

External Auditor Attributes applied to Internal Auditor Attributes and their Correlation to  
Internal Control Design: A Quantitative Study

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DONALD RAYMOND SHARP

La Jolla, California

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Approval Page

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By

DONALD RAYMOND SHARP

Approved by the Doctoral Committee:

<small>DocuSigned by:</small> <i>Abigail Scheg</i> <small>792AC042049B4AF...</small>	PhD, MBA	04/27/2020   11:05:16 PDT
School Representative: Abigail Scheg	Degree Held	Date
<small>DocuSigned by:</small> <i>Garrett Smiley</i> <small>458DFCD01B5A4C7...</small>	Ph.D.	05/14/2020   16:28:24 MST
Committee Member: Garrett Smiley	Degree Held	Date
<small>DocuSigned by:</small> <i>John Bennett</i> <small>213D7AE93E00403...</small>	Ph.D.	04/27/2020   11:23:27 MST
Committee Member: John Bennett	Degree Held	Date

## Abstract

The researcher has created this quantitative research paper to expand on the base knowledge of internal auditors in regards to the impact on internal control design within the automotive financial industry. The researcher has applied the concept of human capital theory identifying potential key attributes that could affect internal controls providing an advantage for corporations. The conceptual framework was to clearly identify external attributes and relate those attributes to internal auditors to see if there is a correlation to internal controls. The researcher reviewed proven surveys and applied those concepts to create the survey questionnaire identifying 10 different attributes. The researcher's participant pool consisted of 186 people that had either completed or reviewed internal controls within 2017 or 2018 at an automotive financial services company located in Farmington Hills, MI and Fort Worth, TX. The internal controls department provided the list and the researcher contacted the potential participants via email after the IRB approved process from Northcentral University. The researcher utilized the Likert scale and the researcher collected the nominal data then examined the data with the chi-squared test.

Analyzing the data, gender was determined to not be a factor in internal controls design while the education level, length of time in the current position, years of service with the company, understanding the department internal controls, understanding the departments procedures, level of accounting classes, comfort level of internal control training, hours of internal control training, years worked overall, years in current role, and age had a positive correlation to successful internal control design. Companies can look to hire people who have these attributes knowing it will have a direct correlation to internal controls. Future research can

expand on these findings by examining the entire financial services sector or examine other sectors.

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## Chapter 1: Introduction

In 2002, Congress created the most influential and important accounting and auditing document called the Sarbanes-Oxley Act of 2002 (SOX) (King & Case, 2014). SOX was created due to the financial scandals caused by companies such as Enron and Arthur Anderson in 2001 and the purpose of SOX was to help restore faith and confidence in the public financial information that companies present to the public (Jain, Jang-Chul, and Rezaee, 2008). Before Congress signed SOX into existence, companies were required to disclose significant internal control deficiencies only when the company decided to switch to another auditor (Balsam, Jaing, & Lu, 2014). Section 404 of SOX was created so that public companies would be required to report the internal controls (IC) effectiveness by management as well as the independent auditors that reviewed the company's financial statements (Gutpa, Weirich, & Turner, 2013). IC are accounting policies and procedures created by a corporation to mitigate fraud within the corporation (Kofi & Gené, 2016). The Public Company Accounting Oversight Board (PCAOB) was created by the passing of SOX and the focus of the PCAOB is to regulate the public accounting firms of the United States (Frame, Hughson, & Leach, 2016).

The role of the internal auditor within a corporation has become more important due to the PCAOB creating the Auditing Standard No. 5 which states internal auditors are to have a large involvement in the preliminary audit activities of the company, internal auditors are to be held responsible for reviewing and validating the audit results, and internal auditors are expected to provide feedback to the board of director's audit committee as to the effectiveness of the internal controls within the corporation (Seigel and Miller, 2010). When a corporation has weak IC's this can lead to the possible increase risk of untrustworthy financial reporting due to inaccurate information being reported on the financial statements that misleads credit investors

regarding the actual status of the corporation. (Dragon Yongjun, Feng & Hong, 2015). Studies have been conducted that state weak IC of a corporation will have a negative effect on the on the company's credit ratings and cause a higher cost of funds to the corporation (Ashbaugh-Skaife, Collins, Kinney Jr & Lafond, 2009; Lambert, Leuz, & Verrecchia, 2009).

When managers strengthen and improve the IC within a corporation, investor confidence can be improved (Wu & Tuttle, 2014). Investor confidence has a positive impact on the share price of a corporation (Yang, Hsu, & Tu, 2012). If investor confidence decreases, the corporation's stock price will decrease due to investor's selling off their shares (Yang, Hsu, & Tu, 2012). IC does not prevent fraud; yet IC will make it harder for fraud to be carried out and easier for the company to detect (LaFonda & Youb, 2010). The concept of fraud is defined as someone who gains an economic benefit from an intentional dishonest action that brings an economic loss to an injured party (Rodgers, Söderbom & Guiral, 2015). A corporation will lose five percent of their revenue due to fraudulent activities (Cumming, Leugn, & Rui, 2015). A company's earnings quality will be positively affected by the company's strong internal controls (Dragon Yongjun et al., 2015). An auditor's attributes have an impact on the overall audit quality completed by the auditor (Yea, Cheng, & Gao, 2014). When there is an audit failure, the investors are impacted by having a financial loss and the confidence level of the financial reporting quality of the company is lowered (Yea et al., 2014).

An area of concern within the community is how to enhance an audit's effectiveness (Farkas & Hirsch, 2016). While there have been multiple studies that have linked robust IC procedures to attributes of external auditors such as accounting knowledge, education level, understanding of the business, training level on IC controls, etc (Sirwardane, Hu, & Low, 2014; Seigel & Miller, 2010; Abdolmohammadi, 2012; Doyle, Ge, & McVay, 2006); there is much

less research expanding the internal auditor's role in relation to audit effectiveness compared to the role of external auditor (Alzeban & Gwilliam, 2014). A study stated that if most internal control deficiencies (ICD's) are identified by external auditors; this concept suggests internal personnel are incapable of correctly identifying if an internal control is correctly working (Graham & Bedard, 2015). Internal auditors are often the first line of defense to prevent waste, fraud, and theft within the organization; internal auditors usually report directly to the chief audit executive, who reports to the auditor committee (O'Donnell, 2015). As the role of the internal auditor has grown into an important position within organizations ( Pabedinskaite, 2010); there is little research on the how individual audit characteristics such as education, experience, and skills impact a firm's audit failure rate which causes an increase to the probability of misstatements of a corporation (Yea et al., 2014). This paper will build on the concept of how to improve an internal auditor's effectiveness by examining attributes of internal auditors and identifying the impact these attributes have on IC control design within the automotive financial industry.

### **Statement of the Problem**

The researcher addressed the problem of how to enhance the ability of the internal auditor to create an effective audit within a corporation. Due to the passing of SOX and the PCAOB issuing Release No. 2007-005A which states auditors may rely on the work of or be assisted by internal auditors, employees or third party who work for management or the audit committee who provide evidence regarding the effectiveness of internal control over financial reporting (ICFR) (PCAOB, 2007b; Weisner & Sutton, 2015). The problem identified within the accounting community is when external auditors rely on audit work completed by others, is there

a possibility of an increase of audit risk that could lead to the possibility of a material misstatement in the financial statements (Weisner & Sutton, 2015).

Multiple studies that have linked robust IC procedures to attributes of external auditors such as accounting knowledge, education level, understanding of the business, training level on IC controls, etc. (Sirwardane, Hu, & Low, 2014; Seigel & Miller, 2010; Abdolmohammadi, 2012; Doyle, Ge, & McVay, 2006); there is much less research expanding the internal auditor's role in relation to audit effectiveness compared to the role of external auditor (Alzeban & Gwilliam, 2014). As the role of the internal auditor has grown into an important position within organizations (Pabedinskaite, 2010); there is little evidence providing clarity on the how individual audit characteristics such as education, experience, and skills impact a firm's audit failure rate which causes an increase to the probability of misstatements of a corporation (Yea et al., 2014). Research is needed examining the relationship between internal controls attributes and the strength of internal controls (Sirwardane et al., 2014). Seol & Sarkis (2005) stated companies need to understand what qualities of internal auditors are needed as hiring the wrong internal auditor can be costly for the corporation. The research expanded on previous research of identifying external auditor attributes (Sirwardane et al., 2014; Seigel & Miller, 2010; Abdolmohammadi, 2012; Doyle, Ge, & McVay, 2006) by applying external auditor attributes to internal auditor to identify a correlation with internal control designs within an automotive financial services company.

### **Purpose of the Study**

The purpose of this quantitative study was to identify if external auditor's attributes could be identified in internal auditors who work within the departments that review and implement internal controls to identify if there was a correlation between external auditor's attributes and

pass rate of internal control designs found within the departments of a financial services company. The researcher sent out a survey via email utilizing the Likert scale and asked participants to provide answers to questions that pertained to the defined accounting attributes. The participants were from a financial services company that routinely complete and review internal controls. The financial services company provided a list of the pass-fail rates for the IC. The researcher made sure the information was kept confidential and did not share the information with the company so that no actions could be taken by the company in regards to the participants' responses. The researcher utilized the quantitative approach when analyzing the data via the Likert scale regarding their responses. The purpose of this paper was to expand on the theory of the importance of the role of the internal auditor (Alzeban & Gwilliam, 2014; Pabedinskaite, 2010; Siriwardane, et al., 2014) and utilize the internal controls theory which defined a positive correlation between weak internal controls of a corporation with the probability of misstatements by a corporation (Stoel & Muhanna, 2011; Yea et al., 2014).

### **Theoretical or Conceptual Framework**

The core concept utilized was individual attributes impact an individual's ability to be more effective within a company (Judge & Zapta, 2015; Colbert, Judge, Chio, & Wang, 2012; DeYoung, 2015). A leader will draw on their attributes that influence their personality traits that influence their ability to be an effective leader (Colbert et al., 2012; Judge & Zapta, 2015; Von Ruden, & van Vugt, 2015). The concept of the Big Five Theory is that personality traits are impacted by attributes which affect how well a leader will lead within an organization and certain attributes can be an indicator as to how affective the individual will be as a leader (Colbert et al., 2012; Judge & Zapta, 2015; Von Ruden, & van Vugt, 2015). The researcher applied the concept of attributes are independent variables which impact a dependent variable;

looking at the Big Five Theory: attributes impact the individual's to be more effective within a company (Judge & Zapta, 2015; Colbert, Judge, Chio, & Wang, 2012; DeYoung, 2015).

Human capital is considered to be an important piece of the development of companies (Amankwah-Amoah, Ifere, & Nyuur, 2016; Attanasio, 2015; Bagisnska, 2016). Human capital is defined as an employee, who has value to the company and provides future income to the company and the employee (Bagisnska, 2016). An accounting firm will search for individuals that have a high level of accounting experience, knowledge, and skills due to companies requesting an accounting firm to provide high-quality services (Bagisnska, 2016). Employees of an accounting firm will be valuable to the firm when the employees utilize and leverage their intellectual capital at the work place (Bagisnska, 2016). These concepts were relevant to this study because both of these theories discuss the importance of attributes on the ability of an individual to be useful to a corporation. The researcher focused on searching for studies that identified auditor attributes that were considered important to an external auditor in relation to affect the ability of the auditor to complete IC.

The focus of a person auditing is to improve the financial reporting quality of a company (Samagaio & Rodrigues, 2016). The quality of the audit is dependent on the auditor's abilities, competence, independence, integrity, and honesty to confirm the financial information so that the public can have confidence in the information published by a company (Samagaio & Rodrigues, 2016). Human capital is vital to drive a company's competitiveness and successfulness (Attanasio, 2015; Samagaio & Rodrigues, 2016). It is important for auditors within the business environment to have skills, knowledge, and attitudes (SKAs) which can be leveraged to complete corporate audits (Siriwardane et al., 2014). The concept of SKAs ties into the theory of Human Capital. The concept of human capital is defined as skills and abilities of the employees that are

leveraged to improve the efficiency of the company (Amankwah-Amoah et al., 2016; Baginska, 2016; Burt, 2016). The purpose of this paper was to expand on the concept of SKAs and identify if SKAs might have an impact on the ability of an internal auditor when reviewing internal control designs.

### **Nature of the Study**

Consistent with prior research, the Chi-Squared Test (DeVellis, 2010; Mihert, 2010) examined the non-parametric data gathered from the internal auditor's attributes in relation to the pass/fail result of the internal controls design within an automotive financial services company Services. The researcher built on previous constructs that defined auditor attributes such as the size of a department (Alzeban & Sawan, 2015,) interdependence of a department (Alzeban & Sawan, 2015; Zhang et al., 2007; Bronson et al., 2009), more diverse the departments activities are (Ashbaugh-Skaife et al., 2007), effectiveness of strong corporate governance (Bris et al., 2008), education level (Feng et al., 2008), and business knowledge of an auditor (Choi et al., 2013). The researcher applied the concept of identifying auditor attributes and utilizing the Chi-Squared Test to identify if there was any type of correlation with internal control design.

The researcher reached out to a Financial Services Company and sent via email an approved IRB Northcentral survey that was the basis for the researcher's qualitative research. The survey used a Likert scale which provided the researcher with non-parametric data to be analyzed utilizing excel. The survey consists of nonparametric statistics using numbers 1-5 to break down the following attributes: education level of the participant; length of time of the participant in their current position; length of time the participant has been at their current company; the participant's knowledge level of the department's internal control procedures; the participant's accounting education; participant's comfort level of internal controls training within



the department; the participant's feelings towards the department's procedures; the participant's classification hours of training regarding internal controls; participants age; and participants gender.

The researcher model a previous concept by Siriwardane, Kin Hoi Hu, & Low (2014) where a survey was created and sent to accounting professionals that dealt with internal controls and auditor attributes. Siriwardane et al., (2014) identified skills, knowledge, and attitudes that auditors thought were important to be utilized to complete their IC activities (Siriwardane et al., 2014).

The research implemented the same type of quantitative study completed by Siriwardane, Kin Hoi Hu, & Low (2014) to explore perceived level of attributes an internal auditor has and examined the impact the attributes might have on the ability of the internal auditor to review and test internal controls. The questionnaire was important to provide a way for the researcher to review the perceived attributes of the auditors with the pass/fail of the internal control designs completed by the auditor. The Likert scale was broken down into different categories and was easily identified by the researcher ensuring a comparison could be identified between the independent and dependent data.

The researcher could have used the qualitative research method however qualitative analysis is subjective because different researchers could come up with different results based on the same interview information (Zikmund et al., 2008). The qualitative research design is utilized when a researcher will have open-ended questions to develop themes and visual concepts (Zikmund et al., 2008). The procedure for this study was for participants to provide numeric responses and no open-ended questions were asked thus, qualitative research was considered a less viable research method. Another type of research design could have been a case study. A

case study is used when a researcher is trying to provide a description of an individual (Cozby, 2001). A case study is used when a researcher will observe behavior and provide an in-depth analysis that may use interviews in person or telephone or library research (Cozby, 2001). Zikmund et al., (2008) described a case study, as the “documented history of a particular person, group, organization or event” (p. 140). The researcher’s direction was not to utilize interviews in person or via the telephone, the case study was considered not to be a relevant choice.

### **Research Questions**

The research questions deal with auditor attributes and the impact they might have within internal departments in regards to IC. The concept is to define the external auditor’s attributes and then relate those attributes to internal departments that create, review, and implement internal controls. The researcher asked the following questions to help define the concept paper:

**RQ1:** Does gender of an internal auditor have a significant correlation with internal control design?

**RQ2:** Does the education level of the internal auditor have a significant correlation with internal control design?

**RQ3:** Does the experience level of the internal auditor have a significant correlation with internal control design?

**RQ4:** Does the years of service working with the current company have a significant correlation to internal control design?

**RQ5:** Does the age of the participant have a significant correlation with internal control design?

**RQ6:** Does the years of experience worked by the internal auditor have a significant correlation with internal control design?

**RQ7:** Is there a significant correlation between the accounting education level of the internal auditor and internal control design?

**RQ8:** Is there a significant correlation between the understanding of internal controls and internal control design?

**RQ9:** Do the hours of internal control training have a significant correlation to the internal control design?

**RQ10:** Does the understanding of the department procedures have a significant correlation with the internal control design?

## **Hypothesis**

The hypotheses (H) to be tested are:

**H1<sub>0</sub>.** There is not a significant correlation between gender and internal control design.

This is related RQ 1.

