman's rho correlation to determine the relationship between the variables of indicates attainment of a practice standard and increases marketability indicated a moderate, positive correlation

between practice standard and marketability, with $p < .05$ ($r_s = .591$, Listwise $N = 95$, $p < .001$), led the null hypothesis for Sub Q-3 to be rejected. The correlation between indicates attainment of a practice standard and increases marketability is considered significant at the 0.01 level utilizing a 2-tailed analysis.

Table 16 Correlation Between Indicates Attainment of a Practice Standard and Increases Marketability

	Indicates Attainment of a Practice Standard	Increases Marketability
Spearman's rho		
Indicates attainment of a practice standard		
Correlation Coefficient	1.000	.591*
Sig. (2-tailed)		.000
Increases marketability		
Correlation Coefficient	.591*	1.000
Sig. (2-tailed)	.000	

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

a. Listwise $N = 95$

In Table 17, the results of the Spearman's rho correlation between the variables of indicates attainment of practice standard and increases marketability, indicated a significantly higher positive correlation between practice standard and marketability for the hiring managers of Public Accounting Employer ($p < .05$) ($r_s = .766$, $p < .001$), compared to hiring managers of Industry Employers ($p < .05$) ($r_s = .510$, $p < .001$). The

correlation between indicates attainment of a practice standard and increases marketability is considered significant at the 0.01 level utilizing a 2-tailed analysis.

Table 17 Correlation Between Indicates Attainment of a Practice Standard and Increases Marketability by Employer Group

	Indicates Attainment of a Practice Standard	Increases Marketability
Spearman's rho		
Public Accounting Employer		
Indicates attainment of a practice standard		
Correlation Coefficient	1.000	.766*
Sig. (2-tailed)		.000
Increases marketability		
Correlation Coefficient	.766*	1.000
Sig. (2-tailed)	.000	
Industry Employer		
Indicates attainment of a practice standard		
Correlation Coefficient	1.000	.510*
Sig. (2-tailed)		.000
Increases marketability		
Correlation Coefficient	.510*	1.000
Sig. (2-tailed)	.000	

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

a. Public Accounting Employer: Listwise $N = 35$

b. Industry Employer: Listwise $N = 60$

Sub-Q4: What is the correlation, if any between hiring managers' self-reported value of accounting paraprofessional certification as a hiring signal that provides evidence of the certified candidates' professional commitment and hiring managers' self-reported opinion toward preferred hiring status (increases marketability) for certified candidates?

H₀₄: There is no statistically significant correlation between hiring managers' self-reported value of accounting paraprofessional certification as a hiring signal that provides evidence of the certified candidates' professional commitment and hiring managers' self-reported opinion toward preferred hiring status (increases marketability) for certified candidates.

H_{A4}: There is a statistically significant correlation between hiring managers' self-reported value of accounting paraprofessional certification as a hiring signal that provides evidence of the certified candidates' professional commitment and hiring managers' self-reported opinion toward preferred hiring status (increases marketability) for certified candidates.

To answer Sub-Q4, Table 18 presents the Spearman's rho correlation results for analyzing the correlation between the certification value statements, provides evidence of professional commitment. The self-reported certification value statements of provides evidence of professional commitment and increases marketability were measured using the following Likert-type scale: 1 = *Strongly Agree*, 2 = *Agree*, 3 = *No Opinion*, 4 = *Disagree*, 5 = *Strongly Disagree* and 6 = *No Answer*. The missing data only involved non-responses and was coded as a 6. Coding the missing data allowed the researcher to use listwise deletion in the SPSS software.

The survey value statement (provides evidence of professional commitment) is Statement 2 on the PVCT© survey instrument. The results of the Spearman's rho correlation to determine the relationship between the variables of provides evidence of professional commitment and increases marketability indicated a moderate, positive correlation between professional commitment and marketability, ($p < .05$) ($r_s = .529$, Listwise $N = 95$, $p < .001$), led the null hypothesis for Sub Q-4 to be rejected. The correlation between provides evidence of professional commitment and increases marketability is considered significant at the 0.01 level utilizing a 2-tailed analysis.

Table 18 Correlation Between Provides Evidence of Professional Commitment and Increases Marketability

	Provides evidence of professional commitment	Increases marketability
Spearman's rho		
Indicates attainment of a practice standard		
Correlation Coefficient	1.000	.529*
Sig. (2-tailed)		.000
Increases marketability		
Correlation Coefficient	.529*	1.000
Sig. (2-tailed)	.000	

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

a. Listwise $N = 95$

In Table 19, the results of the Spearman's rho correlation between the variables of provides evidence of professional commitment and increases marketability, indicated a slightly lower positive correlation between professional commitment and marketability

for the hiring managers of Public Accounting Employer, ($p < .05$) ($r_s = .609$, $p < .001$), compared to hiring managers of Industry Employers ($p < .05$) ($r_s = .514$, $p < .001$). The correlation between provides evidence of professional commitment and increases marketability is considered significant at the 0.01 level utilizing a 2-tailed analysis.

Table 19 Correlation Between Provides Evidence of Professional Commitment and Increases Marketability by Employer Group

	Provides evidence of professional commitment	Increases marketability
Spearman's rho		
Public Accounting Employer		
Provides evidence of professional commitment		
Correlation Coefficient	1.000	.609*
Sig. (2-tailed)		.000
Increases marketability		
Correlation Coefficient	.609*	1.000
Sig. (2-tailed)	.000	
Industry Employer		
Provides evidence of professional commitment		
Correlation Coefficient	1.000	.514*
Sig. (2-tailed)		.000
Increases marketability		
Correlation Coefficient	.514	1.000
Sig. (2-tailed)		

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

a. Public Accounting Employer: Listwise $N = 35$

b. Industry Employer: Listwise $N = 60$

The primary research question for this study was “What is the correlation, if any, between hiring managers’ self-reported value of accounting paraprofessional certification hiring signals (knowledge, competence, practice standard, professional commitment) and hiring managers’ self-reported opinion toward a preferred hiring status (increases marketability) for certified candidates?”

H₀: There is no statistically significant correlation between hiring managers’ self-reported value of accounting paraprofessional certification hiring signals (knowledge, competence, practice standard, professional commitment) to hiring managers’ self-reported opinion toward a preferred hiring status (increases marketability) for certified candidates.

H_A: There is a statistically significant correlation between hiring managers’ self-reported value of accounting paraprofessional certification hiring signals (knowledge, competence, practice standard, professional commitment) to hiring managers’ self-reported opinion toward a preferred hiring status (increases marketability) for certified candidates.

The null hypothesis for the primary research question would be rejected for the combination of (knowledge, competence, practice standard, professional commitment) to hiring managers’ self-reported opinion toward a preferred hiring status (increases marketability) for certified candidates, based on the null hypothesis being rejected for SubQ-1 through Sub-Q4. A moderate correlation for each of the four variables in relationship to increases marketability was calculate, $p < .001$, which was $< .05$, the significance level established for this study.

Conclusion

In Chapter 4, the data and statistical analyses presented anthropomorphic findings regarding the correlation between hiring managers' self-reported value of accounting paraprofessional certification hiring signals to hiring managers' self-reported view regarding certified candidates receiving a preferred hiring status (increases marketability). More specifically, this study's findings indicated a moderate relationship between the four specifically identified hiring signals from prior research: (1) knowledge, (2) accounting competence, (3) practice standard, and (4) professional commitment and hiring managers' self-reported view regarding certified candidates receiving a preferred hiring status (increases marketability). With a significance level $< .05$, the null hypothesis for Sub-Q1 – Sub-Q4 was rejected as well as the null hypothesis for the primary research question. In addition, the results of this study offered insight into the strong percentage of agreement for each of the five value statements in total and between employer groups within the field of accounting paraprofessional certification. It also offered an opportunity for comparison between the percentage of agreement for this study and other studies that utilized the PVCT© survey instrument, which presented similar results.

CHAPTER 5. DISCUSSION, IMPLICATIONS, RECOMMENDATIONS

Introduction

Baretich (2012) proposed that approaching the topic of certification in a variety of environments, will most likely “spark heated discussion” and “there’s no shortage of opinions about the value of certification” (p. 68). However, regardless of how controversial the topic of certification value may be, certification has been identified as a signal of a potential employee’s knowledge, skills, expertise and/or his or her readiness to join and successfully contribute to an organization (Bricker, 2015). This study sought to provide additional insight into the certification field of study, in particular, the area of accounting paraprofessional certification. In particular, the findings of this research provided an insight into the correlation between four key hiring signals identified in prior research (knowledge, competence, practice standard, professional commitment), and a preferred hiring status (increases marketability). Therefore, the results of this study added to the existing body of certification knowledge as well as narrowed the theoretical gap in the field of accounting paraprofessional certification. Future researchers can use the results of this study as a foundation for further accounting paraprofessional certification exploration and examination.

Chapter 5 of this dissertation discussed the findings of this study in greater detail, and in relationship to prior research. It provided an in-depth review of the study, including the methodologies and findings. Chapter 5 was organized in the following manner: (1) summary of the results; (2) discussion of the results; (3) implications of the study results; (4) limitation of the study, and (5) recommendations for future research or intervention.

Summary of the Results

The value of voluntary certification involves both the perception of the hiring manager and the certified employee. As both hiring managers and employees recognize the value a particular certification, the more likely they are to invest in the process (Wiley, 1995). Certifying organizations often promote the benefits of certification; however, these proposed benefits may only exist if all of the stakeholder, including the hiring managers', have the same perception (Phillips, 2004; Wiley, 1995). If hiring managers do not place value on a particular certification, as a signal for employment, then the certification will not last (Gaberson et al., 2003; Wiley, 1995). The hiring manager's perception toward the value of certification is a vital component for the success of any certification program.

The study used a quantitative, non-experimental, exploratory correlational survey methodology. The sample for the study was obtained from the TSCPA membership database, targeting CPA Hiring Managers of accounting paraprofessionals. CPA Hiring Managers worked for either public accounting employers or industry employers, and held the CPA designation for five or more years. A survey invitation, including a web link to

SurveyMonkey®, was mailed to the sample population. The PVCT© survey instrument was administered through SurveyMonkey®, allowing for data collection online, in an anonymous environment. The SurveyMonkey® link was available over a three-week period. The respondents were required to indicate that they were currently or previously involved in hiring accounting paraprofessionals in order to participate in the survey. Those who were not qualified to participate in the study, were exited from the study before answering any of the PVCT© survey questions.

Of the 1,498 participants solicited to participate in this study, 103 respondents entered the survey. Eight of the respondents were disqualified, or did not choose to participate in the survey. The remaining 95 respondents completed the survey (Public Accounting, 35; Industry, 60). There was no missing data (non-responses) for the value statements utilized to answer the research questions in this study.

The purpose of this study was to assess the correlation, between hiring managers' self-reported value of key accounting paraprofessional certification hiring signals (knowledge, competence, practice standard, professional commitment) to hiring managers' self-reported view regarding certified candidates receiving a preferred hiring status (increases marketability). These key hiring signals were identified in prior certification research and were further supported by the percentage of employer agreement found in two prior studies (Bekemeier, 2007; Sechrist et al., 2006). Specifically, this study explored the correlation between four certification value statements from the PVCT© survey instrument, (validates specialized knowledge, indicates level of accounting competence, indicates attainment of a practice standard, provides evidence of professional commitment) that aligned with the four key hiring

signals involved in this study. Additionally, the PVCT© value statement increases marketability was used as an indicator of a preferred hiring status for certificated candidates. The primary research question and hypotheses for this study were as follows:

Primary Research Question: What is the correlation, if any, between hiring managers' self-reported value of accounting paraprofessional certification hiring signals (knowledge, competence, practice standard, professional commitment) and hiring managers' self-reported opinion toward a preferred hiring status (increases marketability) for certified candidates?

H₀: There is no statistically significant correlation between hiring managers' self-reported value of accounting paraprofessional certification hiring signals (knowledge, competence, practice standard, professional commitment) to hiring managers' self-reported opinion toward a preferred hiring status (increases marketability) for certified candidates.

H_A: There is a statistically significant correlation between hiring managers' self-reported value of accounting paraprofessional certification hiring signals (knowledge, competence, practice standard, professional commitment) to hiring managers' self-reported opinion toward a preferred hiring status (increases marketability) for certified candidates.

The primary research question was examined using data collected with the PVCT© instrument to answer the sub questions (Sub-Q1 – Sub-Q4). Spearman's rho, a non-parametric correlation measurement, was used with the ordinal data collected by the Likert-type scale instrument (PVCT©). Respondents answered 18 value statements (12 intrinsic, 6 extrinsic), including the key hiring signal value statements used in this study

of (validates specialized knowledge, indicates level of accounting competence, indicates attainment of a practice standard, provides evidence of professional commitment, increases marketability). The data collected with the PVCT© was used to answer the research sub questions in order to determine a relationship, if any, between the key hiring signal value statements of (validates specialized knowledge, indicates level of accounting competence, indicates attainment of a practice standard, provides evidence of professional commitment), and a preferred hiring status (increases marketability). The primary research question included a combination of the four key hiring signal value statements involved the research sub questions. Therefore, the research sub questions needed to be answered before an answer to the primary research question could be determined. The primary research question was answered in this chapter, immediately following the answers to the research sub questions.

Sub-Q1: What is the correlation, if any between hiring managers' self-reported value of accounting paraprofessional certification as a hiring signal that validates the certified candidates' specialized knowledge and hiring managers' self-reported opinion toward a preferred hiring status (increases marketability) for certified candidates?

H₀₁: There is no statistically significant correlation between hiring managers' self-reported value of accounting paraprofessional certification as a hiring signal that validates the certified candidates' specialized knowledge and hiring managers' self-reported opinion toward a preferred hiring status (increases marketability) for certified candidates.

H₁₁: There is a statistically significant correlation between hiring managers' self-reported value of accounting paraprofessional certification as a hiring signal that validates the certified candidates' specialized knowledge, and hiring managers' self-reported opinion toward a preferred hiring status (increases marketability) for certified candidates.

Sub-Q1 was examined using data collected with the PVCT© survey instrument. A Spearman's rho correlation was used for statistical analysis to determine correlation between the hiring managers' value of certification as a hiring signal of knowledge, and a preferred hiring status (increases marketability). Overall, hiring managers' responses to the value statement, validates specialized knowledge, indicated a moderate, positive correlation between knowledge and marketability. Therefore, the null hypothesis was rejected.

Sub-Q2: What is the correlation, if any, between hiring managers' self-reported value accounting paraprofessional certification as a hiring signal that indicates the certified candidates' level of accounting competence and hiring managers' self-reported opinion toward preferred hiring status (increases marketability) for certified candidates?

H₀₂: There is no statistically significant correlation between hiring managers' self-reported value of accounting paraprofessional certification as a hiring signal that indicates the certified candidates' level of accounting competence, and hiring managers' self-reported opinion toward preferred hiring status (increases marketability) for certified candidates.

H_{A2}: There is a statistically significant correlation between hiring managers' self-reported value of accounting paraprofessional certification as a hiring signal that indicates the certified candidates' level of accounting competence, and hiring managers' self-reported opinion toward preferred hiring status (increases marketability) for certified candidates.

Sub-Q2 was examined using data collected with the PVCT© survey instrument. A Spearman's rho correlation was used for statistical analysis to determine correlation between the hiring managers' value of certification as a hiring signal of competence to a preferred hiring status (increases marketability). Overall, hiring managers' responses indicated a moderate, positive correlation between competence and marketability. Therefore, the null hypothesis was rejected.

Sub-Q3: What is the correlation, if any, between hiring managers' self-reported value of accounting paraprofessional certification as a hiring signal that indicates the certified candidates' attainment of a practice standard and hiring managers' self-reported opinion toward preferred hiring status (increases marketability) for certified candidates?

H₀₃: There is no statistically significant correlation between hiring managers' self-reported value of accounting paraprofessional certification as a hiring signal that indicates the certified candidates' attainment of a practice standard and hiring managers' self-reported opinion toward preferred hiring status (increases marketability) for certified candidates.

H_{A3}: There is a statistically significant correlation between hiring managers' self-reported value of accounting paraprofessional certification as a hiring signal that indicates the certified candidates' attainment of a practice standard, and hiring managers' self-reported opinion toward preferred hiring status (increases marketability) for certified candidates.

Sub-Q3 was examined using data collected with the PVCT© survey instrument. A Spearman's rho correlation was used for statistical analysis to determine correlation between the hiring managers' value of certification as a hiring signal of attainment of a practice standard to a preferred hiring status (increases marketability). Overall, hiring managers' responses indicated a moderate, positive correlation between practice standard and marketability. Therefore, the null hypothesis was rejected.

Sub-Q4: What is the correlation, if any between hiring managers' self-reported value of accounting paraprofessional certification as a hiring signal that provides evidence of the certified candidates' professional commitment and hiring managers' self-reported opinion toward preferred hiring status (increases marketability) for certified candidates?

H₀₄: There is no statistically significant correlation between hiring managers' self-reported value of accounting paraprofessional certification as a hiring signal that provides evidence of the certified candidates' professional commitment and hiring managers' self-reported opinion toward preferred hiring status (increases marketability) for certified candidates.

H_{A4}: There is a statistically significant correlation between hiring managers' self-reported value of accounting paraprofessional certification as a hiring signal that provides evidence of the certified candidates' professional commitment and hiring managers' self-reported opinion toward preferred hiring status (increases marketability) for certified candidates.

Sub-Q4 was examined using data collected with the PVCT© survey instrument. A Spearman's rho correlation was used for statistical analysis to determine correlation between the hiring managers' value of certification as a hiring signal that provides evidence of professional commitment to a preferred hiring status (increases marketability). Overall, hiring manager responses indicated a moderate, positive correlation between professional commitment and marketability. Therefore, the null hypothesis was rejected. Now let's revisit the primary research question and hypotheses for this study.

Primary Research Question: What is the correlation, if any, between hiring managers' self-reported value of accounting paraprofessional certification hiring signals (knowledge, competence, practice standard, professional commitment) and hiring managers' self-reported opinion toward a preferred hiring status (increases marketability) for certified candidates?

H_0 : There is no statistically significant correlation between hiring managers' self-reported value of accounting paraprofessional certification hiring signals (knowledge, competence, practice standard, professional commitment) to hiring managers' self-reported opinion toward a preferred hiring status (increases marketability) for certified candidates.

H_A : There is a statistically significant correlation between hiring managers' self-reported value of accounting paraprofessional certification hiring signals (knowledge, competence, practice standard, professional commitment) to hiring managers' self-reported opinion toward a preferred hiring status (increases marketability) for certified candidates.

Since all of the null hypotheses for the sub questions were rejected, the null hypothesis was also rejected for the primary research question. The primary research question included a combination of the four key hiring signals (knowledge, competence, practice standard, professional commitment), in correlation to a preferred hiring status (increases marketability).