**H1<sub>a</sub>.** There is a significant correlation between gender and internal control design. This is related RQ 1.

**H2<sub>0</sub>.** There is not a significant correlation between education level of the internal auditor and internal control design. This is related to RQ 2.

**H2<sub>a</sub>.** There is significant correlation between education level of the internal auditor and internal control design. This is related to RQ 2.

**H3<sub>0</sub>.** There is not a significant correlation between the experience level of the internal auditor have a significant correlation with internal control design. This is related to RQ 3

**H3a.** There is a significant correlation between the experience level of the internal auditor have a significant correlation with internal control design. This is related to RQ 3

**H4o.** There is not a significant correlation between years of service working with the current company have a significant correlation to internal control design. This is related to RQ 4.

**H4a.** There is a significant correlation between the years of service working with the current company have a significant correlation to internal control design. This is related to RQ 4.

**H5o.** There is not a significant correlation between the age of the participant have a significant correlation with internal control design. This is related to RQ5.

**H5a.** There is a significant correlation between the age of the participant have a significant correlation with internal control design. This is related to RQ5.

**H6o.** There is not a significant correlation the years of experience worked by the internal auditor have a significant correlation with internal control design. This is related to RQ 6.

**H6a.** There is a significant correlation between the years of experience worked by the internal auditor have a significant correlation with internal control design. This is related to RQ 6.

**H7o.** There is not a significant correlation between the accounting education level of the internal auditor and internal control design. This is related to RQ7.

**H7a.** There is a significant correlation between the accounting education level of the internal auditor and internal control design. This is related to RQ 7.

**H8o.** There is not a significant correlation between the understanding of internal controls and internal control design. This is related to RQ8.

**H8a.** There is a significant correlation between the understanding of internal controls and internal control design. This is related to RQ 8.

**H9o.** There is not a significant correlation between the hours of internal control training and the internal control design. This is related to RQ9.

**H9a.** There is a significant correlation between the hours of internal control training and the internal control design. This is related to RQ 9.

**H10o.** There is not a significant correlation between the understanding of the department procedures and internal control design. This is related to RQ 10.

**H10a.** There is a significant correlation between the understanding of the department procedures and internal control design. This is related to RQ 10.

### **Significance of the Study**

The researcher expanded on the need for research to be done on the relationship between the strength of internal controls and attributes of internal auditors (Sirwardane et al., 2014). This study provided insight on auditor attributes and the relationship these attributes have on the strength of internal controls within a corporation. By increasing the knowledge of internal controls, a corporation can influence the accuracy and truthfulness of their financial statements (Lenghel, 2012; Morrill, Morrill and Kopp, 2012; Fitzsimons & Silliman, 2006). The quality of the audit is dependent on the auditor's abilities, competence, independence, integrity, and honesty to confirm the financial information so investors will have confidence in the published financial information by a company (Samagaio & Rodrigues, 2016). Because an internal auditor has a better understanding of the control environment, an internal auditor is able to pinpoint where weaknesses might be found making an internal auditor an asset to the audit process (Burt, 2016).

This study contributed to the field of study on the correlation of auditor attributes and internal controls within an organization to help strengthen the ability to provide stronger internal

controls. The research questions within the study provided context to auditors as to which attributes have a strong correlation to the strength of internal controls within an organization. Studies have proven that strong internal controls will help have a positive impact on a company's earnings quality (Gupta, Sami, & Zhou, 2016; Doyle, Ge, & McVay, 2007) as well as a positive impact on the cost of capital (Ashbaugh-Skaife, Collins, Kinney Jr., & Lafond, 2009; Doyle et al., 2007). The intent of this research was to help strengthen internal controls within an organization that should help to reduce the possibility of a corporation misstating their financial statements which will lead to a decrease in costs.

### **Definitions of Key Terms**

**Control.** A control is something that will permanently or periodically survey, analyze, and verify a particular activity or situation (Lenghel, 2012).

**External Auditor.** An external auditor is defined as someone who is not an employee of the corporation and assists in identifying, reviewing, and implementing internal controls (O'Donnell, 2015). The external auditor will review the company's systems and controls, conduct risk assessments, and validate policies and procedures (O'Donnell, 2015).

**Internal Auditor.** An internal auditor is defined as someone who is an employee of the corporation and works with other employees who assists in identifying, reviewing, and implementing internal controls (O'Donnell, 2015). The internal auditor will review the company's systems and controls, conduct risk assessments and validate policies and procedures are implemented and functioning as intended (O'Donnell, 2015).

**Internal Control over Financial Reporting.** Defined as a process where a company strives to provide reasonable assurance on the reliability of the financial information being reported. (Doyle et al., 2007).

**Internal Controls.** Internal controls are the company's internal process created by the entity's board of directors, management and other personnel who are empowered to provide reasonable assurance to the public regarding achievement of effectiveness and efficiency of operations, reliable financial reporting and compliance with applicable laws and regulations (Kofi Akwaa-Sekyi & Gené, 2016).

**Material Weakness.** Auditing Standard No. 5 (AS5) defines material weakness as when a corporation has a reasonable possibility of having a material misstatement remain undetected within the financial statements (Rice & Weber, 2012).

**Performance Attributes.** Performance attributes are defined as a collection of behavioral skills (e.g., leadership), technical skills (e.g., data collection and analysis), and competencies (e.g., communication skills) which auditors utilized to effectively and efficiently complete their daily activities (Abdolmohammad, 2012).

**Public Company Accounting Oversight Board (PCAOB).** The PCAOB is a private regulatory agency, independent of the accounting industry (PCAOB 2005). It was designed to oversee the auditors of public companies, to protect the interests of investors, and further the public interest in the preparation of informative, fair, and independent audit reports (PCAOB 2005). Congress bestowed upon the PCAOB the ability to inspect the work of all accounting firms that audit publicly traded companies (Abbott, Gunny, & Chunqi, 2013).

**Sarbanes-Oxley Act of 2002 (SOX).** SOX was legislation created by the United States for publicly traded companies to improve the financial reporting quality in response to the financial accounting scandals from the 1990's and the 2000s (Prawitt, Sharp, & Wood, 2012).

**Securities and Exchange Commission (SEC).** The Securities and Exchange Commission (SEC) was formed because of the passage of the Securities Exchange Act of 1934 (SEC, 2011). It was created by the American government to restore public confidence in the U.S. financial market that had been negatively impacted by the stock market crash of 1929 (the "Crash") and the subsequent Great Depression of the 1930s (SEC, 2011).

**U.S. Generally Accepted Accounting Principles (U.S. GAAP).** United States Generally Accepted Accounting Principles (U.S. GAAP) is defined as a set of accounting standards with detailed guidance to be used by corporations to help standardize accounting rules and procedures within the United States. (Bradshaw & Miller, 2008).

## Summary

This research paper expanded on the groundwork of what has shaped the role of the internal auditor. This paper discussed the creation of SOX, the PCAOB creating the Auditing Standard No. 5, describing the role of the internal auditors, why corporations are concerned with weak IC's, and the impact of weak IC's have on corporation's financial statements. The research paper introduced the importance of the role of the internal auditor in reviewing and improving the internal controls of an organization. The purpose of this paper was to expand on the theory of the importance of the role of the internal auditor (Alzeban & Gwilliam, 2014; Pabedinskaite, 2010; Siriwardane et al., 2014) and utilized the internal controls theory which defined a positive



correlation between weak internal controls of a corporation with the probability of misstatements by a corporation (Stoel & Muhanna, 2011; Yea et al., 2014).

The main theoretical concept discussed was how attributes impact individual's performances and the affect these individuals have on a corporation (Judge & Zapta, 2015; Colbert, Judge, Chio, & Wang, 2012; DeYoung, 2015). The paper provided insight on the human capital theory and how this theory was associated with auditor's attributes and by applying the human capital theory, auditor attributes will influence the internal controls within an organization. The next concept discussed was the nature of the study and how the study expanded on previous concepts that strengthened the knowledge of internal auditors. The next concept discussed was identifying the research questions and defining the questions that provide context regarding auditor attributes and the impact they might have within internal departments in regards to IC. The research questions defined the external auditor's attributes and then related those attributes to internal departments that create, review, and implement internal controls. Lastly, the paper provided key definitions as to what was SOX, internal auditors, controls, what was the SEC, and US GAAP. This section is important to provide insight on terms and concepts that are not commonly understood by people outside the accounting realm.

## Chapter 2: Literature Review

The purpose of this quantitative study was to provide insight into leveraging external auditor attributes and applying those attributes to internal auditors to examine if there is a correlation with internal controls. This chapter provided the background information to set the stage as to the different government agencies that were created, the main laws that were created to help identify internal control processes within organizations, the need for laws and agencies that define what internal controls are, and a common understanding of auditor attributes.

This chapter set the conceptual groundwork of what was the purpose of internal controls and what main themes were defined by internal controls and laid the foundation as to the importance of auditor attributes. The researcher searched for information regarding internal and external auditors first to determine what information was available and what issues were currently being discussed by researchers.

### Theoretical/Conceptual Framework

The purpose of the paper was to expand on the concept that there is a need for more research to provide insight regarding the under-researched role of the internal auditor (Abdolmohammadi, 2012; Burt, 2016; Desai, Desai, Libby, & Srivastava, 2017). Researchers have explored and defined external auditors' attributes (Sirwardane, Hu, & Low, 2014; Seigel & Miller, 2010; Abdolmohammadi, 2012; Doyle, Ge, & McVay, 2006); however there is little research focused on the performance attributes of internal auditors (Abdolmohammadi, 2012). The research expanded on previous research of identifying external auditor attributes (Sirwardane, Hu, & Low, 2014; Seigel & Miller, 2010; Abdolmohammadi, 2012; Doyle, Ge,

& McVay, 2006) and examined how the external auditor attributes affect internal departments within the Financial Services Industry that create, review, and monitor internal controls.

The concept examined was when internal departments are focused on reviewing, creating, and implementing IC which attributes of external auditors have an impact on internal auditors being able to affect the pass-fail rate of IC within the financial services industry. The paper expanded on this need by exploring auditor attributes and exploring how attributes such as knowledge of business activities, educational knowledge of internal controls, auditor's education level, the impact of feeling part of the corporation, and auditor's experiences. The purpose of the literature review was to provide a conceptual outline of the important actions that have happened in regards to internal auditors and the reasons why internal controls have become an important aspect of financial reporting. The literature review examined the government agencies that have been established and the laws created by the agencies to help corporations provide reliable and valid financial information to the stakeholders of the corporation. The literature review discussed the concepts of internal controls

### **Governing Bodies**

**U.S. Securities and Exchange Commission.** The U.S. Securities and Exchange Commission (SEC) website defines their mission statement as “to protect investors, maintain fair, orderly, and efficient markets, and facilitate capital formation” (sec.gov). The SEC believes in order for a company to establish and maintain effective internal control over financial reporting (ICFR); the company must identify the risks which affect the reliability of reporting the financial statements and create appropriate internal controls which help to reduce the risk to financial reporting of the company (Fitzsimons & Silliman, 2006). The SEC reviews acts such as Sarbanes-Oxley (SOX) and routinely meets with the Public Company Accounting Oversight Board to review auditing

standards (Fitzsimons & Silliman, 2006). The SEC provides a forum for companies and auditors to provide feedback on topics such as identifying risks to financial statement accounts and how management might use controls to mitigate that risk; what tools management might have when evaluating procedures and methods when gathering evidence to support their assessment; what factors need to be considered when determining the nature, timing, and extent of evaluation procedures; and what type of documents are required to support the financial statements as well as the evaluation process (Fitzsimons & Silliman, 2006).

**Committee of Sponsoring Organizations (COSO).** COSO created the internal control-integrated framework in 1992 and this framework was the first time a formal attempt was made to define and provide a standard measurement for internal controls (D'Aquila, 2013). COSO defined three objectives of what internal controls should accomplish (D'Aquila, 2013). The first objective of internal controls is to provide effectiveness and efficiency within a company's operations (D'Aquila, 2013). The second objective of internal controls is to provide the company with a level of reliability of financial reporting (D'Aquila, 2013). The third objective of internal controls is to be compliant with all the laws and regulations that govern the activities of a corporation (D'Aquila, 2013). All three of these objectives are tied to the five integrated components: control environment, risk assessment, communication and information, monitoring, and control procedures that are used by corporations to achieve their goals and objectives (D'Aquila, 2013). Although the concept of internal controls can be used by every company, each company should have their own dynamic set of internal controls through the different industries and management models (D'Aquila, 2013).

**Sarbanes-Oxley Act of 2002.** The 1970's had laid the groundwork for the Sarbanes-Oxley Act of 2002 because the confidence in the United States economy was low due to companies such as

Penn Central, Equity Funding, and National Student Marketing Corporation declared bankruptcy, faced insider trading, and financial fraud charges (Gupta, Weirich & Turner, 2013). The Office of the Watergate Special Prosecutor and the Securities Exchange Commission (SEC) discovered companies had misused corporate funds to illegally contribute to foreign and domestic political parties (Gupta et al., 2013). The companies tried to cover their tracks by falsifying entries in their financial accounting systems and when these false entries were discovered Congress created the Foreign Corrupt Practices Act (FCPA) of 1977; which amended the Securities Exchange Act of 1934 (Gupta et al., 2013). The FCPA's focus was mandating companies keep accurate and truthful accounting transaction histories of their assets as well as create an internal control system that will be able to reasonably track transactions using General Accounting Accepted Principles (GAAP) standards (Gupta et al., 2013).

The Sarbanes-Oxley (SOX) Act of 2002 was created due to the financial scandals caused by companies such as Enron and Arthur Anderson in 2001 and the purpose of SOX was to help restore faith and confidence in the public financial information that companies present to the public (Jain, Jang-Chul, and Rezaee, 2008). Before SOX was signed into existence, companies were required to disclose significant internal control deficiencies only when the company decided to switch to another auditor (Balsam, Jaing, & Lu, 2014). The Public Company Accounting Oversight Board (PCAOB) was created by the passing of SOX and the focus of the PCAOB is to regulate the public accounting firms of the United States (Frame, Hughson, & Leach, 2016).

**Section 301 of SOX.** Section 301 of SOX requires that public companies have members of the audit committee to be independent of management (Bronson, Carcello, Hollingsworth, and Neal, 2009). The concept of companies having an independent audit committee started with the SEC

in early 1940; however the rules relating to how the audit committee was to be composed was very vague (Bronson et al., 2009). In October 1999, the Blue Ribbon Committee (BRC) created ten recommendations that were to be used by corporations to improve the company's audit committee's effectiveness (Bronson et al., 2009). The New York Stock Exchange (NYSE) and the National Association of Securities Dealers (NASD) build on what the BRC created by changing the listing requirements of firms by requiring independent audit committees within a public corporation (Bronson et al., 2009).

**Section 404 of SOX.** Section 404 of SOX discusses the importance of controls related to the financial reporting and requires management to regularly assess the quality of the financial reporting function (Li, Peters, Richardson, and Weidenmier, 2012). The financial reporting function of a company which compose of managing operations, monitoring company performance, creating forecasts, and reporting the financial results to stakeholders are greatly impacted by the quality of internal controls of a corporation (Li et al, 2012). SOX's creation was a reaction by the United States government to create stronger controls and to hold management of companies accountable for their actions regarding financial statements and caused a change from companies being self-regulated to being regulated by the government (Franklin, 2016). The SEC stated on their website one of the main goals of SOX is to provide the public with an enhanced quality of financial reporting by public companies and to increase the confidence of investors in the financial markets. An investor needs to have the insight of understanding how a corporation will prepare the financial information and the way to obtain this insight is by a corporation publishing this information ("Final rule", n.d.). The SEC stated an important responsibility of a corporation's management team is to actively review their process

of internal controls and be proactive in identifying internal control deficiencies (“Final rule”, n.d.).

Companies became concerned with complying with section 404 by increasing manpower to review and test the company’s internal controls process as well as external auditors focusing on validating and testing a company’s internal controls (Franklin, 2016). The financial reporting function is very vital to company success because this function is used by management to manage the day-to-day business operations, create forecasts, and report the financial status of the company to its shareholders (Peters et al., 2012). Weaknesses in the financial reporting function will distort the financial information causing management to make the wrong decisions using incorrect information (Peters et al., 2012; Li et al, 2012). Companies will make incorrect decisions due to poor forecasting and inaccurate production forecasts can lead to incorrect decisions regarding production, processing, and storing (Li et al., 2012).

### **Control Environment**

Managers and auditors utilize the same COSO framework when assessing internal controls; however, their roles are completely different (Tsay, 2010). COSO states the tone set by management to the employees is vital to the success of strong internal controls within the organization (Lawson et al., 2017; Tsay, 2010). In order for internal controls to be successful, management must prove to the employees that management is dedicated to the execution of internal controls throughout the organization (Tsay, 2010). An auditor will review the communications between management and the employees to make a determination on the true intent of management on the importance of strong internal controls (Tsay, 2010). In a control environment, a corporation has the responsibility to segregate duties, approvals, reviews, and authorizations (Klamm & Watson, 2009; Rae, Sands, & Subramaniam, 2017). The control

environment is believed to be the core component for all of the other internal controls because the control environment is grounded in structure, integrity, ethical values, employee competence, management's vision, and leadership of the board of directors (Frazer, 2016). The control environment is defined as the combination of standards, processes, and structures that are used to implement and enforce internal controls throughout an organization (D'Aquila, 2013).

The control environment has five main concepts defined by COSO (COSO, 2013; D'Aquila, 2013; Rae et al., 2017; Tsay, 2010). The first concept is defined as an organizational commitment to having integrity and ethical values (D'Aquila, 2013). The actions and the message of management, as well as the board of directors, should reinforce to the employees the level of ethical and integrity standards expected to be present in the day to day activities (D'Aquila, 2013; Janvrin, Payne, Byrnes, Schneider, & Curtis, 2012). A clear and concise code of conduct is to be defined and understood by all personnel that work within the organization (D'Aquila, 2013). Personnel should be regularly evaluated against the code of conduct and any issues are to be addressed and corrected in a timely manner (D'Aquila, 2013; Javrin et al, 2012).

The second concept is the board of directors should be independent from management and have control over the development and implementation of internal controls within the organization (COSO, 2013; D'Aquila, 2013; Tsay, 2010). The board of directors needs to periodically review the internal controls processes and ensure internal control effectiveness within the organization (D'Aquila, 2013; Tsay, 2010). The board of directors should objectively review the skills needed by the board to ensure the board is able to question the actions of senior management and ensure management has a strong commitment to ensuring internal controls have been correctly designed, implemented, and enforced (D'Aquila, 2013).



The third concept is management has defined reporting lines, appropriate authority, defined responsibilities used to accomplish defined corporate objectives (COSO, 2013; D'Aquila, 2013). The board of directors and senior management need to understand the organizational structure so that they can delegate authority, define responsibilities, and incorporate appropriate use of technology to assign responsibilities and segregate duties (D'Aquila, 2013). Senior management must review the organizational structure to ensure the correct lines of communication flow throughout the organization, and evaluate the lines of reporting within the organization are adequate to ensure departments are aligned and pursuing the objectives of the corporation (D'Aquila, 2013; Javrin et al, 2012; Tsay, 2010).

The fourth concept is the commitment to develop, attract, and keep useful individuals (COSO, 2013; D'Aquila, 2013). An organization should have a structure in place that mentors, trains, and attracts individuals who are considered competent to ensure departments are moving to the corporate goals (D'Aquila, 2013). The organization is expected to strengthen the labor force skill sets and have contingency plans for assigning internal control responsibilities to individuals within departments (D'Aquila, 2013).

The fifth concept is individuals are held accountable for ensuring, strengthening, and implementing internal controls within the organization (COSO, 2013; D'Aquila, 2013). Management is expected to have policies in place that hold individuals accountable for their responsibility of ensuring strong and relevant internal controls within departments (D'Aquila, 2013). An organization should evaluate the performance of internal controls within departments to routinely determine the effectiveness of internal controls (D'Aquila, 2013). An organization should have appropriate levels of incentives for employees to achieve and enforce internal controls as well as provide disciplinary actions when needed (D'Aquila, 2013).

## Internal Control Design

Internal control design and implementation plays a vital role in companies providing accurate and truthful financial statements (Morrill, Morrill and Kopp, 2012). The Foreign Corrupt Practices Act requires public companies to have cost-justified internal controls however; a company is not required to report to investors on internal control over financial reporting (ICFR). A corporation's ability to produce accurate and truthful financial statements will be impacted by the internal control design and the level of implementation (Morrill et al., 2012). Information Technology (IT) is becoming more integrated with business activities (Henderson, Davis, and Lapke (2013). Henderson et el (2013) completed a study discussing the importance of auditors combining the audit to review the business and IT activities together. Henderson et el (2013) stated this will provide auditors with a more complete picture of the entire internal controls process as well as save time and money to the corporation. A control is something that will permanently or periodically survey, analyze, and verify a particular activity or situation (Lenghel, 2012). A control will follow the flow of the activity and identify potential risks caused to or caused by the activity and help to define measures for improvement (Lenghel, 2012).

Internal control can also be defined as any actions or measure management might take with the goal of improving or mitigating potential risks to the firm and taking steps to improve the probability the tasks and objectives of the activity will be accomplished (Lenghel, 2012). The role of internal controls as improving inefficient operations, ensuring the integrity of the system, adhering to management's directives, complying with legal regulations, ensuring effective and robust management activities, and ensuring the accuracy and credibility of the accounting information (Lenghel, 2012). The internal controls are expected to have an adequate

information system, a defined organizational structure that separates duties and tasks and incorporates adequate supervision over activities, and has a manual of internal control procedures regarding day-to-day activities (Lenghel, 2012).

The concept of IT in relation to internal controls has had a drastic change from being considered an isolated function within the corporation to a broad all-encompassing technological tool that influences management decisions, business strategies, and the day-to-day business operations (Masli, Richardson, Weidenmier, Watson, & Zmud, 2016). The focus on the importance of IT systems have grown causing senior management of corporations to be personally engaged with IT management to gain an understanding of the impacts, processes, and capability of the corporations IT systems (Masli et al., 2016). Management and IT management are more closely related as the role of the IT system has changed and become a comprehensive tool that has transformed the impact throughout the organization (Masli, et al, 2016).

SOX Section 302 was created to make sure companies are able to review and enhance their internal controls as well as the company's managers (Gao & Jia, 2016). Before SOX Section 302, an internal control is a term specifically used within the accounting profession (Gao & Jia, 2016). After SOX Section 302, an internal control is a term used within all business sectors (Gao & Jia, 2016). A company will spend money upgrading their informational technology (IT) in order to improve their operational performance and their quality of their financial information (Haislip, Peters, & Richardson, 2016). A basis for strong internal controls within a corporation can stem from the IT the company utilizes (Haislip, Peters, & Richardson, 2016). When there are issues with IT related internal controls, it correlates to the company's ability to accurately report financial information (Haislip, Peters, & Richardson, 2016). When a corporation has weak IT internal controls, the corporation will have to review the governance

associated with the internal controls and improve these controls (Haislip, Peters, & Richardson, 2016).

The Public Company Accounting Oversight Board's (PCAOB) website located at <http://pcaobus.org>, defines internal controls as:

Internal control over financial reporting is a process designed by, or under the supervision of, the company's principal executive and principal financial officers, or persons performing similar functions, and effected by the company's board of directors, management, and other personnel, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with GAAP and includes those policies and procedures that -

- (1) Pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company;
- (2) Provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and
- (3) Provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

The officers of a corporation's financial statement are responsible for reviewing, evaluating, and understanding the company's internal controls

(Kanagaretnam, Lobo, Ma & Zhou, 2016). By signing the financial statements, the officers assume responsibility for the corporation's internal controls and state they have evaluated the internal controls for the fiscal period and have listed all the deficiencies and information on any fraud that had involved any employees who were associated with any aspect of the internal control activities; provide information regarding and significant change or factors that might negatively impact the integrity of the company's internal controls ( Kanagaretnam et al., 2016). Not only do the officers sign, but also an independent audit opinion is provided by an auditor or auditing firm on the effectiveness of the company's internal controls (Kanagaretnam et al., 2016). Depending on the level of severity of the internal control problem within the organization, the internal controls problem is broken down into three categories: material weakness, significant deficiency, and control deficiency (Kanagaretnam et al., 2016).

### **Risk Assessment**

Accounting Standards (AS) 5 states companies must implement a top-down risk-based approach when reviewing the internal control audit (Calderon, Hakjooon, & Li, 2016). A top-down risk-based approach starts by management looking at financial statements and examining the controls at an entity level, then at the significant account-level, and finally at the account-level (Calderon et al., 2016). Entity-level controls include any control that is impacted by the control environment, risk-management processes, the monitoring control aspect, and period-end financial reporting processes (Calderon, et al., 2016). There have been many audit deficiencies identified in PCAOB inspection reports by auditor's utilizing the top-down risk-based approach (Calderon, Hakjooon, & Li, 2016). There have been disclosure examples which provided

evidence that auditors did not correctly test entity-level controls and the period-end financial reporting process; as well as auditors failing to correctly assess the accounts regarding the level of risk of misstatement on the financial statements (Calderon et al., 2016). Risk assessment is a core function needed by an internal auditor to audit the internal controls within an organization (Calderon et al., 2016). An auditor must be able to review, examine, and understand the internal controls within an organization as well identify which internal controls are to be tested and properly evaluated that they are working as expected within the organization (Calderon et al., 2016).

When an auditor does the risk assessment, the auditor must have an understanding of the business of the corporation, the business processes within the organization, and have an understanding of the internal controls in order for the auditor to assess the potential of misstatements within the financials (Calderon et al., 2016). Employing a top-down risk assessment is sometimes difficult for auditors because usually auditors complete audits in a set procedure examining the financial statements and not focusing on the possibility of risk at a very high level then following the risk component at the lowest level detail (Calderon et al., 2016).

The information technology of a corporation has become another focus for auditors when completing the risk assessment (Calderon et al., 2016). Companies rely on systems such as the enterprise resource planning (ERP) to process large amounts of accounting data (Calderon et al., 2016). An auditor must review the ERP information to assess any potential risks to the quality of the financial data being reported utilizing a top-down risk based approach (Calderon et al., 2016). Auditors are expected to understand the impact of IT, understand how IT systems will influence the flow of accounting transactions throughout the corporation, and be able to

understand the types of risks associated with the company utilizing the IT system (Calderon et al., 2016).

One theme regarding risk assessment is defined as strategy and business risk assessment (Mactavish, McCracken, Schmidt, 2018). Mactavish et al., (2018) stated an auditor's job is to comprehend the company's objectives and strategies as well as any of the related business risks associated that could have an impact on the firm's financial misstatements. Wright (2015) stated a central concept for financial auditing is that the auditor must have a clear picture of the business model during the financial reporting period to best understand and examine risk. The PCAOB (2010) stated when an auditor understands the business model the auditor can follow the financial revenue process of the company and best assess the risk for financial misstatements. Wright (2015) stated if an auditor does not understand the business risks that could cause a higher risk of audit failure.

### **Material Weakness**

ICFR is determined to be effective when a corporation does not have a material weakness (Rice & Weber, 2012). Auditing Standard No. 5 (AS5) defines material weakness as when a corporation has a reasonable possibility of having a material misstatement remain undetected within the financial statements (Rice & Weber, 2012). AS5 was created in 2007 by the PCAOB with the intention that companies would utilize a top-down risk based audit approach which would help to improve audit efficiency as well as improve the audit process by reducing the time between an audit and receiving an audit report (Santanu, Hakjooon, & Joon Sun, 2015). AS5 stated an external auditor might receive assistance from internal auditors, internal company personnel, or a third party under the direction of the company's management (Brody, Haynes & White, 2015). The PCAOB's concept of AS5 was to allow external auditors to rely more on the

work of internal auditors so that company's cost of an audit would be reduced by using internal personnel by complying with SOX Section 404 (Brody et al., 2015).

Financial statement disclosures are created to assist investors on assessing the risk associated with the accuracy and reliability of the financial statements (Rose, Rose, & Norman, 2016). Trust is a main driver for investors when reviewing the company's financial information (Rose et al., 2016). Investors believe management to be less trustworthy when they provide detailed explanations for minor control weaknesses and investors find management to be more trustworthy when detailed explanations are provided for a serious control weakness (Rose et al., 2016). Trust is a factor that investors take into consideration when reviewing the material weaknesses in the financial statements; affects the investor's perception of investment risks (Rose et al., 2016). If an investor does not trust the information provided on the financial statements, the perceived risk will be amplified (Rose et al., 2016). Control weaknesses will negatively influence credit ratings and auditor fees; risks perceived by the control weaknesses will cause investors, creditors, and auditors to react accordingly (Rose et al., 2016).

A study was done to examine the country-level cultural factors and the impact these factors might have on an organization's ICMW (Kanagaretnam et al., 2016). Culture is used for the attitudes and beliefs of a country while subculture would apply to an organization, business, or a family structure (Kanagaretnam et al., 2016). Culture is seen throughout the nation's social system that shapes a person's thoughts and perceptions regarding a concept or an idea (Kanagaretnam et al., 2016). Culture provides the essence of how individuals of a nation will perceive meanings, symbols, and assumptions regarding concepts such as good and bad, as well as what are the perceived acceptable and unacceptable behavior for organization (Kanagaretnam et al., 2016). The study supports the concept of manager's individualism will have a positive



impact on a corporation having an ICMW; as well as a positive correlation to the number of ICMW is found within the organization (Kanagaretnam et al., 2016).

Another study expanded on the concept of culture by linking organizational legitimacy and the impact on IT-based control material weaknesses (Haislip, Masli, Richardson, & Sanchez, 2016). Organizational legitimacy is defined as the actions of the corporation, which are considered appropriate and acceptable, within a normal socially belief system (Haislip et al., 2016). A corporation will gain legitimacy from its employees and from society by adopting socially accepted practices (Haislip et al., 2016). When a corporation fails to create and adopt acceptable normal perceived policies and procedures, investors tend to believe the corporation to be more negligent and irrational influencing the cost of capital (Haislip et al., 2016). When a corporation has an information technology-based material weakness (ITMW), the corporation will have a higher level of uncertainty regarding the accuracy and reliability of capturing, processing, storing, and retrieving the financial information (Haislip et al., 2016). A corporation that has strong, well-developed IT-based controls will have a strong positive impact to the financial control environment of the corporation causing more reliable financial information (Haislip et al., 2016). If a corporation has ITMW's, the forecast information is found to be less accurate, to produce a lower level of information quality, an increase of audit fees, and the assessment provide by external auditors (Haislip et al., 2016). ITMWs will have a greater negative impact to the company's ability to provide reliable and effective internal controls than a non IT-related maternal weakness (Haislip et al., 2016)

### **Significant Deficiency**

A significant deficiency is an internal control deficiency that is considered more than just a remote chance of failing to either prevent or detect financial misstatements of material amounts

in the financial statements (Graham, & Bedard, 2015). A company must report a significant deficiency to the corporation's audit committee and management when identified (Graham, & Bedard, 2015). When a material weakness is found, the information must be publicly reported by the auditor within the auditor's opinion section on internal control effectiveness in the 10-K (Graham, & Bedard, 2015).

### **Internal Audit Function (IAF)**

IAF is an integral piece of a corporation in providing effective corporate governance and accurate financial reporting (Christ, Masli, Sharp, & Wood, 2015). Internal auditors are used to enforce a disciplined and systematic approach of evaluating and improving the following areas: risk management, control processes, and governance procedures (Christ et al., 2015). An internal auditor will help to improve risk assessments within an organization, confirm the safeguarding of assets, confirm the accuracy of the earnings quality, become a deterrent for management misconduct, strengthen the internal controls processes, ensure strong audit procedures, and confirm the audit efficiency within an organization (Christ et al, 2015). The Institute of Internal Auditors conducted a survey of Fortune 500 companies that stated 64 percent of the companies had structured their internal audit functions (IAF) as a management training ground (Burton, Starliper, summers, & Wood, 2015). There are two schools of thought to the concept of management training ground: Hire new internal auditors to complete IAF with the promise of promotion within a few years or to assign existing employees into the role of managing IAF with the concept that they will be promoted to another position after their stint within IAF (Burton et al., 2015; Christ et al., 2015)). Previous research has found when companies utilize the concept of using IAF as a management training ground; the company has experienced higher audit fees and a higher risk of the financial statement containing fraudulent or

inaccurate information (Burton et al., 2015). The importance of IAF is to evaluate the internal control effectiveness of the corporation's financial reporting system as well as evaluate the risk of reporting incorrect financial information (Christ et al, 2015). The concept of an internal auditor is to help prevent and detect financial reporting irregularities and to curb the concept of aggressive financial reporting (Christ et al., 2015).