The survey results indicated a high level of agreement among respondents, regarding the five certification value statements of knowledge (92.6%), competence (90.5%), practice standard (91.6%), professional commitment (95.8%) and marketability (95.8%). The median for all five value statements being examined was 2.000 and the interquartile range was 3.000. A Spearman's rho correlation was also performed on the four value statements of knowledge, competence, practice standard and professional commitment in relationship to a preferred hiring status (increases marketability). A moderate, positive correlation, in total, was found between all of the measured value

statements with indicates professional commitment having the lowest correlation at ($r_s = .529$, Listwise $N = 95$, $p < .01$) and indicates practice standard having the highest correlation at ($r_s = .591$, Listwise $N = 95$, $p < .01$).

When examining the correlation for the same hiring signals by employer type (Public Accounting, Industry), there was a higher, positive correlation found between all of the measured value statements and marketability, compared to industry employers who showed only a moderate, positive correlation (Table 20). The value statement of indicates attainment of a practice standard had the highest correlation for hiring managers in public accounting at ($r_s = .766$, Listwise $N = 95$, $p < .01$), compared to the lowest correlation for hiring managers in industry at ($r_s = .510$, Listwise $N = 95$, $p < .01$). Perhaps the more regulatory nature of public accounting contributed to the higher correlation for responses from hiring managers in public accounting, compared to industry. Future research may want to investigate these differences further. The value statement of provides evidence of professional commitment resulted in the lowest correlation for hiring managers' in public accounting at a moderate, positive correlation of ($r_s = .609$, Listwise $N = 95$, $p < .01$). The response to the professional commitment value statement was still higher for hiring managers' in public accounting compared to the moderate, positive correlation found from their counterparts' responses in industry ($r_s = .514$, Listwise $N = 95$, $p < .01$). Overall, hiring managers' in public accounting responded with a higher correlation to the key hiring signals in comparison to a preferred hiring status (increases marketability), compared to hiring managers' in industry. Further research may be warranted to understand differing viewpoints between employer groups.

Table 20 Correlation Between Key Hiring Signals and Increases Marketability by Employer Group

Employer Type	Knowledge	Commitment	Practice Standard	Professional Commitment	Marketability
Public Accounting					
Correlation Coefficient	.700	.666	.766	.609	1.000
Sig. (2-tailed)	.000	.000	.000	.000	
Industry					
Correlation Coefficient	.543	.516	.510	.514	1.000
Sig. (2-tailed)					

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

a. Public Accounting Employer: Listwise $N = 35$

b. Industry Employer: Listwise $N = 60$

The null hypothesis for Sub-Q1 through SubQ-4 were rejected due to the correlation between variables. The primary research questions was a summation of the sub questions and therefore, the null hypothesis for the primary research question were rejected as well.

Discussion of the Results

The value of accounting paraprofessional certification from the perception of hiring managers is limited (Quan et al., 2007; Wierschem et al., 2010), and no known research exists in the accounting paraprofessional field of study from the employer's perspective. Therefore, this study looked at the value of accounting paraprofessional certification from the hiring managers' perspective using a scholarly lens.

While the correlational data analysis from this study offered an understanding about the moderate, positive overall relationship between the key hiring signals (knowledge, competence, practice standard, professional commitment) in connection to a

preferred hiring status (increases marketability), descriptive statistics analysis of frequency, median, interquartile range and percentage of agreement were also performed. The demographic data of CPA Public Accounting Hiring Managers and CPA Industry Hiring Managers were also used in order to understand similarities and differences that existed between hiring managers in these two employment environments.

The PVCT© instrument presented respondents with 18 value statements (12 intrinsic and 6 extrinsic); however, only four pre-identified intrinsic certification hiring signals from prior literature, (knowledge, accounting competence, practice standard, professional commitment) were examined in relationship to the extrinsic certification value statement involving a preferred hiring status (increases marketability) (Bekemeier, 2007; Byrne et al., 2004. Cary, 2001; Fox, 2010; Gaberson et.al., 2003; Messmer et al., 2011; Niebuhr & Biel, 2007; Sechrist & Berlin, 2006; Sechrist et al., 2006). Respondents were not aware of the five value statements identified for this study. Therefore, the survey should not have influenced or created bias in the participants' responses (Leedy & Ormrod, 2005). The interpretations for this study were unique, in the fact that no existing literature for the accounting paraprofessional field of study was available for comparison. The percentage of agreement results for this study were compared against prior PVCT© research findings (Bekemeier, 2007; Sechrist et al., 2006) involving employers', in the field of nursing; in order to better understand the findings for this study in the context of prior research. The moderate to high, positive correlation findings from this study allowed the researcher to determine the relationship between the key hiring signals (knowledge, competence, practice standard, professional commitment), and a preferred hiring status (increases marketability); however, the findings of this study were not able

to determine causation. Bartlett (2012) proposed that two factors indicate an association or relationship, but correlation is not statistically sufficient to ascertain if one factor causes another. Therefore, future research would be required in order to examine causation between the four key hiring signals (knowledge, commitment, practice standard, professional commitment) and a preferred hiring status (increases marketability).

Implications of the Study Results

The findings for percentage of agreement in this study were compared to Sechrist et al., (2006) which included similar employer categories (administrators) in the field of nursing. The descriptive statistics in Table 21, found a high percentage of agreement among hiring manager's perception involving the certification value statements of validates specialized knowledge (APHMs 92.6%, NADs 94.6%), indicates attainment of a practice standard (APHMs 91.6%, NADs 89.2%), and provides evidence of professional commitment (APHMs 95.8%, NADs 90.7) (Sechrist et al, 2006). The results found in this study are encouraging in the sense that hiring managers' value accounting paraprofessional certifications, similar to administrators in the field of nursing which has both licensure and voluntary certifications. Significant differences existed in the percentage of agreement between APHMs (90.5%) and NADs (72.9%) with regard to indicates level of accounting (clinical) competence. The difference for this response, might be skewed, due to the response rate difference between APHMs ($N = 95$) and NADs ($N = 694$). Additionally, the difference in the response may be due to the dissimilarity of the work requirements between accounting paraprofessionals and nursing

personnel. The value statement of increases marketability also saw a significant difference between the response of the APHMs (95.8%) and NADs (76.9%). This difference may be related to a similar discrepancy found in the percentage of agreement between promotes recognition from employers, APHMs (93.7%), compared to NADs (70.3%). The lower response rate by NADs to increases marketability and promotes recognition from employers, may be directly related, as the hiring managers are the gatekeepers to employment; therefore, if hiring managers do not recognize a certification, it would be understandable that the certification would not provide a preferred hiring status (increases marketability). Wiley (1995) suggested if hiring managers do not place value on a particular certification, then over time that certification's value will decline.

Table 21 Percentage of Agreement with 18 PVCT© Value Statements

Value Statement Item	% in agreement* APHM (N = 95)	% in Agreement NADs (N= 694) (Sechrist et al., 2006)
12 PVCT© Intrinsic Value Statements		
Enhances feeling of personal accomplishment	100.0	98.3
Provides personal satisfaction	100.0	97.2
Validates specialized knowledge	92.6	94.6
Provides professional challenge	91.6	93.8
Indicates attainment of a practice standard	91.6	89.2
Enhances professional credibility	96.8	92.0
Indicates professional growth	97.9	93.9
Provides evidence of professional commitment	95.8	90.7
Indicates level of accounting/clinical competence	90.5	72.9
Enhances personal confidence in accounting/clinical abilities	95.8	87.2
Provides evidence of accountability	75.8	73.7
Enhances professional autonomy	82.1	72.9
6 PVCT© Extrinsic Value Statements		
Promotes recognition from peers (c)	90.4	81.3
Promotes recognition from other accounting professionals/other health care professionals	92.6	75.9
Promotes recognition from employers	93.7	70.3
Increases consumer confidence (d)	69.9	51.0
Increases marketability	95.8	76.9
Increases salary	80.0	30.7

Note. % in agreement is the total percentage of respondents who selected “Strongly Agree” and “Agree”

a. APHMs = Accounting Paraprofessional Hiring Managers’

b. NADs = Nursing Administrators

c. Missing Data (No Answer - NA) (N=1)

d. Missing Data (No Answer - NA) (N=2)

Additionally, the percentage of agreement, between CPA Hiring Managers in Public Accounting, versus CPA Hiring Managers in Industry, were comparable. The correlation results, using Spearman’s rho, identified a moderate, positive correlation, between increases marketability, and the four certification value statements of validates specialized knowledge ($r_2 = .573$, Listwise $N = 95$, $p < .001$), indicates a level of accounting competence ($r_2 = .550$, Listwise $N = 95$, $p < .001$), indicates attainment of a

practice standard ($r_2 = .591$, Listwise $N = 95$, $p < .001$), provides evidences of professional commitment ($r_2 = .529$, Listwise $N = 95$). The correlation results for Public Accounting Hiring Managers and Industry Hiring Managers were similar, although the Public Accounting Hiring Managers ($r_2 = .700$, Listwise $N = 35$, $p < .001$), had a stronger, positive correlation than Industry Hiring Managers for validates specialized knowledge ($r_2 = .543$, Listwise $N = 60$, $p < .001$). They also had a higher, positive correlation for indicates attainment of a practice standard (Public Accounting Hiring Managers, $r_2 = .766$, Listwise $N = 35$, $p < .001$) compared to (Industry Hiring Managers, $r_2 = .510$, Listwise $N = 60$, $p < .001$). The small sample size and the number of respondents from Industry (60) versus Public Accounting (35) may account for the difference. Additionally, since public accounting may have a higher regulatory standard than industry, this may also account for the difference. Further research would be required in order to understand the differences between the two employer groups for these findings. The findings in this study had a p value of .000, which means $p < .001$, but it does not necessarily mean that $p = 0$. Since $p < .05$, the null hypothesis was rejected for Sub Q-1 through Sub-4. The primary research question was a summary of the four sub questions, so the null hypothesis for the primary research question was rejected as well.

The correlation analysis indicated a relationship for the four value statements of knowledge, accounting competence, practice standard, professional commitment and marketability. The findings in this study were consistent with the pre-study assumptions based on prior certification studies in the field of nursing. Nursing has a professional licensure requirement as well as voluntary certification (Bekemeier, 2007), which is

similar to the field of accounting. The implications for this certification study, in the field of accounting paraprofessional, include that hiring managers appear to be aware of the benefits of voluntary accounting paraprofessional certification. Their high percentage of agreement with the examined value statements for this study may indicate a willingness to using accounting paraprofessional certification as a signal during the hiring process. Considering that many accounting paraprofessionals have limited formal education or training in the field, and often learn what they know on-the-job; hiring managers may be willing to use accounting paraprofessional certification as a hiring signal to validate the prospective employee's knowledge and skills in order to select the best possible applicant for the job (Fertig, 2011).

Spence (1973) suggested that hiring managers have a variety of factors or signals they can use when making hiring decisions and proposed that hiring managers cannot truly distinguish between qualified or unqualified applicants during the hiring process. Therefore, hiring managers must rely on other existing and noticeable personal "characteristics and attributes" (Spence, 1973, p. 357). To avoid hiring the wrong individual for the job, hiring managers can use signals as part of the hiring process (Albrecht & Van Ours, 2006; Bartlett, 2012; Bricker, 2015; Karasek & Bryant, 2012; Spence, 1973). Several hiring signals were discussed in prior literature, including education, experience, personal characteristics and a variety of other detectable traits (Spence, 1973). Certification was discussed in more recent literature as a reliable signal that hiring managers could use to identify a job candidate's degree of knowledge, competency, attainment of prescribed standards and/or professional commitment (Bartlett, 2012; Bricker, 2015; Cary, 2001; Cegielski et al., 2003; Fertig, 2011;

Hutchinson & Fleischman, 2003; Lester et al., 2011; Phillips, 2004; Wiley, 1995). The results of this study showed that hiring managers had a high percentage of agreement with the key hiring signals of knowledge, commitment, practice standard and professional commitment and a moderate to high level of correlation between these factors and a preferred hiring status (increases marketability). Therefore, it appears that hiring managers' value certification as a hiring signal for these factors. Further research is needed in order to understand any cause and effect that might be involved between these key certification value statements. This study has provided a foundation for future researchers to build upon.

The study of certification has been viewed in terms of the human capital theory, resource-based view and the signaling theory, to name a few. Clark and Martorell (2014) proposed that human capital theories and signaling theory are somewhat intertwined and often empirically difficult to distinguish from each other at times. Both tend to imply a positive effect between the hiring signals valued by employers and wages. Human capital has often been referred to, in accounting terms, as an asset of the firm. Yu-Shu, et al., (2009) referred to human capital as "the most important asset of public accounting firms" (p. 523). Human capital has been considered an integral part of a firm's competitive strategic advantage. Human capital is commonly thought to be the knowledge, skills and abilities (KSA) employees bring to an organization (Litschka, et al, 2006). Choudhury and Jones (2010) looked at human capital from an individual's perspective and proposed that human capital was a leading factor in determining career success, especially earning potential. Those who are advocates of human capital in the study of certification, typically consider certification to be an indicator of the knowledge

and skills that the certification is designed to measure. The resource-based view expanded the human capital theory by identifying the differences in organizational resources, such as human capital. At times, human capital can be the core of a firm's competitive advantage, if the resource is viewed as unique, valuable, and difficult to duplicate (Barney, 1991, Campbell, et al., 2012). However, acquiring the employees with the best resume (most knowledge, skills and abilities) does not guarantee a sustainable competitive advantage for the organization (Barney, 1991; Cohen, 2012; Coff, 1997.)

The human capital qualities that make an employee a strategic asset, such as certification, education and experience, can become portable, which creates a management challenge for employers (Coff 1997). At times, a firm may not realize the value of a particular human capital resource until it is no longer available. Therefore, if one hiring manager views the hiring signal of certification differently than another, the hiring manager's organization may gain a strategic competitive advantage over the other firm by employing the certified candidate. However, if the human capital is duplicated by other firms, (i.e., each hiring manager holds the same value regarding certification), then neither organization gains a strategic competitive advantage. Considering the percentage of agreement found in this study, it does not appear that certification will provide a significant competitive advantage for one firm over another. Barney (1991) addressed competitive advantage based on human capital, when he proposed that firms holding a sustained competitive advantage should not expect the benefit to "last forever" (p. 103).

The focus of this study and the related findings were examined using the signaling theory, which was the seminal work of Spence (1973). The signaling theory as applied to this study, indicated that hiring managers view certification as a signal which indicates

knowledge and skills required for the job in relationship to a preferred hiring status (increases marketability). The benefit that hiring managers can gain from valuing certification as a hiring signal may be the ability to minimize hiring mistakes. Sahlein (2006) discussed that certification can prevent employers from hiring the wrong person, which can often take months to determine the new hire's fit in the workplace. The findings in this study appear to support that hiring managers of accounting paraprofessionals use certification as a signal of knowledge, competence, practice standard and professional commitment in terms of a preferred hiring status (increases marketability). Hiring managers in public accounting, have a higher, positive correlation for these hiring signals than their industry counterparts. Perhaps the respondents from public accounting use certification more frequently in an effort to avoid hiring the wrong person for the job (Albrecht & Van Ours, 2006; Spence, 1973), or public accounting may have a more formal hiring process than industry. Signals can be useful tools when little else is known about an applicant, especially if an organization uses a more formal hiring channel (Albrecht & Van Ours, 2006). Future research would be required in order to gain a better understanding about the correlational differences between employer group (public accounting, industry) for the value statements examined in this study

Assumptions and Limitations

Theoretical Assumptions

Prior certification literature provided the theoretical framework for the hiring signals associated with certification in this study (Bekemeier, 2007; Byrne et al., 2004; Fertig, 2011; Fox, 2010; Gaberson et al., 2003; Messmer et al., 2011; Niebuhr, & Biel,

2007; Sechrist & Berlin, 2006; Sechrist et al., 2006). The prior literature reviewed utilized the PVCT© instrument, which contained previously established certification value statements associated with the hiring signals explored in this study, and saw a high percentage of prior employer agreement. Based on past research, it was assumed that this study could use the PVCT© instrument to measure hiring managers' opinions regarding the value of certification hiring signals in the accounting paraprofessional certification field of study (Bekemeier, Sechrist et al., 2006).

Topical Assumptions

It was assumed that the perceived benefits of certification for accounting paraprofessionals would be similar to the perceived benefits of voluntary certifications for the nursing field of study. The field of nursing, like accounting, involves certification in both licensure and voluntary formats; therefore, the two fields from a certification perspective appeared similar in this nature. It was also assumed that CPA hiring managers would understand the role of the accounting paraprofessional, including the knowledge and skills required for the job (Compton, 1980, 2000).

Methodological Assumption

It was assumed that the previously identified two-factor structure of intrinsic and extrinsic values found in prior perceived value of certification studies would remain consistent in this study (Bekemeier, 2007; Sechrist & Berlin, 2006; Sechrist et al., 2006). It was further assumed that the ranked data, presented in the Likert-type scale survey instrument (PVCT©) would be ordinal-level and therefore nonparametric statistical tests would apply (Cooper & Schindler, 2006; Leedy & Ormrod, 2005).

Limitations

While the theoretical, topical and methodological assumptions made at the start of this study held true, some limitations predicted at the beginning of the study also applied. One limitation of this study was the knowledge that there are non-CPA hiring managers who hire accounting paraprofessionals. This study only looked at the hiring manager's perspective regarding certification hiring signals through the lens of individuals holding the CPA licensure. It is possible that non-CPA hiring managers' may hold different views.

Another limitation of the study involved the respondents' personal certifications, education and experience. This study acknowledges that a respondent's personal opinions may be influenced by their own personal biases. Respondents who hold personal certifications may have a more positive opinion of others who hold certifications, even in another occupation. The percentage of agreement regarding the examined certification value statement for this study was high (over 90%), therefore, it is possible that the overall high percentage of agreement regarding these value statements may be the results of hiring manager respondents in this study holding CPA licensure.

The response rate of less than seven percent was unexpected. Prior studies using the PVCT© survey instrument saw much higher response rates, often double-digit. The database, rental agreement, restrictions may have contributed to lower than anticipated participation. For instance, the one-time contact by postal mail contract stipulation and the contractual inability to email the potential participants directly may have contributed to the low response rate. Additionally, the survey closed on a holiday week, which may

have distracted potential respondents from participating. Culley, Sun, Harman, & Warner (2013) proposed low response rates can create the potential for response bias. The low response rate in this study may have skewed the data results slightly; however, the differences in response between this study when compared to previous research did not appear to be significant (Bekemeier, 2007; Sechrist et al., 2006).