As companies utilize their internal staff and rotate the personnel into internal audit roles for a set amount of time, the effectiveness of that person as an internal auditor is impacted by the fact the internal personnel is looking for a management position outside of the realm of audit (Christ et al, 2015). By rotating internal personnel through the internal audit department with the promise of a promotion within a few years, a study suggests this rotation will have a negative impact to the quality of the financial reporting quality (Christ et al., 2015). However to mitigate the negative impact to the quality of the financial reports, organizations should rotate individual audit positions, have effective audit committees, or have a manager who's focus is only on IAF to help reduce the negative financial reporting effects due to the rotation of internal auditors to other management roles within the corporation (Christ et al., 2015).

### **Human Capital Theory**

Human capital is considered an important piece of the development of companies (Bagisnska, A. 2016). Human capital is defined as an employee, who has value to the company and provides future income to the company and the employee (Bagisnska, A. 2016). An accounting firm will search for individuals that have a high level of accounting experience, knowledge, and skills due to companies requesting an accounting firm to provide high-quality services (Bagisnska, A. 2016). Employees of an accounting firm will be valuable to the firm when the employees utilize and leverage their intellectual capital at the work place (Bagisnska,

A. 2016). A study was done to examine if Polish companies believe specialized knowledge within accounting is an import factor for consideration when companies decide to outsource accounting functions (Bagisnska, A. 2016). The research concludes that entrepreneurs look for employees that have the proper qualifications, trust the employee's knowledge and accounting competence, and work closely with the accounting departments (Bagisnska, A. 2016). The focus of a person auditing is to improve the financial reporting quality of a company (Samagaio & Rodrigues, 2016).

The quality of the audit is dependent on the auditor's abilities, competence, independence, integrity, and honesty to confirm the financial information so that the public can have confidence in the information published by a company (Samagaio & Rodrigues, 2016). Human capital is vital to drive a company's competitiveness and successfulness (Samagaio & Rodrigues, 2016). A study was done to examine the auditor's human capital attributes and a young firm's performance (Samagaio & Rodrigues, 2016). The study's focus was to identify the different attribute combinations of human capital which influence a young audit firm's performance and the combinations of human capital attributes that influence a young firm's competitiveness, growth, profitability, and the number of employees (Samagaio & Rodrigues, 2016). The study had four theoretical and practical contributions to the human capital theory (Samagaio & Rodrigues, 2016). The first contribution was that firms will more than likely prioritize the objectives they want to achieve and then execute the strategy to obtain their objectives; the second contribution was to examine the potential for different relationships tied to human capital; the third contribution is to build on the context that human capital attributes are a key factor in the audit industry; and lastly, entrepreneurs will examine their business strategies to

review the types of employees they and which type of employees they need to find to help ensure the company's successfulness (Samagaio & Rodrigues, 2016).

Companies are always searching for top performing employees and developing strategies to increase an employee's performance (Amankwah-Amoah, Ifere, & Nyuur, R., 2016). Firms are attempting to attract new talent; as well as keeping the existing desirable employees, who are top performers, by providing a higher salary base as well as higher bonuses (Amankwah-Amoah, et al., 2016). A theory exists which states companies have over-performing employees and under-performing employees; while the over-performing employees are rewarded, the under-performing employees are kept around and not dealt with for several months or years (Amankwah-Amoah et al., 2016). The study identifies the importance of human capital and the impact it has on the company's performance (Amankwah-Amoah et al., 2016).

### **Concept of Skills, Knowledge, and Attributes**

It is important for auditors within the business environment to have skills, knowledge, and attitudes (SKAs) which can be leveraged to complete corporate audits (Siriwardane, Kin Hoi Hu, & Low, 2014). A study was conducted of 20 SKAs within auditors working in Singapore to determine which of these SKAs were perceived as the most important for auditors to possess (Siriwardane et al., 2014). This study built on the concept of developing auditor's competencies that are believed to have an impact on the accuracy of the financial information reported by companies (Siriwardane et al., 2014). An auditor's ability to assess audit data, understand a client's business, and knowledge of internal controls is vital for an auditor to complete a successful audit (Siriwardane et al., 2014).

The concept of SKAs ties into the theory of Human Capital. The concept of Human Capital is defined as skills and abilities of the employees that are leveraged to improve the

efficiency of the company (Amankwah-Amoah et al., 2016; Bagisnska, 2016; Burt, 2016). The purpose of this paper is to expand on the concept of SKAs and identify if SKAs might have an impact on the ability of an internal auditor when reviewing internal controls. A study stated future research is needed to identify the impact of SKA's have on United States corporations and the impact SKAs might have on internal controls (Siriwardane et al., 2014). If SKA's are important for external auditors in completing an audit, then the question should be asked is, are the same SKA's important for internal auditors or are there different skill sets needed for an auditor when reviewing internal controls? The purpose of this paper is to expand on the concept of SKA's, which is a part of the Human Capital Theory, and apply the importance of SKA's to internal auditors who are working on creating, implementing, and testing internal controls within the financial services sector in the United States.

### **Big Five Theory**

The Big Five theory, which was defined by Judge & Zapata (2015) as the “widely accepted trait framework in the history of personality psychology“(p. 1150). Colbert, Judge, Choi, & Wang (2012) stated the trait theory of leadership is based on the idea that personality traits cause leaders to lead and influence the leader's ability to be an effective leader. Colbert et al (2012) stated personality traits can be categorized into five main factors called the Big Five: neuroticism, extraversion, openness to experience, agreeableness, and conscientiousness. DeYoung (2015) defined personality traits as “probabilistic descriptions of relatively stable patterns of emotion, motivation, cognition, and behavior, in response to classes of stimuli that have been present in human cultures over evolutionary time” (p. 36). Marshall, Lefringhausen & Ferenczi (2015) defined neuroticism as the level of anxiety and sensitivity to threat. Colbert et al (2012) stated extraversion is defined as individuals that are described as being warm, friendly,

and extraverts that are more assertive. Colbert et al (2012) defined openness to experience as individuals that are imaginative, creative, and unconventional. Colbert et al (2012) defined agreeableness as individuals that are cooperative, trusting, and tolerant of other individuals. Colbert et al (2012) defined conscientiousness as individuals that are hardworking, able to strive to obtain a task, responsible, and organized. Colbert et al (2012) stated the Big Five theory have an impact on an individual's job performance as well as an indicator to level of how effective that individual will be as a leader.

Von Ruden, & van Vugt (2015) stated groups resolve conflicts and provide motivation through leadership. Leaders are individuals that are able to have influence over a group to help shape the goals, coordinate activities, effort of activities, and reward or punishment strategies. Von Ruden, & van Vugt (2015) stated leadership can be shared over multiple different individuals or with one person and the type of influence can range from very passive to very active with the followers. Von Ruden, & van Vugt (2015) stated there are multiple different theories associated with leadership such as contingency leadership, transformational leadership, and leader-member exchange theory. Von Ruden, & van Vugt (2015) stated there are attributes that affect leadership such as race, age, physical qualities, trustworthiness, fairness, the type of social networks of a leader, and personality.

Martin (2016) stated transformational leadership is concerned with long-term organizational change within the organization. Transformational leaders will create goals, set standards, and evaluate individuals. Martin (2016) stated for a transformational leader to be effective, the leader must have a solid understanding of how to replace one concept for another concept within an organization. A transformational leader will understand and maneuver through the organization's culture to challenge the people to change their goals, needs, and

aspirations. Martin (2016) stated transformational leaders would develop other leaders within the organization so that people feel empowered to do what needs to be done to fix a problem or to create a positive environment within the corporation.

Performance attributes are defined as “a collection of behavioral skills (e.g., leadership), technical skills (e.g., data collection and analysis), and competencies (e.g., communication skills) that are needed for auditors to perform their tasks effectively and efficiently” (Abdolmohammad, p. 3). Siriwardane, Hu, & Low (2014) stated there is very little research on auditor’s skills, knowledge, and attitude (SKA). Sirwardnae et al (2014) stated every year since 2000, there has been at least one accounting scandal reported worldwide. Sirwardnae et al (2014) stated their study created a foundation for future research on SKA by defining a preliminary list of the most important SKA’s as defined by a group of auditor’s from Singapore which future research will be needed to refine and test to different situations. Sirwardnae (2014) stated the following 10 SKA’s were the most important, with the first being the most and the second being the second most important and so on: professional integrity, ability to assess audit evidence, questioning mind, able to understand the client’s business, knowledge regarding double-entry accounting, knowledge on accounting standards, critical thinking skills, oral communication skills, and written communication skills.

### **Fraud Triangle Theory**

The fraud triangle theory is a concept that provides insight as to why fraud will be present within organizations (Lail, MacGregor, Marcum & Stuebs, 2017; Free, 2015, Murphy & Free, 2016; Ruankaew, 2016; Roden, Cox, & Joung Yeon, 2016). In order for fraud to occur within an organization, there are three elements that occur: 1) perceived pressure, 2) opportunity and 3) rationalization (Lail, MacGregor, Marcum & Stuebs, 2017; Free, 2015, Murphy & Free, 2016;



Ruankaew, 2016; Roden, Cox, & Joung Yeon, 2016). Fraud will happen when all three of these elements are found within an organization; the severity of fraud found within the organization will depend on the level of strengths of the elements (Ruankaew, 2016).

Perceived pressure is when an individual has a financial problem that, they believe, cannot be discussed with another individual due to a level of embarrassment or social stigma associated with the financial problem (Dorminey, Fleming, Kranacher, and Riley, 2012). A person's ego or level of pride might also be considered a factor as to why the individual believes they cannot discuss the financial problem with another person (Dorminey et al., 2012). The perceived pressure can be an external or internal event (Murphy & Free, 2016). The perceived pressure is the motivation an individual needs in order to justify the fraudulent behavior (Dorminey et al., 2012; Free, 2015, Murphy & Free, 2016). An example would be if an employee believes they have been treated unfairly by the manager; the individual might be angry and want revenge (Murphy & Free, 2016). Another example is when the individual believes by committing fraud, the person has the possibility to obtain a large amount of money (Dorminey et al., 2012; Murphy & Free, 2016).

Wells (2001) tell an example of incentives and pressure. A person had acquired a 100-year-old company that manufactured vacuum cleaners and made himself the CEO (Wells, 2001). The new CEO created a new product line; however it was inferior to the old line (Wells, 2001) As customers started to return the inferior vacuums, rather than return the items to inventory, the CEO rented an off-site storage space to keep the returned vacuums (Wells, 2001). As the scheme got out of hand to the tune of \$40 million, the CEO came clean to the independent auditors (Wells, 2001). By the time the auditor has learned what had happened, it was too late to save the company and the independent auditors were sued (Wells, 2001). The CEO committed

this fraud because he had spent every dollar he had to purchase the company and was motivated to doing everything he could to keep the company afloat (Wells, 2001). Another incentive for fraud to happen is when upper management will obtain a bonus when reaching a certain sales target or revenue; people might commit fraud in order for the company to appear to have met their goals and objectives in order for management to obtain a bonus for reaching set goal (Steinmeier, 2016). Another cause of fraud could be the financial strain on a company due to a failed opportunity investment which might be the catalyst which caused a person within a corporation to commit fraud or when a company's inability to meet Wall Street's expectations could lead the company's management team to consider fraud to improve the financial statements of the corporation (Lokanan, 2015). It should be noted the importance of financial pressure, as it is reported that 95% of all fraud cases are influenced by financial pressure (Ruankaew, 2016).

Opportunity is defined as when a corporation has very low monitoring and detection policies in place within the financial reporting system to prevent fraud from happening (Lail, MacGregor, Marcum & Stuebs, 2017; Free, 2015, Murphy & Free, 2016; Ruankaew, 2016). The Securities Exchange Commission (SEC) does not have the manpower or the funding to review and research every corporation's financial statement and are at an informational disadvantage when reviewing the financial reporting environment of corporations (Lail, MacGregor, Marcum & Stuebs, 2017). The SEC asks that internal and external auditors help to ensure the corporate financial statements are valid by reviewing the internal controls within the organization (Lail, MacGregor, Marcum & Stuebs, 2017). A person will commit fraud when the person believes there is a weakness that can be exploited within the internal controls (Lail et al., 2017; Free, 2015, Murphy & Free, 2016; Ruankaew, 2016). The opportunity does not have to be real for the

individual or group to act and only that there is a perceived perception of the opportunity (Ruankaew, 2016).

Rationalization is defined as the attitude or mindset an individual has to enable the person to commit the fraudulent activity (Lail et al., 2017; Free, 2015, Murphy & Free, 2016; Ruankaew, 2016). The individual must first try to justify the fraudulent actions to themselves before the individual will act (Lail et al., 2017; Free, 2015, Murphy & Free, 2016; Ruankaew, 2016). The individual will rationalize to themselves the action is an exception to the rule or a special situation so the individual does not consider themselves to be immoral or consider themselves to be untrustworthy (Dorminey et al., 2012).

### **Fraud Diamond Theory**

The fraud triangle theory has been expanded by adding the concept of capability to incentive, opportunity, and rationalization called the fraud diamond theory (Wolfe & Hermanson, 2004). Capability considers a person's traits and abilities which affect the possibility that fraud may occur even with the presence of incentive, opportunity and rationalization (Wolfe & Hermanson, 2004). In order for fraud to happen one major theme is the person's position or function within the organization has to be able to exploit or create an opportunity for fraud to take place within the company that is not available to someone else within the organization (Wolfe & Hermanson, 2004). For example, a Chief Executive Officer (CEO) has the ability to influence the timing of revenue or expense recognition by affecting when contracts or deals will take place (Wolfe & Hermanson, 2004). Seventy percent of CEOs were found to have been implicated in public-company accounting frauds because companies did not have sufficient checks and balances to mitigate the CEO's capabilities to create, influence, and perpetuate fraud within the organization (Wolfe & Hermanson, 2004). As a person's

knowledge increases of the organization's processes and controls over time, the person has a better understanding of where internal controls weaknesses happens within the organization; increasing their capability to commit fraud (Ruankaew, 2016; Wolfe & Hermanson, 2004).

An important concept within the fraud diamond theory is a person with the right position, function, or authorized access within a corporation, who has the right level of intelligence, to take advantage of an internal controls weakness for their own personal gain (Ruankaew, 2016; Wolfe & Hermanson, 2004). The person willing to exploit the system must also have the fortitude to handle the stress over time of lying and the possibility of being caught (Ruankaew, 2016). Take for example, Richard Scrushy, the ex CEO of HealthSouth, allegedly was instrumental in creating a long-running scheme to inflate the company's earnings over the tenure of many different during the terms of several different Chief Financial Officers (CFO) (Wolfe & Hermanson, 2004). Richard Scrushy was not only to manage the stress and was able to go on 60 Minutes stating his in innocence and none involvement in the fraudulent scheme (Wolfe & Hermanson, 2004). Unlike Emery Harris, the HealthSouth Assistant Controller, who stated he was coerced by Richard Scrushy to commit fraud, informed the judge during his arraignment how relieved he was when the federal government had raided the workplace because then Emery Harris knew his involvement was coming to an end (Wolfe & Hermanson, 2004). By spending time with another individual during business and social activities, one will start to perceive the traits and capabilities of a person that is important to understand if that person has the capability to commit fraud (Wolfe & Hermanson, 2004).

### **Why Fraud May Not Be Detected**

An auditor might not be able to identify fraud due to the number of accounting entries to review (Albrecht & Hoopes, 2014; Eutsler, Nickell, & Robb, 2016). It is not feasible for

someone to think an auditor will be able to review every single transaction and review every item to find fraud (Albrecht & Hoopes, 2014; Eutsler et al., 2016). The expectation of an auditor is to review the items and sample the data so that once the data that is reviewed and tested, the auditor will provide their decision based on the transactions reviewed (Albrecht & Hoopes, 2014).

Another factor that could prevent an auditor from identifying fraud would be the ones that are committing fraud are enlisting the help of people, who work outside the firm (Albrecht & Hoopes, 2014). An example was provided by Albrecht & Hoopes (2014) stating two general partners of a large partnership had largely invested in real estate and quickly needed cash. The two partners went to an out-of-state bank and borrowed millions of dollars without getting the loan approved by the other partners in the partners; increasing the debt to investment ratio for the company (Albrecht & Hoopes, 2014). People working within an organization can enlist outsider help and if this fraud is committed by the outsiders utilizing off the book activities; it is almost impossible for an auditor to identify and find this type of fraud (Albrecht & Hoopes, 2014).