This correlational study explored the relationship between five of the 18 value statements. This researcher is aware that other value statements from the PVCT© that were not examined in this study, may have a correlation with the value statements examined. Additionally, this researcher is aware that PVCT© value statements may have a cause and effect relationship, which could not be determined from the scope of this study.

Other limitations of this study involve the potential for other hiring factors in addition to or separate from certification. For instance, prior research has indicated that education and experience can also be hiring signals. The respondents' familiarity with the accounting paraprofessional certifications may vary. Additionally, due to the various accounting paraprofessional certifications available, the value of one certification over another may also differ. Lastly, the order of agreement presentation (*Strongly Agreed, Agreed, Disagree, Strongly Disagree* and *No Opinion*) of the PVCT© instrument, might have solicited more positive responses, creating a positive response bias (Frey, 2013, Friedman, et al., *n.d.*). Participants may be more likely to agree with a positive to negative presentation of a Likert-type scale, rather than a negative to positive (*Strongly Disagree* to *Strongly Agree*) presentation (Friedman, et al., *n.d.*).

Recommendations for Further Research

The results of this research could be used in the future to look at the other PVCT© value statements as potential certification hiring signals and the correlation between those factors and marketability. Future research may also consider examining how the value statements of, increases marketability, may convert to higher wages (increases salary). Choudhury and Jones (2010) examined human capital, such as certification, from an individual's perspective, proposing that this could lead to future earning potential. Future research may also look at those who hire accounting paraprofessionals through a different lens. For instance, completing a similar study with those individuals who do not hold the CPA designation, such as non-CPA hiring managers, hiring managers who are not accountants and/or hiring managers that have other certifications, (e.g. CMA, CIA, CFE), then comparing the results with the findings of this study. Future research may look at hiring manager's perceived value of certification in other industries that have voluntary certification and hire paraprofessional or support staff. Conducting future accounting paraprofessional certification research of hiring managers across a larger sample population, in order to generate a larger response rate, may also be beneficial. Future accounting paraprofessional certification research may also want to explore other hiring signals (e.g., education, experience) in order to determine any correlation between these hiring signals, certification, and a preferred hiring status. Wilkens (2013) noted that some employers value education as a hiring signal, while others value certification as a

hiring signal and still other employers value both (education and certification). Cohen (2012) seemed to agree by stating “certification is but one piece to the puzzle, education attainment is but one piece of the puzzle and experience is but one piece of the puzzle” (p. 264).

This study looked at accounting paraprofessional certification as a whole, rather than examining the value of certification by specific certifications. Future research may want to examine if hiring managers value certain accounting paraprofessional certifications more than others. Does the respondents’ familiarity or lack of familiarity with certain certifications effect the perceived value? Do certifications with a continuing education component hold more value than certification without this requirement? Additionally, replicating this study and adding certain demographic data such as the respondents’ personal certifications, personal experience, and personal education may provide additional relationships and insight. Furthermore, future accounting paraprofessional certification research may want to study how organizations value or recognize certified candidates in their organization and compare the stated organizational perspective with the hiring managers’ personal attitudes. Schmal & Derrevere (2012) proposed that some organizations honor certified employees as a way to show value to the certification. Future research may be warranted to explore if there is a correlation between the organizational culture regarding certification and the hiring managers’ perceived value of certification as a hiring signal. Finally, another area for future research involves identifying what hiring signals employers advertise for in accounting paraprofessional, job board announcements. In particular, do potential employers require or prefer certain

certifications? Examining the emphasis employers place on certification in job board announcements, may provide an objective look at the value of certification from a hiring manager's perspective (Aguinis, Michaelis, Jones, 2005).

Conclusions

Voluntary certification has been examined extensively in certain fields (e.g., nursing, human resource management, information technology) (Aguinis, et al., 2005; Bekemeier, 2007; Byrne, et al., 2004; Cary, 2001; Gaberson et al., 2003; Jeffries, 2013; Lengnick-Hall, & Aguinis, 2012; Lester, et al., 2011; Messmer et al., 2011; Niebuhr & Biel, 2007; Phillips, 2004; Sechrist et al., 2006; Wierschem et al., 2010; Wiley, 1995). However, the value of voluntary certification in other fields, such as accounting paraprofessional, is still unclear. The perceptions of hiring managers, who are the gatekeepers to employment, can have an effect on the hiring process. Therefore, the purpose of this study was to add to the existing body of general certification knowledge as well as the unknown area of accounting paraprofessional certification. More specifically; this study accomplished its purpose of exploring the correlation between four key hiring signals, identified in prior research (knowledge, competence, practice standard, professional commitment), in relationship to hiring managers' self-reported view regarding increased marketability (preferred hiring status) for certified candidates (Coe & Delaney, 2008; Compton, 2000; Coppage et al., 2012; Davenport, 2006; Fertig, 2011; Gaberson et al., 2003; Gilley & Galbraith, 1986; Hutchison & Fleischman, 2003; Phillips, 2004; Roberts, 2005; Wiley, 1995; Wierschem et al., 2010). The findings of this research have provided new scholarly knowledge in the accounting paraprofessional certification field of study with respect to the positive correlation between key

certification hiring signals (knowledge, competence, practice standard, professional commitment), and a preferred hiring status (increases marketability). While the findings established in this study only indicated a moderate, positive correlation between all the variables of (knowledge, commitment, practice standard, professional commitment), and marketability, these findings are consistent with research in other fields of study and provide an excellent foundation for future certification research involving the accounting paraprofessional occupation. While more research is needed in the area of accounting paraprofessional certification, the results of this study added to the certification body of knowledge. It provided further clarification about the value hiring managers' place on voluntary accounting paraprofessional certification as a hiring signal of specialized knowledge, accounting competence, attainment of practice standard, and evidence of professional commitment, in correlation to a preferred hiring status (increases marketability). The results of this research provided a foundation for future research in the accounting paraprofessional certification, field of study. The immediate, practical applications of this study, involve those in the accounting paraprofessional certification value chain, such as: (1) those who hire accounting paraprofessionals; (2) existing and future certifying bodies; (3) employers' in other fields; (4) those in academia who train accounting paraprofessionals; and (5) future researchers who may want to use this study's results to further explore certification as a way for organizations to recruit the best employment candidates.

REFERENCES

- Abraham, S. E., & Karns, L. A. (2009). Do business schools value the competencies that businesses value? *Journal of Education for Business*, 84(6), 350-356. doi:10.3200/JOEB.84.6.350-356
- Accreditation Council for Accountancy and Taxation. (2016a). Accredited Business Accountant/Advisor. Retrieved from <http://www.acatcredentials.org/acatcredentials/aba>
- Accreditation Council for Accountancy and Taxation. (2016b). Accredited Tax Advisor Retrieved from <http://www.acatcredentials.org/acatcredentials/ata>
- Accreditation Council for Accountancy and Taxation. (2016c). Accredited Tax Preparer Retrieved from <http://www.acatcredentials.org/acatcredentials/atp>
- Aguinis, H., Michaelis, S. E., & Jones, N. M. (2005). Demand for certified human resources professionals in internet-based job announcements. *International Journal of Selection and Assessment*, 13(2), 160-171. doi:10.1111/j.0965-075X.2005.00310.x
- Albrecht, J. W., & Van Ours, J. C. (2006). Using employer hiring behavior to test the educational signaling hypothesis. *Scandinavian Journal of Economics*, 108(3), 361-372. doi:10.1111/j.1467-9442.2006.00457.x
- Amare, N., & Manning, A. (2009). Writing for the robot: How employer search tools have influenced resumé rhetoric and ethics. *Business Communication Quarterly*, 72(1), 35-60.
- American Institute of Professional Bookkeepers. (2007). Certified bookkeeper program. Retrieved from http://www.aipb.org/certification_program.htm
- American Institute of Certified Public Accountants. (2016). CPA licensure. Retrieved from <http://www.aicpa.org/BecomeACPA/Licensure/Pages/default.aspx>
- American Payroll Association. (2015a). Fundamental Payroll Certification. Retrieved from <http://www.americanpayroll.org/certification/certification-fpcinfo/>
- American Payroll Association. (2015b). Certified Payroll Professional. Retrieved from <http://www.americanpayroll.org/certification/certification-cppinfo/>
- Anitha, N., & Thenmozhi. (2011). Competency assessment—A gap analysis. *Interdisciplinary Journal of Contemporary Research in Business*, 3(4), 784-794.