It is difficult for an auditor to identify financial statement fraud when people within an organization that has knowledge of fraud happening within the organization and do not speak up to bring this information forward to the external auditors (Albrecht & Hoopes, 2014; Eutsler et al., 2016). There have been situations where people lie to protect their supervisor so that they can be considered a team player and those people do not understand that by lying and helping their supervisor, they are part of the fraudulent activity within the organization (Albrecht & Hoopes, 2014).

Another reason why fraud may not be detected is due to forgery of papers and lying within the organization (Albrecht & Hoopes, 2014; Eutsler et al., 2016). Auditors are looking

for fraud by looking analytically at the internal controls, reviewing documentation and records, reviewing a person's lifestyle, and investigating tips or complaints; it is not feasible to believe an auditor will be able to identify fraud that involves forgery and lying (Albrecht & Hoopes, 2014). An example was stated that a company that tested new drugs for a large drug manufacturer (Albrecht & Hoopes, 2014). The company would sign contracts to provide the newly developed drugs to participants in the study; after the drug was administered to the participant 10 times, the company could bill the drug manufacturer (Albrecht & Hoopes, 2014). If a participant dropped out before the 10th visit, the company would not be able to bill the drug manufacturer due to the fact the testing phase was never completed (Albrecht & Hoopes, 2014). The executives of the company wanted to increase the company's earnings and keep the stock price high and decided to commit financial statement fraud by applying aggressive accounting methods by billing the drug company after five visits then every visit (Albrecht & Hoopes, 2014). When the executives realized this aggressive accounting method would not be able to provide the revenue that was anticipated, the company started to forge contracts from the drug manufacturer (Albrecht & Hoopes, 2014). An example of the forgery would be to change the payment amount from \$100 to \$400 per patient visit and due to the large volume of contractors and the high quality of the forgery; it was difficult for an auditor to identify the fraudulent contracts (Albrecht & Hoopes, 2014).

### **Auditor Attributes**

**Auditor's Experience.** A study was done to identify if an auditor's IT expertise will have an impact on the company's IT resources (Haislip, Peters, & Richardson, 2016). The study measured the level of IT experience of an auditor to determine if there was a correlation between the numbers of reported IT material control weaknesses (Haislip et al., 2016). The level of IT

experience of an auditor will influence the IT training which could improve the quality of audits as well as the financial reports that can be beneficial to a company (Haislip et al., 2016).

An auditor utilizes their own experience to make judgements on financial information to determine if there are irregularities within the financial information (Frame, Hughson & Leach, 2016). Lack of experience of an auditor within a business sector will cause the auditor to be less likely to find irregularities and be more likely to sign-off on the financial statements (Frame et al., 2016). Independent auditor's lack of experience within a field will cause an auditor not to have the correct knowledge needed to make informed decisions (Frame et al., 2016).

An auditor's experience will grow over time that will increase the auditor's ability to identify financial irregularities (Herda & Martin, 2016). New auditors, who have been exposed to less audit functions and areas, have been found to be more focused on completing their auditing activities than partners and managers, who have been exposed to all areas of an audit, are able to understand and examine the entire audit process from start to end (Herda & Martin, 2016). It is vital to the success of the internal audit department that internal auditors have the correct level of experience to understand the activities that happen within the realm of internal controls (Christ et al, 2015) The internal auditor which has the right level of knowledge, skills, and competence in order to effectively complete and manage their day-to-day activities within the organization (Christ et al, 2015).

An internal auditor's experience is a key factor in understanding risk and potential risks within the internal controls system; as an internal auditor spends time gathering data and understanding the work flow of information and safeguards, the auditor is able effectively review and make suggestions to improving internal controls within an organization (Christ et al, 2015).

**Auditor's Industry Specialization.** As an auditor becomes familiar with the company's type of industry, a question was raised if there is an impact to the possibility of a company issuing a restatement due to the level of familiarity of the auditor with the company's industry (Shin, Zhaohui, & Lacina, 2011). A restatement will influence the company's confidence of their financial statements with their investors as well as influence the reputation of the auditors reviewing the firm's financial information (Shin et al., 2011). The study took restatement information provided by the Government Accountability Office (GAO) from January 1, 2000 through September 30, 2005 to examine if the length of time between restatements were impacted by the auditor's level of industry expertise (Shin et al., 2011). The study found there was a positive relationship between the company's restatement period and the auditor tenure however, there was no association found with the restatement period and the auditor's industry experience (Shin et al., 2011).

**Auditor's Training.** From 2000 through 2015, the use of analytical procedures in planning and reviewing by auditors have accounted for up to 25 percent of the billable audit hours to firms (Plumlee, Rixom, & Rosman, 2015). The PCAOB stated an auditor's inability to find and identify deficiencies within the financial statements is caused by an auditor not being able to apply the correct level of professional skepticism (Plumlee et al., 2015). A concept currently being discussed is the importance of an auditing firm using cognitive problem-solving strategies to help auditors utilize analytical procedures (Plumlee et al., 2015). By examining how a lower-level accountant thinks about accounting problems, will this lead to an improvement over time of an auditor being able to effectively utilize analytical procedures (Plumlee et al., 2015).

Auditor's utilize analytic procedures when assessing risks, and searching for fraud and misstatements within an organization (Plumlee et al., 2015). When a lower-level auditor



performs more analytical procedures regularly throughout their career, they are able to have a greater comprehensive understanding of accounting information (Plumlee et al., 2015). When an auditor utilizes divergent thinking, the auditor will look for cues and links within the information provided to provide a possible explanation that might have gone unnoticed otherwise (Plumlee et al., 2015). When an auditor utilizes convergent thinking, the auditor will examine issues where management has identified a weakness or a limitation; thus focusing on a more conventional explanation for what has transpired (Plumlee et al., 2015). The concept suggested is when an auditor utilizes divergent thinking; the auditor will be able to better evaluate the methodology and activities to provide a more workable solution (Plumlee et al., 2015).

An online training environment was created where senior auditors were provided three types of training: only divergent, a control which had neither divergent or convergent training, and a training course that had both divergent and convergent to examine if there is an impact to the auditor's performance of analytical procedures. (Plumlee et al., 2015). Auditors that had divergent training were able to provide a higher number of quality explanations for an unusual situation than that of the control however, the auditors that had both types of training had the best comprehensive explanations (Plumlee et al., 2015). The study provided evidence if auditors are provided effective training regarding metacognitive skills, the auditor's ability to analyze data would be more effective (Plumlee et al., 2015). There are benefits to divergent training courses because it has been found that auditors utilizing this type of training will produce broader explanations, more original ideas or suggestions, and possible better solutions; while auditors that utilize convergent thinking could provide more appropriate solutions however less original thinking (Johnson et al, 2012) When training an auditor, it is important to provide a broad

spectrum of divergent and convergent strategies to help an auditor find solutions within analytical procedures (Johnson et al, 2012).

Another study by Johnson, Garrison, Hernez-Broome, Fleenor and Steed (2012) researched the relationship between goal setting and the transfer of training knowledge measured on a 360-degree survey. Johnson et al (2012) stated training is vital to an organization because training can be a way to increase the competitive advantage and support corporate strategy. In 2008, \$34 billion was spent by corporations on their employee learning and 20% of training dollars are specifically used to develop leadership and managerial training (Johnson et al, 2012). The goal-setting concept is when individuals make a conscious behavior that has a purpose and set rules and regulations (Johnson et al., 2012). When an individual does set goals, the person will be more likely to achieve the desired outcome because goal setting will increase the commitment to achieve the goal and one's motivation (Johnson et al, 2012). When an individual does goal setting, the individual becomes aware of how to act and must choose what outcomes are more beneficial to attaining the goals (Johnson et al, 2012). Goal setting will increase the individual's commitment, behavior, and motivation to obtain the goal as well as increase the level of energy and resolve towards goal-directed behavior (Johnson et al, 2012). When an individual utilizes goal setting to transfer knowledge via training, the planning processing is more robust, an increase on the focus of what knowledge or idea is to be transferred, and there is an increase the number of different strategies provided in order to obtain the expected goal (Johnson et al, 2012).

**Auditor's Knowledge.** An auditee's direct knowledge of accounting will help to reduce the chance of the auditor's chance of over-auditing; have a possibility to decreasing the possibility of the firm to be overcharged during an audit (Causholli & Knechel, 2012). The Auditor's level of

direct knowledge has an impact on ability of the auditor's to act strategically (Causholli & Knechel, 2012). A study by Mohamed, Zain, Subramaniam, & Yusoff (2012) examined the concept of internal audit quality is related to the professional qualifications associated with an auditor. An auditor that has more professional qualifications in accounting, finance, and auditing are expected to be more competent in completing their responsibilities (Mohamed et al., 2012).

Mitra, Jaggi and Hossain (2013) conducted research to prove if an individual starts off the training with clear goals established as to what information will be learned, will that increase the knowledge transfer. When more than one goal is established before the training, the knowledge transfer is more successful and there is higher motivation from the individual (Mitra et al., 2013). The study's results indicated when an individual was given clear guidance as to what is expected to be learned, the individual was more motivated to learn (Mitra et al., 2013). The study states when people are given clear objectives; people become more engaged and will work to complete their goals (Mitra et al., 2013). The researchers used this study to identified if a person is given more than one goal, was there was a higher chance the training transfer would have a higher success rate (Mitra et al., 2013).

There are multitudes of papers describing the attributes of a positive training class that influence how well knowledge transfer has occurred (Johnson, Garrison, Herenez-Broome, Fleenor, and Steed, 2012). Goal setting is a key attribute that is needed to have a successful knowledge transfer because when an individual has a goal due to the fact this will increase the individual's commitment, motivation, and resolve to obtain their goal (Johnson et al., 2012). Another important attribute is education as a highly educated individual will have a comparative advantage to adapt to and utilize the new information compared to individual which a lower level of education (Hsiu-Ping, Tzy-Ling, Li-An, and Wei-Chien, 2013). The Trainer's ability to

understand the individual's purpose of learning and the trainer's methodology of knowledge transfer are attributes that will affect the knowledge transfer (Hutchins, Burke, and Berthelsen, 2010).

The quality of financial statement audits will be determined by the auditor's job performance; yet little is known about what separates auditors who have an overall superior job performance (McKnight and Wright, 2011). Skills and abilities of an auditor are very important to the auditor's job performance and auditors who considered their work to be less routine, will be less likely to utilize standard procedures, and will achieve a better job performance (McKnight and Wright, 2011). In the case study, the researcher's plan is to expand on the concept how the skills and abilities of an auditor play a role in the job performance (McKnight and Wright, 2011). The researcher will use a case study to identify if the concept of a person, who believes their work to be considered less routine, will be less inclined to utilize standard procedures to achieve a better job performance (McKnight and Wright, 2011).

Stoel, Havelka, and Merhout (2012) expanded the research of validating attributes considered to have an impact on Information Technology (IT) audit qualities. The concept used was to build on the quality attributes identified in financial audits by utilizing an informed exploratory process identifying potential attributes based on prior surveys or other work where attributes were used to measure and identify measure related constructs (Stoel et al., 2012). The researchers utilized a survey to analyze the scores of attribute and performed a factor analysis to determine the underlying components of the following : accounting knowledge, audit skills, business process knowledge and experience, controls knowledge, and planning and methodology (Stoel et al., 2012) The researcher will expand on this research by researching the possibility of

accounting knowledge, audit skills, and business process knowledge and experience affect the failure rate of internal controls.

### **Audit Failure**

Audit failure to firm is very costly because an audit failure could impede the firm's ability to attract new customers or keep current customers (Ye, Cheng, and Gao, 2014). Audit failure will affect the confidence level of the investors on the firm's financial reporting quality influencing the ability of the firm to raise capital (Ye et al., 2014). Audits are vital to the success of a company yet little information is known regarding how individual characteristics (i.e. education, experience, knowledge) affect the chance of an audit failure (Ye et al., 2014). In the case study, the concept is to expand on the concept of audit failure by examining individual characteristics to determine if these influence the failure rate of internal controls within an automotive financial services company.

### **Literature Search**

The researcher searched the following titles through the Northcentral University Library: Accounting attributes; auditor age; accounting theory; auditor experience; audit committees; accounting training; accounting knowledge; Big 5; accounting attributes; defining fraud; fraud triangle; internal controls; fraud; Sarbanes-Oxley Act; SOX; internal auditor; external auditor; human capital theory; auditor knowledge; auditor education; financial reporting; financial report; accounting theory models; business risk; COSO; internal control weakness; effect of internal controls; financial reporting; IFRS; international accounting; auditor characteristics; auditing standard; accounting leadership; financial quality; PCAOB; material weakness; ERP systems; audit implementation; and accounting theory. The researcher put dates in from 1899 – 2020 to

get the full range of papers as well as the following sites: Ebscohost, sciencedirect.com, the public library in Farmington Hills, MI.

## Summary

The purpose of this quantitative research paper was to expand on the concept that there is a need for more research to provide insight regarding the under-researched role of the internal auditor (Abdolmohammadi, 2012; Burt, 2016; Desai, Desai, Libby, & Srivastava, 2017). The researcher discussed within the quantitative paper the importance of the SEC due to the accounting and financial system frauds that have happened over the years at companies such as Enron, WorldCom, HealthSouth, Tyco, Lemman Brothers, and MF Global; has affect the confidence of investors in companies' financial statements, loss of wealth to investors, and a worldwide recession (Aquilio, 2016; Kecskés, 2016; Lail, MacGregor, Marcum & Stuebs, 2017). Next, the paper how COSO created the internal control-integrated framework in 1992 and this framework was the first time a formal attempt was made to define and provide a standard measurement for internal controls (D'Aquila, 2013; Kimbell, 2017; Lawson, Muriel, & Sanders, 2017). The paper provided information regarding the Fraud Triangle providing insight as to why fraud can be present within organizations (Lail, MacGregor, Marcum & Stuebs, 2017; Free, 2015, Murphy & Free, 2016; Ruankaew, 2016; Roden, Cox, & Joung Yeon, 2016). The paper discussed how IAF is an integral piece of a corporation in providing effective corporate governance and accurate financial reporting (Christ, Masli, Sharp, & Wood, 2015; Desai, Desai, Libby, & Srivastava, 2017). The concept of SKAs ties into the theory of human capital. The concept of human capital is defined as skills and abilities of the employees that are leveraged to improve the efficiency of the company (Amankwah-Amoah et al., 2016; Bagisnska, 2016; Burt,

2016). The purpose of this paper was to expand on the concept of SKAs and identified SKAs that have an impact on the ability of an internal auditor when reviewing internal controls.

### Chapter 3: Research Method

This research built on the importance of skills, knowledge, and attitudes (SKAs) for auditors within the business environment. A study was conducted on 20 SKAs within auditors working in Singapore to determine which of these SKAs were perceived as the most important for auditors to possess (Siriwardane, Kin Hoi Hu, & Low, 2014). This study built on the concept of developing auditor's competencies that are believed to have an impact on the accuracy of the financial information reported by companies (Siriwardane et al., 2014). A study stated the ability for an auditor to assess audit data, understand a client's business, and knowledge of internal controls is vital for an auditor to complete a successful audit (Siriwardane et al., 2014). The concept of SKAs ties into the theory of human capital. Researchers have defined the concept of human capital as skills and abilities of the employees that are leveraged to improve the efficiency of the company (Amankwah-Amoah et al., 2016; Bagisnska, 2016; Burt, 2016).