- Association of Certified Fraud Examiners. (2016). Become a Certified Fraud Examiner (CFE). Retrieved from <http://www.acfe.com/become-cfe-qualifications.aspx>
- Attewell, P., & Domina, T. (2011). Educational imposters and fake degrees. *Research in Social Stratification and Mobility*, 29(1), 57-69. doi:10.1016/j.rssm.2010.12.004
- Baert, S. (2015). Do they find you on Facebook? Facebook profile picture and hiring chances. Retrieved from <http://ftp.iza.org/dp9584.pdf>
- Bangerter, A., Roulin, N., & König, C. J. (2012). Personnel selection as a signaling game. *Journal of Applied Psychology*, 97(4), 719. doi: 10.1037/a0026078
- Baretich, M. F. (2012). The value of certification. *Biomedical Instrumentation & Technology / Association for the Advancement of Medical Instrumentation*, 46(1), 68-71. doi: 10.2345/0899-8205-46.1.68.
- Bartlett, K. R. (2004). The signaling power of occupational certification in the automobile service and information technology industries. *National Dissemination Center for Career and Technical Education*. Retrieved from <http://eric.ed.gov/?id=ED483201>
- Bartlett, K. R. (2012). A theoretical review of the signaling role of certifications in career and technical education. *In annual conference of the Association for Career and Technical Education Research*. Atlanta, GA. Retrieved from http://www.nrccte.org/sites/default/files/uploads/barlett_acter_nexus_paper.pdf
- Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of management*, 17(1), 99-120. doi:10.1177/014920639101700108
- Bekemeier, B. (2007). Credentialing for public health nurses: personally valued ... but not well recognized. *Public Health Nursing*, 24(5), 439-448. doi: 10.1111/j.1525-1445.2007-.00654x
- Bell-Kotwall, L., Frierson, D., & Kuiper, R. (2012). Are certified nurses better professionals?. *Nursing management*, 43(6), 30-35. doi:10.1097/01.NUMA.0000413641.52774.2c
- Bergh, D. D., Connelly, B. L., Ketchen, D. J., & Shannon, L. M. (2014). Signaling theory and equilibrium in strategic management research: An assessment and a research agenda. *Journal of Management Studies*, 51(8), 1334-1360. doi:10.1111/joms.12097
- Berman, J., & Ritchie, L. (2006). "Competencies of undergraduate business students." *Journal of Education for Business*, 81(4), 205-209. doi:10.3200/JOEB.81.4.205-209

- Bidwell, M. (2011). Paying more to get less: The effects of external hiring versus internal mobility. *Administrative Science Quarterly*, 56(3), 369-407. doi:10.1177/0001839211433562
- BliegeBird, R., Smith, E., Alvard, M., Chibnik, M., Cronk, L., Giordani, L., Hagen, E., Hammerstein, P., Neiman, F., Bird, R. & Smith, E. (2005). Signaling theory, strategic interaction, and symbolic capital. *Current Anthropology*, 46(2), 221-248. doi:10.1086/427115
- Brown, B. K., & Campion, M. A. (1994). Biodata phenomenology: Recruiters' perceptions and use of biographical information in resume screening. *Journal of Applied Psychology*, 79(6), 897-908. doi:10.1037//0021-9010.79.6.897
- Boyd, D. T., Boyd, S. C., & Berry, P. (2009). A primer for accounting certification: Complete analysis of the process with listing of sources. *American Journal of Business Education*, 2(7), 83-96.
- Bricker, B. J. (2015). National board certification: The perceived value and renewal rates of California National Board certified teachers. Retrieved from <http://scholarworks.lib.csusb.edu/cgi/viewcontent.cgi?article=1172&context=etd>
- Bruce, R.D., & Sauer, A. D. (2008). Comparing the impact of the Certified Professional Constructor (CPC) credential on the careers of construction educators and industry practitioners. Retrieved from <http://ascpro0.ascweb.org/archives/cd/2008/paper/CPRT218002008.pdf>
- Budin, G., Krajcso, Z., & Lommel, A. (2013). The TransCert Project: Ensuring that transnational translator certification meets stakeholder needs. *Translation & Interpreting*, 5(1), 143-155.
- Burks, S. V., Cowgill, B., Hoffman, M., & Housman, M. (2015). The value of hiring through employee referrals. *The Quarterly Journal of Economics*, 130(2), 805-839. doi:10.1093/qje/qjv010
- Byrne, M., Valentine, W., & Carter, S. (2004). The value of certification - A research journey. *AORN Journal*, 79(4), 825-835. doi: 10.1016/S0001-2092(06)60823-5
- Campbell, B. A., Coff, R., & Kryscynski, D. (2012). Rethinking sustained competitive advantage from human capital. *Academy of Management Review*, 37(3), 376-395.
- Cary, A. H. (2001). Certified registered nurses: Results of the study of the certified workforce. *American Journal of Nursing*, 101(1), 44-52.

- Cegielski, C. G., Rebman, C. M., & Reithel, B. J. (2003). The value of certification: An empirical assessment of the perceptions of end-users of local area networks. *Information Systems Journal*, 13(1), 97-107. doi. 10.1046/j.1365-2575.2003.00140x
- Celani, A., & Singh, P. (2011). Signaling theory and applicant attraction outcomes. *Personnel Review*, 40(2), 222-238. doi: 10.1108/00483481111106093
- Certiport. (2016a). QuickBooks Certified User. Retrieved from <http://www.certiport.com/Portal/desktopdefault.aspx?tabid=668&roleid=101>
- Certiport. (2016b). Microsoft Office Specialist Excel Certification. Retrieved from <http://www.certiport.com/Portal/desktopdefault.aspx?page=common/pagelibrary/mos-excel-2013.html>
- Chan, A. L. (2013). Signal jamming in the translation market and the complementary roles of certification and diplomas in developing multilateral signaling mechanisms. *Translation & Interpreting*, 5(1), 211-221.
- Cheng, P. Y., Hsu, P. K., & Chiou, W. B. (2012). Undergraduates' intentions to take examinations for professional certification: Examinations of four competing models. *Asia Pacific Education Review*, 13(4), 691-700. doi:10.1007/s12564-012-9229-6
- Choudhury, A., & Jones, J. (2010). Effect of job level on the performance of human capital attainment: An exploratory analysis. *Academy of Strategic Management Journal*, 9(2), 89-103.
- Christofferson, D., Christensen, N., LeBlanc, H., & Bunch, M. (2012). Developing an online certification program for nutrition education assistants. *Journal of nutrition education and behavior*, 44(5), 407-414. doi:10.1016/j.jneb.2011.11.007
- Clark, D., & Martorell, P. (2014). The signaling value of a high school diploma. *Journal of Political Economy*, 122(2), 282-318. doi:10.1086/675238
- Coe, M., & Delaney, J. (2008). The impact of certifications on accounting education. *Strategic Finance*, 90(1), 47-51.
- Coff, R. W. (1997). Human assets and management dilemmas: Coping with hazards on the road to resource-based theory. *Academy of Management Review*, 22(2), 374-402. doi:10.5465/AMR.1997.9707154063
- Cohen, D. J. (2012). Identifying the value of HR certification: Clarification and more complex models required. *Human Resource Management Review*, 22(4), 258-265. doi:10.1016/j.hrmr.2012.06.013

- Competency and Credentialing Institute (2015). *Perceived Value of Certification Tool*. Retrieved from <http://www.cc-institute.org/research/research-tools>
- Compton, T. R. (2000). Staffing issues for the new millennium--the emerging role of the accounting paraprofessional. *Ohio CPA Journal*, 59(3), 56-60.
- Compton, T. R. (1980). *An investigation of the use of Accounting Paraprofessionals in auditing: An exploratory research*. (Doctoral dissertation). Available from ProQuest Dissertations and Theses database. (No. 8021077).
- Connelly, B. L., Certo, S. T., Ireland, R. D., & Reutzel, C. R. (2011). Signaling theory: A review and assessment. *Journal of Management*, 37(1), 39-67. doi:10.1177/0149206310388419
- Cook, E. D., & Finch, B. (1994). Qualities employers seek in new accounting employees. *Journal of Education for Business*, 69(3), 136-139. doi:10.1080/08832323.1994.10117671
- Cooper, D., & Schindler, P. (2006). *Business research methods*. New York, NY: McGraw-Hill Irwin.
- Coppage, R. E., Lockard, M. T., & French, G. R., (2012). CMA enhances your human capital. *Strategic Finance*, 94(1), 16-19.
- Cory, S., & Huttenhoff, T. (2011). Perspectives of non-public accountants about accounting education and certifications: An exploratory investigation. *Journal of Finance & Accountancy*, 6, 1-14.
- Cox, B. E., McIntosh, K., Reason, R. D., & Terenzini, P. T. (2014). Working with missing data in higher education research: A primer and real-world example. *Review of Higher Education*, 37(3), 377-402. doi: 10.1353/rhe.2014.0026
- Croasmun, J. T., & Ostrom, L. (2011). Using Likert-type scales in the social sciences. *Journal of Adult Education*, 40(1), 19-22.
- Crook, T. R., Todd, S. Y., Combs, J. G., Woehr, D. J., & Ketchen, D. J. (2011). Does human capital matter? A meta-analysis of the relationship between human capital and firm performance. *Journal of Applied Psychology*, 96(3), 443-456. doi:10.1037/a0022147
- Culley, D. J., Sun, H., Harman, A. E., & Warner, D. O. (2013). Perceived value of board certification and the maintenance of certification in anesthesiology program (MOCA?). *Journal of Clinical Anesthesia*, 25(1), 12-9. doi:10.1016/j.jclinane.2012.09.001