An area of concern within the community is how to enhance an audit's effectiveness (Farkas & Hirsch, 2016). While there have been multiple studies that have linked robust IC procedures to attributes of external auditors such as accounting knowledge, education level, understanding of the business, training level on IC controls, etc (Sirwardane, Hu, & Low, 2014; Seigel & Miller, 2010; Abdolmohammadi, 2012; Doyle, Ge, & McVay, 2006); there is much less research expanding the internal auditor's role in relation to audit effectiveness compared to the role of external auditor (Alzeban & Gwilliam, 2014). If most ICD's are identified by external auditors this concept suggests internal personnel are incapable of correctly identifying if an internal control is correctly working (Graham & Bedard, 2015). As the role of the internal auditor has grown into an important position within organizations ( Pabedinskaite, 2010); there is little research on the how individual audit characteristics such as education, experience, and



skills impact a firm's audit failure rate which causes an increase to the probability of misstatements of a corporation (Yea et al., 2014). Important factors that affect the financials are having management support; having a competent project management team to manage the ERP; a detailed analysis of the company's vision and needs; strong education and training for the employees in a timely manner; maintaining best practices of the business processes; organization's commitment to accepting change; and having clear and measurable project goals (Pabedinskaite, 2010). This research expanded on previous research of identifying external auditor attributes (Sirwardane, Hu, & Low, 2014; Seigel & Miller, 2010; Abdolmohammadi, 2012; Doyle, Ge, & McVay, 2006) by examining how the external auditor attributes affect internal departments within the Financial Services Industry that create, review, and monitor IC. Researchers have explored and defined external auditors' attributes (Sirwardane, Hu, & Low, 2014; Seigel & Miller, 2010; Abdolmohammadi, 2012; Doyle, Ge, & McVay, 2006); however there is little research focused on the performance attributes of internal auditors (Abdolmohammadi, 2012). The concept examined was when internal departments are focused on reviewing, creating, and implementing IC which attributes of external auditors have an impact on internal auditors being able to affect the pass-fail rate of IC within the financial services industry.

The purpose of this research was to expand on the concept of SKAs and identify if SKAs might have an impact on the ability of an internal auditor when reviewing internal controls. A study stated future research is needed to identify the impact of SKA's have on United States corporations and the impact SKAs might have on internal controls (Siriwardane et al., 2014). If SKA's are important for external auditors in completing an audit, are the same SKA's important for internal auditors or are there different skill sets needed for an auditor when reviewing internal

controls? The purpose of this research was to expand on the concept of SKA's, which is a part of the human capital theory, and applied the importance of SKA's to internal auditors who are working on creating, implementing, and testing internal controls within the financial services sector in the United States. A quantitative study was conducted via the internet on [surveymonkey.com](http://surveymonkey.com). Questions asked and the responses were provided in the form of a Likert-Scale from 1 to 5. Participants were asked questions regarding the education level of the internal auditor; the auditor's experience level; the auditor's industry specialization knowledge; the accounting knowledge of the internal auditor; and the level of training provided by the company for the auditor. These responses were compared to the pass/fail rate of the internal controls within the participant's department to determine if there was a correlation between these attributes and that of the pass/fail of the department's internal controls.

The next sections described in detail the quantitative research methodology and design; discussed the population and sample size utilized within the study; discussed how the data was collected and was analyzed; discussed the construct variables; defined the study procedures, identified the assumptions, described the limitations, discussed the delimitations, and provided proof of the ethical assurances.

### **Research Methodology and Design**

The researcher utilized the quantitative research method. A survey has been described as the most common method to obtain primary data (Zikmund, 2002). A survey was created utilizing different auditor attributes statements where the participant was required to utilize a Likert scale to respond. The Likert scale was utilized to provide an avenue for the participants to provide a level of clarity of the attributes defined within the study using numbers from 1 to 5. In the study, the researcher used a numeric representation provided by a mental construct. An

example would be: 1 was defined as strongly agree, 2 was defined as agree, 3 was defined as neutral, 4 was defined as disagree, and 5 is defined as strongly disagree. The Likert scale is a very popular measurement form to researchers to measure attitudes because the Likert scale is easy to administer (Zikmund, 2002). When measuring attitudes, a category scale could have been used by the researcher. A category scale is an attitude scale where several responses categories are created where the participant can provide answers utilizing different ratings (Zikmund, 2002). The category scale could have been used however a disadvantage of this scale is that items can be ambiguous, have limited categories, and only high-level distinctions can be obtained by the researcher (Zikmund, 2002). As the purpose of this research was to analyze different types of SKA's found within departments, the Likert scale was thought to be the best possible tool to be utilized by the researcher.

The quantitative method was determined to be the best approach as quantitative analysis leverages standardized measures where people, who have different experiences and thought processes, can be categorized into predetermined, standard numeric response categories (Patton, 2002). The researcher followed the methodology of other studies that have compared auditor attributes utilizing the quantitative methodology to obtain information regarding auditor attributes (Mohamed et al., 2012; Shin et al., 2011; Siriwardane et al., 2014). These previous studies have utilized the concept of surveys where individuals provide their responses which are categorized into numeric data; which is then interpreted utilizing quantitative methods attributes (Mohamed et al., 2012; Shin et al., 2011; Siriwardane et al., 2014) The researcher utilized the same concept of asking participants to provide answers to questions where the participant will be required to choose answers which will be equated to numeric responses (Mohamed et al., 2012; Shin et al., 2011; Siriwardane et al., 2014). When utilizing quantitative methodology, no

interpretation by the researcher is needed of the information provided by the participants as the data will be gathered and analyzed in a standard, numeric format (Zikmund et al., 2008).

The researcher could have utilized the qualitative research method, however qualitative analysis is subjective because different researchers could come up with different results based on the same interview information (Zikmund et al, 2008). The qualitative research design is utilized when a researcher will have open-ended questions to develop themes and visual concepts (Zikmund et al, 2008). The procedure for this study was for participants to provide numeric responses and no open-ended questions were asked which lead the researcher to believe the qualitative research was considered a less viable research method. Another type of research design could have been a case study. A case study is used when a researcher is trying to provide a description of an individual (Cozby, 2001). A case study is used when a researcher will observe behavior and provide an in-depth analysis; may use interviews in person or telephone or library research (Cozby, 2001). A case study was described by Zikmund et al., as the “documented history of a particular person, group, organization or event” (p. 140). As the method of the study is not to observe the behavior of the participants, the case study was considered not to be a relevant choice.

### **Population and Sample**

The total population (186) was derived from a list of all the internal auditors that test, review, and implement the internal controls throughout 20 departments within a company in the automotive financial services industry within the United States. An email list was provided to the researcher from the internal controls department and that list was used exclusively to ask participants to volunteer their time to complete the survey. Ninety-four responses were gathered categorizing the people into gender, age, education, experience, knowledge, and length of time

within the organization. Each of the participants had completed or reviewed a RCTS within 2017 or 2018 within the organization. The only interaction came via email from the researcher and no verbal communication or any other form of communication happened regarding the request. Each survey was provided a unique number from 1 – 94 to distinguish each individual response; however no names nor any other form of identification was provided to keep the surveys anonymous. Table 3 provides the demographic breakdown of the participant's responses by gender; education level; length of time in current role; length of time within the organization; understanding the department's internal control procedures; understanding department procedures; reported accounting level education; comfort level on the training of internal controls within the organization; ability to discuss the departments day-to-day activities; number of hours of internal controls training; years in the workforce; and age of the participant. Each of these dependent variables were tested via the chi-squared test as the dependent variables are nonparametric due the responses were ordinal and had rankings via the Likert scale format (Connelly, 2019).

### **Instrumentation**

The researcher utilized a survey, Appendix A as the instrument of gathering the data. A survey has been described as the most common method to obtain primary data (Zikmund, 2002). A survey was created utilizing different auditor attributes statements where the participant were required to utilize a Likert scale to respond. The Likert scale was utilized to provide an avenue for the participants to provide a level of clarity of the attributes defined within the study using numbers from 1 to 5. In the study, the researcher used a numeric representation provided by a mental construct. An example would be: 1 was defined as strongly agree, 2 was defined as agree, 3 was defined as neutral, 4 was defined as disagree, and 5 is defined as strongly disagree.

The Likert scale is a very popular measurement form to researchers to measure attitudes because the Likert scale is easy to administer (Zikmund, 2002).

The survey was created on surveymonkey and an email (Appendix C) was provided to each of the internal auditors asking them if they would volunteer their time and complete the survey. The researcher examined each construct and identified other papers that provided the construct so that the researcher did not develop any new construct or instrument. The researcher used simple language and common relatable theme to ensure validity and reliability. The chi-squared test was utilized to interpret the data as well as the Cronbach alpha test to validate reliability and validity of the instrument.

### **Operational Definitions of Variables**

**Gender.** The first independent variable identified is the gender of the participants. The survey had asked to click to box 1 for male or 2 for female. The data collected was nominal and had two sets: either 1 for male or 2 for female. The participant picked from one of these categories where the independent variable defined as the level of education was recorded via surveymonkey. Surveys have asked the question to the participants to pick either male or female for their gender which have been proven to be valid and reliable (Wally-Dima & Mbekomize, 2013; Keller, Smith, & Smith, 2007; Ho, Li, Tam, & Zhang, 2015). The researcher utilized the chi-squared test as the data was be nominal.

**Education.** The second independent variable identified was the education of the participants. The level of education of an auditor will influence the ability of the auditor to make audit judgments and help to increase the auditor's level of efficiency when performing audit tasks (Ye, Cheng, & Gao, 2014). Applying the human capital theory, the higher the level of education that an auditor has obtained the higher the chance the audited firm has of having a

successful audit (Ye et al. 2014). The researcher applied the concept of education to the impact education has on the success rate of an internal control completed within the automotive financial services company. The participant was asked to pick the appropriate number that will be associated with the participant's current level of education. 1 is chosen if the participant has a high school diploma, 2 is chosen if the participant has some college yet not obtained their BA/BS, 3 is chosen if the participant has graduated with obtaining a BA/BS, 4 is chosen if they have graduated with obtaining MS/MBA/MA, and 5 is chosen if they have graduated with obtaining PhD. The participant picked from one of these categories so that the independent variable defined as the level of education can be recorded via surveymonkey. The researcher utilized the chi-squared test as the data was be nominal.

**Experience level.** The third independent variable identified was the experience level. A study was completed which examined the auditor's IT expertise and the impact the level of IT expertise had on the ability for the auditor to report an IT material control weakness (Haislip, Peters, & Richardson, 2016). As an auditor gained a higher level of IT experience, the auditor was able to have a greater understanding of the impact the IT system had on material weakness (Haislip et al., 2016).

The researcher expanded on the concept of an auditor's experience by comparing the level of an internal auditor's experience within the company and the success rate of an internal control within the department. 1 was chosen if the participant has been in the current role for less than 1 year, 2 was chosen if the participant has been in the current role over 1 year to 3 years, 3 was chosen if the participant has been in the current role for over 3 years to 5 years, 4 was chosen if the participant has been in the current role for over 5 years to 8 years, and 5 was chosen if the participant has been in the current position over 8 years. The participant picked

one of these categories so that the independent variable defined as the level of auditor's experience was recorded via surveymonkey. The researcher utilized the chi-squared test as the data will be nominal.

The researcher examined the length of time the participant has worked at the company. 1 was chosen if the participant has been working at the current company for less than 1 year, 2 was chosen if the participant has been working at the current company over 1 year to 3 years, 3 was chosen if the participant has been working at the current company over 3 years to 5 years, 4 was chosen if the participant has been working at the current company over 5 years to 8 years, and 5 was chosen if the participant has been in the current position over 8 years. This data was collected via the surveymonkey and analyzed via the chi-square test

The participant was asked as to provide the number of years the participant has been working at the company. This nominal data was collected via the surveymonkey and analyzed via the chi-square test.

**Auditor's specialization knowledge.** As an auditor becomes more familiar with the organization's practices, there was a positive relationship between the restatement period and the auditor's industry experience (Shin, Zhaohui, & Lacina, 2011). The researcher expanded on this concept by examining the internal auditor's level of department knowledge to identify if there was a correlation between the success rates of internal controls. The participant was asked to pick the appropriate response: 1 was to be chosen if the participant feels they have no knowledge of the department's procedures, 2 was to be chosen if the participant feels they have very little knowledge of the department's procedures, 3 was to be chosen if the participant feels they have some knowledge of the department's procedures, 4 was to be chosen if the participant



feels they have strong knowledge of the department's procedures, and 5 was to be chosen if the participant feels they completely understand the department's procedures. The participant will pick one of these categories so that so that the independent variable defined as the auditor's industry specialization can be recorded via surveymonkey. The data was analyzed via chi-squared test as it was collected in a nominal data set.

**Accounting Knowledge.** An auditee's direct knowledge of accounting will help to reduce the chance of the auditor's chance of over-auditing; have a possibility to decreasing the possibility of the firm to be overcharged during an audit (Causholli & Knechel, 2012). The auditor's level of direct knowledge has an impact on ability of the auditor's to act strategically (Causholli & Knechel, 2012). A study by Mohamed, Zain, Subramaniam, & Yusoff (2012) examined the concept of internal audit quality is related to the professional qualifications associated with an auditor. An auditor that has more professional qualifications in accounting, finance, and auditing is expected to be more competent in completing their responsibilities (Mohamed et al., 2012). The researcher expanded on the concept of accounting knowledge by examining the accounting knowledge in relation to an internal auditor within the company. The participant was asked to click the box as to the best answer that applies to the participant. 1 if you have never taken any accounting classes. 2 if your highest accounting classes have been in high school. 3 if you have taken undergraduate accounting classes. 4 if you have taken master level accounting classes. 5 if you have taken PhD level accounting classes. The participant picked one of these categories so that the so that the independent variable defined as the accounting knowledge of an internal auditor was recorded via surveymonkey. The data was analyzed via chi-squared test as it was collected in a nominal data set.

**Level of internal controls knowledge.** A concept discussed was the ability of an auditor to utilize cognitive problem-solving strategies to analyze accounting procedures (Plumlee, Rixom, & Rosman, 2015). As an auditor gains experience utilizing cognitive problem-solving strategies, the auditor has the ability to be better at assessing risks and searching for fraud and misstatements within an organization (Plumlee et al., 2015). This research will expand on this concept by asking the participant to quantify their training level within the company. The participant was asked to provide an answer 1 through 5. 1 was defined as the company has not provided any training regarding internal controls. 2 was defined as the company has provided less than 1 hour of training regarding internal controls. 3 was defined as the company has provided between 1 hour up to 3 hours of internal controls training. 4 was defined as the company has provided more than 3 hours of internal controls training up to 6 hours of internal controls training. 5 was defined as the company has provide more than 6 hours of internal controls training. The participant picked one of these categories so that the independent variable defined as the level of training provided by the company was recorded via surveymonkey. The data was analyzed via chi-squared test as it was collected in a nominal data set.

The participant was asked as to how they felt they could describe as to how much training they feel they gained by the company. The participant was asked to provide an answer from 1 through 5. 1 The participant felt they did not have any knowledge of the department's internal control procedures. 2 The participant felt they had little knowledge of the department's internal control procedures. 3 The participant felt they did have some knowledge of the department's internal control procedures. 4 The participant felt they did have strong knowledge of the department's internal control procedures. 5 The participant felt they had completely understood

the department's internal control procedures. The data was analyzed via chi-squared test as it was collected in a nominal data set.

**Age.** A study examined the age of a firm and the impact the age has on the firm's material weakness in internal controls (Doyle, Ge, & McVay, 2007). A young firm will have a harder time keeping a strong internal controls process; thus a younger firm has a higher probability of stating a material weakness than an older firm (Doyle et al, 2007). The research will apply the concept of age by asking the participant to pick the age group the participant belongs utilizing the Likert scale. 1 was defined as 18 years old to 25 years old. 2 was defined as 26 to 30. 3 was defined as 31 to 35. 4 was defined as 36 – 40. 5 was defined as 41 and older. The participant will pick one of these categories so that the independent variable defined as age of the auditor can be recorded via surveymonkey. The researcher utilized the chi-squared test as the data was considered a nominal data set.

**Design Internal Control Objectives.** At the automotive financial services company, the internal controls department asks that each department design and implement their own internal controls. This construct was defined as the pass or fail of the design of the internal controls from the individual. Each participant created or reviewed the internal controls within the department. The questions pertained to the design of the internal controls was how many design internal control objectives were green, how many design internal control objectives were yellow, and how many design internal control objectives were orange. A green is a pass while a yellow or an orange was considered a fail. The internal controls department would assess the design internal controls and provide the feedback to the participant. The participant had inputted the number next to each of these categories so that the dependent variable as the percent pass was identified. Each of the participant's answers were compared to the outcome of either 1

being a pass or 0 being considered an internal controls failure. This was defined as the dependent dummy variable and the data was considered nominal.