- Daniels, V. S. (2011). Assessing the value of certification preparation programs in higher education. *American Journal of Business Education*, 4(6), 1-10.
- Davenport, R. (2006). Credentialing and certification. *T + D*, 60(5), 60-61.
- Delacruz, V. J. (2014). *Examining perspectives on professional certification for an emerging strategic management profession*. (Doctoral dissertation). Available from ProQuest Dissertations and Theses database. (No.3648819).
- DeNisi, A. S. (2012). Certification response: A response to Lengnick-Hall and Aguinis. *Human Resource Management Review*, 22(4), 266-268.
doi:10.1016/j.hrmr.2012.03.003
- DeVaro, J., & Waldman, M. (2012). The signaling role of promotions: Further theory and empirical evidence. *Journal of Labor Economics*, 30(1), 91-147.
doi:10.1086/662072
- Dillman, D. A., Smyth, J. D., & Christian, L. M. (2014). *Internet, phone, mail, and mixed-mode surveys: The tailored design method*. Hoboken, New Jersey: John Wiley & Sons, Inc.
- Di Stasio, V., & Gërxhani, K. (2015). Employers' social contacts and their hiring behavior in a factorial survey. *Social science research*, 51, 93-107.
doi:10.1016/j.ssresearch.2014.12.015
- Edmondson, D. R., Edwards, Y. D., & Boyer, S. L. (2012). Likert scales: A marketing perspective. *International Journal of Business, Marketing, and Decision Sciences (IJBMDs)*, 5(2), 73.
- Ellis, R. P. (2015). *Perceived value of certification and the registered health information technician credentialing examination*. (Doctoral dissertation). Available from ProQuest Dissertations and Theses database. (No. 3685413).
- Eriksson, S., & Rooth, D. O. (2014). Do employers use unemployment as a sorting criterion when hiring? Evidence from a field experiment. *The American Economic Review*, 104(3), 1014-1039. doi:10.1257/aer.104.3.1014
- Ewert, S., & Kominski, R. (2014). Measuring alternative educational credentials: 2012 household economic studies. Retrieved from <https://www.census.gov/prod/2014pubs/p70-138.pdf>
- Fertig, J. (2011). Evaluating that piece of paper: The effect of motivation and certification status on occupational commitment and job competence. *Journal of Leadership & Organizational Studies*, 18, 118-126. doi:10.1177/1548051810369342

- Fertig, J. (2009). *What does that piece of paper really mean? An inquiry into certification motivation*. (Doctoral dissertation). Available from ProQuest Dissertations and Theses database. (No. 305016799).
- Flesher, D. L., Previts, G. J., & Flesher, T. K. (1996). CPA centennial series: The first CPAs. *The CPA Journal*, 66(10), 10. Retrieved from <http://search.proquest.com/openview/c187d831d51ea5b2762ceaf011fb7ffc/1?pq-origsite=gscholar>
- Fox, A. (2010). *Teacher certification of American sign language faculty at K-12 and higher education institutions*. (Doctoral dissertation). Available from ProQuest Dissertations and Theses database. (No. 3437632).
- Friedman, H., Herskovitz, P., & Pollack, S. (n.d.). *The biasing effects of scale-checking styles on response to Likert scale*. Unpublished manuscript. Department of Economics, Brooklyn College, Brooklyn, New York. Retrieved from https://www.amstat.org/Sections/Srms/Proceedings/papers/1993_133.pdf
- Gaberson, K., Schroeter, K., Killen, A., & Valentine, W. (2003). The perceived value of certification by certified perioperative nurses. *Nursing Outlook*, 51(6), 272-276. doi:10.1016/j.outlook.2003.09.003
- Garza, A., & Morgeson, F. (2012). Exploring the link between organizational values and human resource certification. *Human Resource Management Review*, 22(4), 271-278. doi: <http://dx.doi.org.library.capella.edu/10.1016/j.hrmr.2012.06.011>
- Gay, L. R., & Airasian, P. (2003). *Educational research: Competencies for analysis and application*. Upper Saddle River, NJ: Pearson Education.
- Gilley, J., & Galbraith, M. (1986). Examining professional certification. *Training and Development Journal*, 40(6), 60-61.
- Gleghorn, G., & Gordon, J. (2012). A quantitative examination of perceived promotability of information security professionals with vendor-specific certifications versus vendor-neutral certifications. *Research in Business and Economics Journal*, 6, 1-19.
- Goetz, J., Zhu, D., Hampton, V., Chatterjee, S., & Salter, J. (2011). Integration of professional certification examinations with the financial planning curriculum: Increasing efficiency, motivation, and professional success. *American Journal of Business Education*, 4(3), 35-46.
- Gramling, A., & Myers, P. (1997). Practitioners' and users' perceptions of the benefits of certification of internal auditors. *Accounting Horizons*, 11(1), 39-53.

- Hansen, H. (2011). Rethinking certification theory and the educational development of the United States and Germany. *Research in Social Stratification and Mobility*, 29(1), 31-55. doi:10.1016/j.rssm.2011.01.003
- Hatch, N., & Dyer, J. (2004). Human capital and learning as a source of sustainable competitive advantage. *Strategic Management Journal*, 25(12), 1155-1178.
- Hershbein, B. J. (2013). Worker signals among new college graduates: The role of selectivity and GPA. Upjohn Institute Working Paper 13-190. Retrieved from http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2201700
- Hitt, M., Bierman, L., Shimizu, K., & Kochhar, R. (2001). Direct and moderating effects of human capital on strategy and performance in professional service firms: A resource-based perspective. *Academy of Management Journal*, 44(1), 13-28. doi:10.2307/3069334
- Hollenbeck, J., & Jamieson, B. (2015). Human capital, social capital, and social network analysis: Implications for strategic human resource management. *Academy of Management Perspectives*, 29(3), 370-385. doi:10.5465/amp.2014.0140
- Hsu, Y., & Yancey, G. B. (2015). The benefits of human resources certification. *Emporia State Research Studies*, 50(1), 1-10. Retrieved from <http://cms.emporia.edu/dotAsset/84494a71-8028-4a6f-8759-8aa2f6622881.pdf>
- Hunsinger, S., & Smith, M. A. (2008). Factors that influence information systems undergraduates to pursue IT certification. *Journal of Information Technology Education*, 7, 247-265.
- Hutchison, P., & Fleischman, G. (2003). Professional certification opportunities for accountants. *The CPA Journal*, 73(3), 48-51.
- Institute of Internal Auditors. (2016). Certified Internal Auditor (CIA). Retrieved from <https://na.theiia.org/certification/CIA-Certification/Pages/CIA-Certification.aspx>
- Institute of Management Accountants. (2015). CMA certification. Retrieved from <http://www.imanet.org/cma-certification/cma-certification-overview>
- Jackling, B., & De Lange, P. (2009). Do accounting graduates' skills meet the expectations of employers? A matter of convergence or divergence. *Accounting Education: An international journal*, 18(4-5), 369-385. doi:10.1080/09639280902719341
- Jarrar, Y. (2002). Knowledge management: Learning for organisational experience. *Managerial Auditing Journal*, 17(6), 322-328. doi:10.1108/02686900210434104

- Jeffries, D. (2013). The public's perception of certification. *Nephrology Nursing Journal*, 40(3), 211-7.
- Joshi, A., Kale, S., Chandel, S., & Pal, D. K. (2015). Likert scale: Explored and explained. *British Journal of Applied Science & Technology*, 7(4), 396-403. doi:10.9734/BJAST/2015/14975
- Karasek, R., III, & Bryant, P. (2012). Signaling theory: Past, present and future. *Academy of Strategic Management Journal*, 11(1), 91-99.
- Karl, K., Peluchette, J., & Schlaegel, C. (2010). Who's posting Facebook faux pas? A cross-cultural examination of personality differences. *International Journal of Selection and Assessment*, 18(2), 174-186. doi:10.1111/j.1468-2389.2010.00499.x
- Knapp, L. G., & Naughton, J. (2010). Certification or certification? That is the question. *T + D*, 64(11), 54-59.
- Kolo, E. (2006). *Does automotive service excellence (ASE) certification enhance job performance of automotive service technicians?* (Doctoral dissertation). Available from ProQuest Dissertations and Theses database. (No. 3207969)
- Latham, G. (2012). What we know and what we would like to know about human resource management certification. *Human Resource Management Review*, 22(4), 269-270. doi:10.1016/j.hrmr.2012.06.012
- Lee, T. (2007). American accountants in 1880. *Accounting, Business & Financial History*, 17(3), 333-354. doi:10.1080/09585200701609554
- Leedy, P., & Ormrod, J. (2005). *Practical research: planning and design*. Upper Saddle River, New Jersey: Pearson Prentice Hall.
- Lengnick-Hall, M., & Aguinis, H. (2012). What is the value of human resource certification? A multi-level framework for research. *Human Resource Management Review*, 22(4), 246-257. doi:10.1016/j.hrmr.2011.03.001
- Lester, S., Fertig, J. & Dwyer, D. (2011). Do business leaders value human resource certification? *Journal of Leadership & Organizational Studies*, 18, 408 - 414. doi:10.1177/1548051811404422
- Lester, S. W., Mencl, J., Maranto, C., Bourne, K. A., & Keaveny, T. (2010). The impact of passing the professional in human resources exam on early career success for undergraduates entering the human resource field. *International Journal of Selection and Assessment*, 18(3), 282-290. doi:10.1111/j.1468-2389.2010.00511.x