**Gender.** The first variable identified is the gender of the participants. The survey had asked to click to box 1 for male or 2 for female. The data collected was nominal and had two sets: either 1 for male or 2 for female. Surveys have asked the question to the participants to pick either male or female for their gender which have been proven to be valid and reliable (Wally-Dima & Mbekomize, 2013; Keller, Smith, & Smith, 2007; Ho, Li, Tam, & Zhang, 2015)

### **Study Procedures**

Before the survey had been provided by the researcher, the researcher obtained approval from NCU's Institutional Review Board (IRB) prior to data collection. The researcher obtained a list of names and an email address from the internal controls department at an automotive financial services company who had completed an internal controls survey within 2017 or 2018. Each of the participants had a unique number on the survey that was completed online at surveymonkey.com. A master list was created that gave a number to a participant instead of the name of the participant from the internal controls list ensuring confidentiality. This information was kept confidential by the researcher. The information was stored on the researcher's hard drive that was encrypted to ensure access would be available only to the researcher. Each participant was requested via email to complete the survey online and once the participant has answered the questions, the researcher gathered the results. Each of the participants was asked the same questions and all responses were in the exact same format. Appendix A was provided on surveymonkey.com to every participant of the study.

## **Data Collection and Analysis**

The information was gathered via surveymonkey.com. Each time a survey was completed the survey information was added to the master list of completed surveys. The data was examined within excel and analyzed in excel via the data analysis tool. A Likert scale was used for the independent variables which led the researcher to use the chi-squared test to validate validity and reliability for each of the variables. The independent attributes defined were: gender; education level; length of time in current role; length of time within the organization; understanding the department's internal control procedures; understanding department procedures; reported accounting level education; comfort level on the training of internal controls within the organization; ability to discuss the departments day-to-day activities; number of hours of internal controls training; years in the workforce; and age of the participant. Each of these dependent variables were tested via the chi-squared test as the dependent variables are nonparametric due the responses were ordinal and had rankings via the Likert scale format (Connelly, 2019). Each of these independent variables are measureable nominal data points which the researcher used the chi-squared test to validate the correlation with the dependent variable of pass/fail of the internal control design.

## **Assumptions**

Each of the participants were responsible for passing or not passing internal controls within an automotive financial services company. Each of the participants were able to have enough understanding of how surveymonkey.com works to completely fill out the survey online. Each of the participants were honest and truthful regarding their responses from the survey. Each participant completely fill out each of the questions. Each of the participants have

completed an internal controls questionnaire and returned the questionnaire to the internal controls department within 2017 or 2018.

### **Limitations**

The data set was related to only employees from an automotive financial services company who work in either Farmington Hills, MI or Fort Worth, TX within the Financial Services Sector. There can be other independent variables that influence the dependent variable of pass or fail however, those other independent variables are not being considered for this research. All participants in the study were volunteers and could have withdrawn from the study at any point; thus if enough participants withdrew, the results would not have become a true result of the population size. The study examined the pass or fail rate of internal controls within the financial services sector and not as the sector as a whole. The participants may not want to answer a question or may skip a question that could influence the overall quality of the data.

### **Delimitations**

The study is limited to only the responses of the workers at a financial services company who have completed an internal controls survey within 2017 or 2018. The study was not be available to other employees that have not completed an internal controls survey within 2017 or 2018. The researcher was focused on activities that were related to internal controls design thus excluding other individuals appeared to be the correct way to get the correct population.

### **Ethical Assurances**

This study received approval from the Northcentral University's Institutional Review Board (IRB) prior to data collection of the researcher. The survey was created online via surveymonkey.com and the data was protected by a password so that only the researcher and the

researcher's chair had access to the data. As this research involved human participation, there was minimal risk to participants as the data was encrypted and a password was required to access the responses. Each of the participants had a number so that the surveys did not have a name only a number to help keep a high level of confidentiality and anonymity. The researcher did not share the name and the number associated with each of the participants with anyone other than the researcher's chair.

### **Summary**

This research added to the concept of the importance of skills, knowledge, and attitudes (SKAs) for auditors within the business environment. A study was conducted of 20 SKAs within auditors working in Singapore to determine which of these SKAs were perceived as the most important for auditors to possess (Siriwardane, Kin Hoi Hu, & Low, 2014). The purpose of this research was to expand on the concept of SKAs and identify if SKAs might have an impact on the ability of an internal auditor when reviewing internal controls. A researcher had conducted survey via the internet on [suryveymonkey.com](http://suryveymonkey.com). Questions were asked and the responses were be in the form of a Likert-Scale from 1 to 5. Participants answered questions regarding the education level of the internal auditor; the auditor's experience level; the auditor's industry specialization knowledge; the accounting knowledge of the internal auditor; age of the auditor; the sex of the auditor; and the level of training provided by the company for the auditor. The participant's responses were compared to the pass/fail rate of the internal controls designs within the participant's department to determine if there was a correlation between these attributes and that of the pass/fail of the department's internal controls.

The data collected was kept confidential and measures were taken to ensure no harm would come to the participants of the study. The researcher utilized the guidelines from the

Northcentral University's Institutional Review Board (IRB) ensuring all data and safeguards were completed ensuring the participant's confidentiality. The assumptions, limitations, and delimitations have been defined and explained so that future studies can build on the information proposed by the researcher. Chapter 4 provide the results and the evaluation of the findings of the researcher.



## Chapter 4: Findings

The purpose of this quantitative research was to expand on the concept of skills, knowledge, and attributes (SKAs) and identify if SKAs might have an impact on the ability of an internal auditor when reviewing internal controls within the financial services industry.

Siriwardane et al., (2014) stated future research is needed to identify the impact of SKA's have on United States corporations and the impact SKAs might have on internal controls. If SKA's are important for external auditors in completing an audit, are the same SKA's important for internal auditors or are there different skill sets needed for an auditor when reviewing internal controls?

Human capital theory was defined as skills and abilities of the employees that are leveraged by the company to help improve the efficiency within the organization (Amankwah-Amoah et al., 2016; Bagisnska, 2016). Applying the concept of human capital theory with attributes of internal auditors, it would make sense that SKA's are important to internal auditors who are working on creating, implementing, and testing internal controls within the financial services sector in the United States. This quantitative study examined the relationship between SKAs of internal auditors and the impact on internal control designs within a Financial Services organization.

The SKAs which were examined are education level achieved, experience in position, experience within the company, participants perceived understanding of internal controls within the department, level of accounting education, perceived understanding of department's day-to-day activities, level of training on internal controls within the department, age of the participant, and gender of the participant. The basis of this study was to identify if any of these SKAs of the internal auditor have a correlation with the pass/fail rate of the internal control testing procedure

within a company within the financial services sector of the United States as research is needed in regards to what factors impact internal audit quality (Wood, 2016). The researcher reached out to a financial services company and sent via email an approved IRB Northcentral survey that was the basis for the researcher's quantitative research. The survey used a Likert scale which provided the researcher with non-parametric data to be analyzed utilizing excel. Within this chapter, the sections are the introduction, the trustworthiness of the data, the results of the study by the research questions, an evaluation of the findings within the construct of the theoretical framework, and the summary of the findings.

### **Validity and Reliability of the Data**

The Cronbach's alpha test was utilized to examine the internal reliability of the data as the data collected was non-parametric (DeVellis, 2010; Mihret, 2010). The researcher examined the data in three different data sets: The first was to examine all 94 responses together, then take the odd number of participants and also the even number of participants to examine the internal reliability. The Cronbach's alpha was .79 for the entire data set, the Cronbach's alpha was .80 for the odd number of participants, and the Cronbach's alpha was .79 for the even number of participants. The Cronbach's alpha results state the findings are deemed at least "respectable" results which satisfied internal reliability of the survey (DeVellis, 2010; Mihret, 2010).

Reviewing the findings, the researcher determined the instrument tested was valid. To address Type I errors, which was defined as rejected the null hypothesis when it is true, the researcher utilized the standard practice of setting  $\alpha$  equal to .05 (Mudge, Baker, Edge, and Houlahan, 2012). To address Type II errors, which was defined as the researcher not rejected the null when the alternate hypothesis is true, the researcher created the G\*Power analysis examine the Type II

error (Mudge et al., 2012). Table 1 shows the breakdown of each of the dependent variables to have a power of 1 satisfying the Type II error (Mudge et al., 2012).

Table 1  
*Type I Error Results*

Dependent Variables	Mean	Standard Deviation	Sample Size	ALPHA	Sample Mean	Standard Error of the Mean	Critical Value	Beta	Power
Education level	3.191	0.644	94	0.05	3.606	0.066	3.301	0	1
Years of Service with the company	3.553	1.054	94	0.05	4.663	0.109	3.732	0	1
Understand Departments Procedures	2.819	1.016	94	0.05	3.851	0.105	2.991	0	1
Comfort Level of IC training	2.904	1.108	94	0.05	4.132	0.114	3.092	0	1
Hours of internal controls training	2.415	1.186	94	0.05	3.822	0.122	2.616	0	1
Years have you been in your current role	4.420	3.105	94	0.05	14.061	0.320	4.947	0	1
Length of Time in Current Position	2.777	1.337	94	0.05	4.565	0.138	3.003	0	1

Understand the Department's Internal Control Procedures	2.840	0.846	94	0.05	3.557	0.087	2.984	0	1
Level of Accounting Classes	2.872	0.691	94	0.05	3.350	0.071	2.990	0	1
Feeling Regarding Understanding Department's Procedures	3.160	1.230	94	0.05	4.671	0.127	3.368	0	1
Years You Have Worked Overall	9.113	6.173	94	0.05	47.224	0.637	10.160	0	1
Age Variable	3.787	1.208	94	0.05	5.247	0.125	3.992	0	1
Gender	1.468	0.502	94	0.05	1.720	0.052	1.553	0	1
<i>Note.</i> $\alpha = .05$									

Face validity is defined as a subjective view of the researcher looking at the instrument to determine if the instrument does measure what it is intended to measure (Buckingham & Saunders, 2004). The researcher used the concept of amount of years within an organization to paint the concept that the auditor has the understanding regarding the environment and the procedures of the organization (Raslan, Hegazy, and Eldawla, 2016; Ege, 2015; Lisic, Neal, Zhang, & Zhang, 2016). As for the face validity of measuring the level of training, the researcher applied the concept of the amount of hours the auditor has been trained to express the level of training of the auditor (Ege, 2015).

The researcher examined each of the questions asked on the survey regarding degree obtained by the participant; length of time the participant has worked in their current job; how long the participant has worked for the company; how well the participant believes they understand the department's Internal Control procedures; how the participant believes they understand their department's day to day procedures; the participant's highest level of accounting classes; the participant's feeling as to how the participant believes they have been trained by their current company on what is the purpose of internal controls; the participant's feelings regarding the department's day-to-day procedures; the number of hours of internal controls training the participant has had within the department within the last year; the age of the participant; the gender of the participant; the participant's number of design objectives; and the number associated with the different color schemes of the design objectives. The researcher asked simple questions which were succinct and to the point. None of the participants left any of the questions unanswered or had sent an email to the researcher asking for clarity. The researcher reviewed the questionnaire and is confident the concept of face validity was supported.

Construct validity is defined as the themes measured by the researcher within the instrument appear to be consistent with each other (Akeem, 2015; Buckingham & Sauders, 2004). In a subset of construct validity, Akeem (2015) described the hypothesis-testing validity which is when a "research hypothesis supports a relationship between the measured concept (variable) and other concepts (variables) then there is a high degree of construct validity" (p. 198) within the instrument. The researcher utilized the Chi-Squared test stating to reject the null hypothesis for education level; length of time in current position; years of service with the company; understanding departments internal controls; understanding department's procedures; level of

accounting classes; comfort level of internal control training; feeling regarding department procedures; hours of internal control training; years worked overall; years in current role, and age of the participant thus stating there is a relationship between these dependent variables and internal control design supporting the concept of hypothesis-testing validity. A summary of the Chi-Squared Test can be found in table 2. The researcher has reviewed the information and believes the concept of construct validity has been established.

Table 2  
*Chi-Squared Summary*

Variable	Conclusion	X <sup>2</sup>	$\alpha$	P Val	Sign	Significant Level
Gender	Conclusion: $P > \alpha$ , Fail to Reject H1 <sub>0</sub>	0.73	3.841	0.393	>	0.05
Education level	Conclusion: $P < \alpha$ , Reject H2 <sub>0</sub>	14.86	3.841	0.002	<	0.05
Length of Time in Current Position	Conclusion: $P < \alpha$ , Reject H3 <sub>0</sub>	15.36	9.488	0.004	<	0.05
Years of Service with Company	Conclusion: $P < \alpha$ , Reject H4 <sub>0</sub>	23.06	9.488	0.000	<	0.05
Understanding Departments Internal Controls	Conclusion: $P < \alpha$ , Reject H5 <sub>0</sub>	28.80	9.488	0.000	<	0.05
Understanding Departments Procedures	Conclusion: $P < \alpha$ , Reject H6 <sub>0</sub>	19.92	9.488	0.001	<	0.05
Level of Accounting Classes	Conclusion: $P < \alpha$ , Reject H7 <sub>0</sub>	35.70	7.815	0.000	<	0.05
Comfort Level of IC Training	Conclusion: $P < \alpha$ , Reject H8 <sub>0</sub>	41.57	9.488	0.000	<	0.05

Feeling regarding Department Procedures	Conclusion: $P < \alpha$ , Reject $H_{90}$	23.25	9.488	0.000	<	0.05
Hours of Internal Control Training	Conclusion: $P < \alpha$ , Reject $H_{100}$	60.83	11.07	0.000	<	0.05
Years worked Overall	Conclusion: $P < \alpha$ , Reject $H_{110}$	45.01	33.924	0.003	<	0.05
Years in Current Role	Conclusion: $P < \alpha$ , Reject $H_{120}$	30.77	27.587	0.003	<	0.05
Age of Participant	Conclusion: $P < \alpha$ , Reject $H_{130}$	33.49	9.488	0.000	<	0.05

The researcher examined external validity by reviewing other research and validating the research is consistent with other evidence (Buckingham & Saunders, 2015). Gender appears to be more elusive to identify as Weller, Ceschi, Hirsch, Satori, & Costantini (2018) stated “men perform better on metrics of rational responding such as expected value sensitivity and probabilistic reasoning, other research using different decision-making paradigms have shown no differences” (p.9). The researcher’s results echoed Weller et al. (2018) statement of gender showing no impact. The researcher’s results in relation to auditor’s experience that relates to years of service; time within the department; understanding department procedures and internal control procedures; and years in current role had a positive correlation to internal controls that is supported by a study by Asare & Wright (2018). Rasland, Hegazy, & Eldawla (2016) stated the years an auditor has for experience would have a positive correlation to the quality of internal controls that is consistent with the findings within this study. Measuring years, the researcher applied the concept of work experience defined as the amount of time the auditor has been in the

workforce that was defined by Raslan et al., (2016). Based on the information provided, the researcher believed the concept of external validity had been established.

Content validity is defined as “the degree of relevance of instrument items in the representation of the theoretical content of a specific phenomenon” (Henklain, Haydu, Carmo, Muniz, & Perez, p. 206). The researcher reviewed the different research papers surveys and extrapolated the appropriate question regarding each individual attribute. As for the validity of measuring accounting knowledge, the researcher applied the concept of the level of accounting experience gained through education can be used to validate education (Ege, 2015). As for the validity of understanding internal controls, creating surveys or questionnaires asking the workers concepts about the effectiveness of internal controls within the organization (Birza, 2005). As for the validity of measuring the distinction between a man and a woman: asking are you a male or a female is a widely accepted practice (Haynes, 2016). Each of the survey questions were crafted from previous theoretical constructs that provided a basis that would measure the defined construct such as knowledge, education, age, gender, and experience thus providing context to content validity.

## **Results**

The study focused around the automotive financial services industry within an organization pertaining to internal controls design and the pass/failure rate of the internal controls within the organization. The company studied used the term Risk Control Tracking System (RCTS) when referring to tracking and validating internal controls procedures within the organization. The defining criteria for a participant to complete the survey was if the participant had completed or reviewed a RCTS within 2017 or 2018. The researcher has shown a high-level summary of the demographics of the participants in Table 3 and Table 4.