- Lievens, F., & Burke, E. (2011). Dealing with the threats inherent in unproctored Internet testing of cognitive ability: Results from a large-scale operational test program. *Journal of Occupational and Organizational Psychology*, 84(4), 817-824. doi:10.1348/096317910X522672
- Litschka, M., Markom, A., & Schunder, S. (2006). Measuring and analyzing intellectual assets: An integrative approach. *Journal of Intellectual Capital*, 7(2), 160-173. doi:10.1108/14691930610661836
- Lodato, M. A., Highhouse, S., & Brooks, M. E. (2011). Predicting professional preferences for intuition-based hiring. *Journal of Managerial Psychology*, 26(5), 352-365. doi:10.1108/02683941111138985
- Loeb, S. E., & Rymer, V. S. (1973). The accounting paraprofessional. *Journal of Accountancy (Pre-1986)*, 135(000004), 43.
- Lommel, A. R. (2013). Alternatives to certification. *Translation & Interpreting*, 5(1), 222-234.
- Marketability. (2015). In *Merriam-Webster's online dictionary*. Retrieved from <http://www.merriam-webster.com/dictionary/marketability>
- McNeely, H. L., Shonka, N. M., Pardee, C., & Nicol, N. H. (2015). The value of certification: What do pediatric nurses think? *Nursing Management*, 46(2), 34-42. doi:10.1097/01.NUMA.0000460035.33320.33
- Messmer, P. R., Hill-Rodriguez, D., Williams, A. R., Ernst, M. E., & Tahmooressi, J. (2011). Perceived value of national certification for pediatric nurses. *The Journal of Continuing Education in Nursing*, 42(9), 421-32. doi:10.3928/00220124-20110516-01
- Mikkelson, H. (2013). Universities and interpreter certification. *Translation & Interpreting*, 5(1), 66-78. doi:10.12807/ti.105201.2013.a03
- National Bookkeepers Association. (2016a). Bookkeeper Certification. Retrieved from <http://www.nationalba.org/certification/bookkeeper.cfm>
- National Bookkeepers Association. (2016b). Payroll Certification. Retrieved from <http://www.nationalba.org/certification/quickbooks-online.cfm>
- National Bookkeepers Association. (2016c). QuickBooks Certification. Retrieved from <http://www.nationalba.org/certification/quickbooks.cfm>
- National Bookkeepers Association. (2016d). QuickBooks Online Certification. Retrieved from <http://www.nationalba.org/certification/payroll.cfm>

- National Bookkeepers Association. (2016e). Tax Certification. Retrieved from <http://www.nationalba.org/certification/tax.cfm>
- Niebuhr, B., & Biel, M. (2007). The value of specialty nursing certification. *Nursing Outlook*, 55(4), 176-181. doi:10.1016/j.outlook.2007.02.002
- Osterwalder, D. (2001). Trust through evaluation and certification? *Social Science Computer Review*, 19, 32-46. doi:10.1177/089443930101900104
- Paraprofessional (2015). In *Merriam-Webster's online dictionary*. Retrieved from <http://www.merriam-webster.com/dictionary/paraprofessional>
- Paxton, R. A. (2012). A practitioner's perspective on the value of PHR and SPHR certification. *Human Resource Management Review*, 22(4), 279. doi:10.1016/j.hrmr.2012.03.002
- Perception. (2015). In *Merriam-Webster's online dictionary*. Retrieved from <http://www.merriam-webster.com/dictionary/perception>
- Phillips, J. T. (2004). Professional certification: Does it matter? *Information Management Journal*, 38(6), 64-67.
- Ployhart, R. E., & Moliterno, T. P. (2011). Emergence of the human capital resource: A multilevel model. *Academy of Management Review*, 36(1), 127-150. doi:10.5465/AMR.2011.55662569
- Ployhart, Robert E. Van Iddekinge, Chad H. Mackenzie Jr., William I. (2011). Acquiring and developing human capital in service contexts: The interconnectedness of human capital resources. *Academy of Management Journal*, 54(2), 353-368. doi:10.5465/AMJ.2011.60263097
- Polidoro, F. (2013). The competitive implications of certifications: The effects of scientific and regulatory certifications on entries into new technical field
- Quan, J., Dattero, R., & Galup, S. (2007). Information technology wages and the value of certifications: A human capital perspective. *Communications of AIS*, 19, 81-114.
- Rea, L., & Parker, R. (2005). *Designing & conducting survey research A comprehensive guide*. San Francisco, CA: Jossey-Bass
- Richardson, J. (2016). *The value of human resource certification institute professional certification for HR employees and HR employers*. (Doctoral dissertation). Available from ProQuest Dissertations and Theses database. (No. 10009477)

- Roberts, T. (2005). *Perceptions of research administrators on the value of certification*. (Doctoral dissertation). Available from ProQuest Dissertations and Theses database. (No. 3188137)
- Rogers, C. O. (2014). The power of workforce data integration adding credentials to the mix. *Indiana Business Review*, 89(3), 10-12.
- Rogers, T. J. (2014). *The perceived value of certification among certified nurse educators*. (Doctoral dissertation). Available from ProQuest Dissertations and Theses database. (No. 3668804)
- Romeo, G. C. & Leaby, B.A. (2004). The bookkeepers' beneficial association of Philadelphia: An early signal in the United States for a professional organization. *Accounting History*, 9(2), 7-33. doi:10.117/103237320400900202
- Sahlein, S. (2006). Should CPA firms use certified bookkeepers? *Sum News*, 17(5), 24-26.
- Schmal, B., & Derrevere, S. (2012). The vital role of professional certification. *Journal of Hospice & Palliative Nursing*, 14(3), 177-181. doi:10.1097/NJH.0b013e31824df12d
- Schonlau, M., Fricker, R. D., & Elliott, M. N. (2002). *Conducting research surveys via E-mail and the web*. Santa Monica, CA: RAND.
- Sechrist, K., & Berlin, L. E. (2006). Psychometric analysis of the perceived value of certification tool. *Journal of Professional Nursing*, 22(4), 248-252. doi:10.1016/j.profnurs.2005.11.006
- Sechrist, K. R., Valentine, W., & Berlin, L. E. (2006). Perceived value of certification among certified, noncertified, and administrative perioperative nurses. *Journal of Professional Nursing*, 22(4), 242-247. doi:10.1016/j.profnurs.2005.11.001
- Serbin, K., & Jensen, S. (2013). Recruiting, hiring, and onboarding case managers: Communication and setting expectations are keys to success. *Professional Case Management*, 18(2), 95. doi: 10.1097/NCM.0b013e3182806a50
- Shackman, G. (2015). Accreditation, certification, credentialing: Does it help? *New Directions for Evaluation*, 2015(145), 103-113. doi:10.1002/ev.20114
- Spence, M. (1973). Job market signaling. *Quarterly Journal of Economics*, 87(3), 355-374.
- Standard. (2015). In *Merriam-Webster's online dictionary*. Retrieved from <http://www.merriam-webster.com/dictionary/standard>

- Suazo, M. M., Martínez, P. G., & Sandoval, R. (2009). Creating psychological and legal contracts through human resource practices: A signaling theory perspective. *Human Resource Management Review*, 19(2), 154-166. doi:10.1016/j.hrmr.2008.11.002
- SurveyMonkey. (2015). *Sample size calculator*. Retrieved from <https://www.surveymonkey.com/blog/en/sample-size-calculator/>
- Swaney, A. (2014). *Employee selection practices and performance pay*. (Doctoral dissertation). Available from ProQuest Dissertations and Theses database. (No. 3628597)
- Swanson, R., & Holton E. (2005). *Research in organizations: Foundations and methods of inquiry*. San Francisco, CA: Berrett-Koehler Publishers, Inc.
- Thomas, J. (2011). Analysing Thurstone and Likert attitude scales as data collection methods. *Journal of Paramedic Practice*, 3(5), 250-254. doi:10.12968/jpar.2011.3.5.250
- Thoms, P., McMasters, R., Roberts, M. R., & Dombkowski, D. A. (1999). Resume characteristics as predictors of an invitation to interview. *Journal of Business and Psychology*, 13(3), 339-356. doi:10.1023/A:1022974232557
- Tyson, A. (2016). Goodreads Inc. Retrieved from http://www.goodreads.com/author/quotes/378683.Asha_Tyson
- U. S. Department of Labor, Bureau of Labor Statistics. (2013). *Occupational outlook handbook, 2012-13*. Retrieved from <http://www.bls.gov/ooh/office-and-administrative-support/bookkeeping-accounting-and-auditing-clerks.htm>
- Van Iddekinge, C. H., Roth, P. L., Raymark, P. H., & Odle-Dusseau, H. N. (2012). The criterion-related validity of integrity tests: An updated meta-analysis. *Journal of Applied Psychology*, 97(3), 499-530. doi:10.1037/a0021196
- Vargas-Hernández, J., & Noruzi, M. (2010). Background of the degree in public accounting. *Interdisciplinary Journal of Contemporary Research in Business*, 2(2), 10-37.
- Weijters, B., Geuens, M., & Baumgartner, H. (2013) The Effect of familiarity with the response category Labels on Item Response to Likert Scales. *Journal of Consumer Research*, 40(2): 368-381. doi: 10.1086/670394.
- Wierschem, D., Zhang, G., & Johnston, C. (2010). Information technology certification value: An initial response from employers. *Journal of International Technology and Information Management*, 19(4), 89-IV. Retrieved from <http://scholarworks.lib.csusb.edu/jitim/vol19/iss4/6>

- Wiley, C. (1995). Reexamining professional certification in human resource management. *Human Resource Management (1986-1998)*, 34(2), 269-289. doi:10.1002/hrm.3930340204
- Wilkins, E. (2013). *Factors influencing the pursuit of IT certifications: A study of minnesota public community and technical college students*. (Doctoral dissertation). Available from ProQuest Dissertations and Theses database. (No. 3594733)
- Williams, H. F., & Counts, C. S. (2013). Certification 101: The pathway to excellence. *Nephrology Nursing Journal*, 40(3), 197-209.
- Wright, P., McMahan, G., & McWilliams, A. (1994). Human resources and sustained competitive advantage: A resource-based perspective. *International Journal of Human Resource Management*, 5(2), 301-326. doi:10.1080/09585199400000020
- Yu-Shu, C., Yi-Pei, L., & Chu-Yang, C. (2009). The association between auditor quality and human capital. *Managerial Auditing Journal*, 24(6), 523-541. doi:10.1108/02686900910966512