Table 3  
*Breakdown of Category by Gender*

<i>Male Participant Breakdown by Category</i>	Likert Rating					Total
	1	2	3	4	5	
Dependent Variables						
Education level	0	6	32	11	1	50
Length of time in current position	11	17	4	11	7	50
Years of service with the company	1	9	13	16	11	50
Understand the department's internal control procedures	4	11	24	11	0	50
Understand departments procedures	7	13	20	9	1	50
Level of accounting classes	0	15	30	5	0	50
Comfort Level of internal control training	6	13	18	10	3	50
Feeling regarding understanding department's procedures	7	10	13	13	7	50
Hours of internal controls training	18	5	19	7	1	50
Age variable	3	5	13	14	15	50

<i>Female Participant Breakdown by Category</i>	Likert Rating					Total
	1	2	3	4	5	
Dependent Variables						
Education level	0	2	32	7	3	44
Length of time in current position	7	13	9	10	5	44
Years of service with the company	1	5	15	14	9	44
Understand the department's internal control procedures	2	13	19	10	0	44
Understand departments procedures	3	11	17	10	3	44
Level of accounting classes	1	11	21	11	0	44
Comfort Level of internal control training	5	9	15	11	4	44
Feeling regarding understanding department's procedures	6	4	10	20	4	44
Hours of internal controls training	13	5	19	5	2	44
Age variable	2	5	7	10	20	44

Table 4  
*Pass/Fail Table by Gender by Total Years in Workforce*

Male Passed/Failed by Year Category			
Description	Internal Control Passed	Internal Control Failed	Totals
You have been in the workforce for less than 1 year	0	1	1
You have been in the workforce for 1 year to 3 years	0	12	12
You have been in the workforce for over 3 years to 5 years	5	6	11
You have been working from over 5 years to 8 years	2	1	3
You have been working for longer than 8 years	17	6	23
Totals	24	26	50

Female Passed/Failed by Year Category			
Description	Internal Control Passed	Internal Control Failed	Totals
You have been in the workforce for less than 1 year	0	0	0
You have been in the workforce for 1 year to 3 years	1	9	10
You have been in the workforce for over 3 years to 5 years	5	1	6
You have been working from over 5 years to 8 years	3	1	4
You have been working for longer than 8 years	16	8	24
Totals	25	19	44

Of the 186 people that were asked to complete a survey, Appendix A, the researcher received 94 responses. The survey consists of nonparametric statistics using numbers 1-5 to break down the following attributes: education level of the participant; length of time of the participant in their current position; length of time the participant has been at their current company; the participant's knowledge level of the department's Internal Control procedures; the participant's accounting education; participant's comfort level of internal controls training within the department; the participant's feelings towards the department's procedures; the participant's

classification hours of training regarding Internal Controls; participants age; and participants gender.

Each participant was given a link to complete the survey via surveymonkey that provided a secure private link for the participant to complete the survey. The questionnaire provided the participants with the reason as to why the survey was being issued as well as stating the response was completely voluntary and confidential pursuant to the IRB Northcentral standards. All of the participants had the opportunity to opt out at any time as well as not answer any question on the survey. The data was collected and stored into excel by each of the responses utilizing the Likert scale with responses from 1 – 5. Each of the participants responses were given a distinct number and categorized depending on the responses provided and the data was analyzed via the chi-square test.

### **Research question 1 / hypothesis 1.**

RQ1: Does gender of an internal auditor have a significant correlation with internal control design?

$H_{10}$  Gender has no significant correlation with internal control design.

$H_{1a}$  Gender has a significant correlation with internal controls design.

There were 50 males that responded to the survey of which 24 of the participants stated they had a successful pass of internal designs and 26 stated they had fail of internal designs. There were 44 females that responded to the survey of which 25 stated they had a successful pass of internal designs and 19 stated they had a fail of internal designs. The researcher utilized the Chi-Squared test to identify the significance (DeVellis, 2010; Mihert, 2010) found in Table 4.

The P value was .393, the  $X^2$  was .729, and the critical value was 3.841. Analyzing the results, the researcher failed to reject  $H1_0$ . The data suggests gender does not influence internal controls. There are different viewpoints on the impact of gender on internal controls. A study conducted by Reheul, Van Caneghem, Van, & Verbruggen (2017) which stated females are more adept at identifying errors within internal controls; another study by Kangtao, Chen, & Gao (2014) which stated males have a higher propensity of identifying questionable actions; and lastly Weller et al. (2018) stated gender does not provide a correlation which is supported by the Chi-Square test (DeVellis, 2010; Mihert, 2010) conducted by the researcher.

Table 5  
*Chi-Squared Test for Gender*

Description	Observed Value	Design Control Passed	Design Control Failed	Totals
Male	1	24	26	50
Female	2	25	19	44
	Subtotal	49	45	94

Description	Expected Value	Design Control Passed	Design Control Failed	Totals
Male	1	26.064	23.936	50
Female	2	22.936	21.064	44
	Subtotal	49	45	94

$X^2$	0.729
p=	0.393
df	1
$\alpha$	0.05
Conclusion: $P > \alpha$ , Fail to reject $H1_0$	
Critical Value	
DF 1	3.841

**Research question 2 / hypothesis 2.**

**RQ2:** Does education level of the internal auditor have a significant correlation with internal control design?

*H2<sub>0</sub>:* Education level has no significant correlation to internal control design.

*H2<sub>a</sub>:* Education level does have a significant correlation internal control design.

The participants that responded had stated 8 had some college, 64 had graduated with a BA/BS, 18 had obtained a MBA, and 4 had obtained a PhD. The researcher utilized the nonparametric Chi-Squared test to identify the significance (DeVellis, 2010; Mihert, 2010; Murphy, 2016) found in Table 6. The P value was .002, the  $X^2$  was 14.857, and the critical value was 7.815. Analyzing the results, the researcher rejected *H2<sub>0</sub>*. The data suggests education level of the internal auditor will influence internal controls. This concept agrees with studies which state the education level of an auditor will impact the auditor's audit judgement (Ye, Cheng, & Gao, 2014) as well as Siriwardane, Kin Hoi Hu, & Low (2014) stated education level of the auditor will help to guide the auditor in identifying misstatements.

*Table 6*  
*Education Level of the Participant*

Description	Observed Value	Design Control Passed	Design Control Failed	Totals
You have some college; you have not obtained a BA/BS.	2	2	6	8
You have graduated with obtaining a BA/BS.	3	28	36	64
You have graduated with obtaining a MBA.	4	15	3	18
You have graduated with obtaining a PhD.	5	4	0	4
Subtotal		49	45	94

Description	Expected Value	Design Control Passed	Design Control Failed	Totals
You have some college; you have not obtained a BA/BS.	2	4.170	3.830	8
You have graduated with obtaining a BA/BS.	3	33.362	30.638	64
You have graduated with obtaining a MBA.	4	9.383	8.617	18
You have graduated with obtaining a PhD.	5	2.085	1.915	4
Subtotal		49.000	45.000	94

$\chi^2$  14.857

p= 0.002

df 3

$\alpha$  0.05

Conclusion:  $P < \alpha$ , Reject  $H_0$

Conclusion: Reject Null Hypothesis

Chi Square Critical Value

Critical Value DF 3 7.815

**Research question 3 / hypothesis 3.**

**RQ3:** Does the experience level of the internal auditor have a significant correlation with internal control design?

*H3<sub>0</sub>:* Years the participant had worked in the current role does not have a significant correlation to internal control design.

*H3<sub>a</sub>:* Years the participant had worked in the current role does have a significant correlation to internal control design.

The nonparametric test used was the Chi-Squared Test as the data came from the Likert scale and the data was not continuous (DeVellis, 2010; Mihert, 2010; Murphy, 2016). When the researcher examined the years the participant had worked in the current role against the pass/fail rate of the internal control designs, the P value was .0213, the  $X^2$  was 30.774, and the Critical Value was 27.587. The Chi-Squared results, shown in Table 7, supported rejecting *H3<sub>0</sub>*. Haislip, Peters, and Richardson (2016) stated the level of experience the auditor had would positively influence the ability of the auditor to identify a material weakness that is supported by the findings within the study.

Table 7  
Chi-Squared Test Years in Current Roles

Description	Design Control Passed	Design Control Failed	Totals
Years 0 to 1	5	12	17
Years >1 to 3	11	18	29
years >3 to 5	7	7	14
Years >5 to 8	14	7	21
Years > 8	12	1	13
Totals	49	45	94

Consolidated View: Expected

Description	Design Control Passed	Design Control Failed	Totals
Years 0 to 1	8.862	8.138	17
Years >1 to 3	15.117	13.883	29
years >3 to 5	7.298	6.702	14
Years >5 to 8	10.947	10.053	21
Years > 8	6.777	6.223	13
Totals	49.000	45.000	94

$X^2$

16.072

p=

0.003

df

4

$\alpha$

0.05

Conclusion:  $P < \alpha$ , Reject  $H_0$

Conclusion:

Reject Null Hypothesis

**Research question 4 / hypothesis 4.**

**RQ4:** Does the years of service working with the current company have a significant correlation to internal control design?

$H_0$ : Years of service working with the current company has no significant correlation to internal control design.



*H4<sub>a</sub>*: Years of service working with the current company has a significant correlation with internal control design.

Table 8 has the Chi-Squared results showing the P value was .000, the  $X^2$  was 23.062, and the Critical Value was 9.488. The researcher utilized the nonparametric Chi-Squared test to identify the significance (DeVellis, 2010; Mihert, 2010; Murphy, 2016). The results supported rejecting *H4<sub>0</sub>*. Shin, Zhaohui, and Lacina, (2011) stated the more the auditor is familiar with the organization's practices the better the auditor would be suited to identify material weakness and increase the period between a restatement of financials; and the findings are concurrent with this concept.

Table 8  
Years Working with the Current Company

Description	Observed Value	Design Control Passed	Design Control Failed	Totals
You have been working at the current company for less than 1 year	1	0	2	2
You have been working at the current company from over 1 year to 3 years	2	4	10	14
You have been working at the current company from 3 years to 5 years	3	10	18	28
You have been working at the current company from over 5 years to 8 years	4	16	14	30
You have been working at the current company for longer than 8 years	5	19	1	20
	Subtotal	49	45	94

Description	Expected Value	Design Control Passed	Design Control Failed	Totals
You have been working at the current company for less than 1 year	1	1.043	0.957	2
You have been working at the current company from over 1 year to 3 years	2	7.298	6.702	14
You have been working at the current company from 3 years to 5 years	3	14.596	13.404	28
You have been working at the current company from over 5 years to 8 years	4	15.638	14.362	30
You have been working at the current company for longer than 8 years	5	10.426	9.574	20
	Subtotal	49.000	45.000	94

$X^2$

23.062

p=	0.000
df	4
$\alpha$	0.05
Conclusion: $P < \alpha$ , Reject $H_0$	
Conclusion: Reject Null Hypothesis	
Critical	
Value of DF	
4	9.488

### Research question 5 / hypothesis 5.

**RQ5:** Does the age of the participant have a significant correlation with internal control design?

$H_{50}$ : Age of the participant has no significant correlation with the internal control design.

$H_{5a}$ : Age of the participant has a correlation with the internal control design.

The researcher used the nonparametric test: Chi-Squared Test as the data was not continuous and the information came from the Likert Scale (DeVellis, 2010; Mihert, 2010; Murphy, 2016).

Table 9 shows the Chi-Squared results. The P value was .000, the  $X^2$  was 23.062, and the Critical Value was 9.488. The results supported rejecting  $H_{50}$ . Carrera, Carmona, & Gutierrez (2008) study identified age and experience of an auditor will influence the internal controls within an organization that is supported by the researcher's results.

Table 9  
Age of the Participant

Description	Observed Value	Design Control Passed	Design Control Failed	Totals
I am between 18 years old to 25 years old	1	1	4	5
I am between 26 years old to 30 years old	2	0	10	10
I am between 31 years old to 35 years old	3	4	16	20
I am between 36 years old to 40 years old	4	19	5	24
I am 41 years old or older	5	25	10	35
	Subtotal	49	45	94

Description	Expected Value	Design Control Passed	Design Control Failed	Totals
I am between 18 years old to 25 years old	1	2.606	2.394	5
I am between 26 years old to 30 years old.	2	5.213	4.787	10
I am between 31 years old to 35 years old.	3	10.426	9.574	20
I am between 36 years old to 40 years old.	4	12.511	11.489	24
I am 41 years old or older	5	18.245	16.755	35
	Subtotal	49	45	94

$X^2$  33.486

p= 0.000

df 4

$\alpha$  0.05

Conclusion:  $P < \alpha$ ,  
Reject  $H_0$

Conclusion: Reject Null Hypothesis

Critical Value of DF 4 9.488

**Research question 6 / hypothesis 6.**

**RQ6:** Does the years of experience worked by the internal auditor have a significant correlation with internal control design?

*H<sub>0</sub>:* Years of experience worked by the internal auditor has no significant correlation with internal control design.

*H<sub>6a</sub>:* Years of experience worked by the internal auditor has a significant correlation with internal control design.

The Chi-Squared Test was utilized as the data was not continuous and the researcher utilized the Likert Scale (DeVellis, 2010; Mihert, 2010). The Chi-Squared Test results can be found in Table 10. The P value was .003, the  $X^2$  was 45.008, and the Critical Value was 33.924. The results supported rejecting *H<sub>0</sub>*. Auditor's experience plays a role in the audit behavior of the individual (Donnelly, Quirin, & O'Bryan, 2003, Parlakkaya, Akmese, & Akmese, 2014). The results from the Chi-Squared Test supports the concept that the auditor's experience has an impact to the quality of internal controls within an organization.

Table 10  
Years Worked Overall

Description	Observed Value	Design Control Passed	Design Control Failed	Totals
.6 Years in the workforce	0.6	0	1	1
1 Year in the workforce	1	0	1	1
2 Years in the workforce	2	0	10	10
3 Years in the workforce	3	1	10	11
4 Years in the workforce	4	3	6	9
5 Years in the workforce	5	7	1	8
6 Years in the workforce	6	1	0	1
7 Years in the workforce	7	2	1	3
8 Years in the workforce	8	2	1	3
9 Years in the workforce	9	3	1	4
10 Years in the workforce	10	3	1	4
11 Years in the workforce	11	3	2	5
12 Years in the workforce	12	1	1	2
13 Years in the workforce	13	7	0	7
14 Years in the workforce	14	1	2	3
15 Years in the workforce	15	7	1	8
16 Years in the workforce	16	2	1	3
17 Years in the workforce	17	1	0	1
18 Years in the workforce	18	3	2	5
19 Years in the workforce	19	0	1	1

20 Years in the workforce	20	1	1	2
21 Years in the workforce	21	0	1	1
32 Years in the workforce	32	1	0	1
Subtotal		49	45	94

Description	Expected Value	Design Control Passed	Design Control Failed	Totals
.6 Years in the workforce	0.6	0.521	0.479	1
1 Year in the workforce	1	0.521	0.479	1
2 Years in the workforce	2	5.213	4.787	10
3 Years in the workforce	3	5.734	5.266	11
4 Years in the workforce	4	4.691	4.309	9
5 Years in the workforce	5	4.170	3.830	8
6 Years in the workforce	6	0.521	0.479	1
7 Years in the workforce	7	1.564	1.436	3
8 Years in the workforce	8	1.564	1.436	3
9 Years in the workforce	9	2.085	1.915	4
10 Years in the workforce	10	2.085	1.915	4
11 Years in the workforce	11	2.606	2.394	5
12 Years in the workforce	12	1.043	0.957	2
13 Years in the workforce	13	3.649	3.351	7
14 Years in the workforce	14	1.564	1.436	3
15 Years in the workforce	15	4.170	3.830	8
16 Years in the workforce	16	1.564	1.436	3

17 Years in the workforce	17	0.521	0.479	1
18 Years in the workforce	18	2.606	2.394	5
19 Years in the workforce	19	0.521	0.479	1
20 Years in the workforce	20	1.043	0.957	2
21 Years in the workforce	21	0.521	0.479	1
32 Years in the workforce	32	0.521	0.479	1
	Subtotal	49	45	94

$X^2$	45.008
p=	0.003
df	22
$\alpha$	0.05

Conclusion:  $P < \alpha$ ,  
Reject  $H_0$

Conclusion: Reject Null Hypothesis

Critical Value of DF	
22	33.924

### Research question 7 / hypothesis 7.

**RQ7:** Is there a significant correlation between the accounting education level of the internal auditor and internal control design?

$H_{70}$ : Auditor's accounting education level has no significant correlation with internal control design.

$H_{7a}$ : Auditor's accounting education level has a significant correlation to internal controls.

The participants that responded had stated 1 had not taken any accounting classes, 26 had stated they have had high school accounting classes, 51 had taken undergraduate accounting classes,



and 16 had taken master level accounting classes. The researcher utilized the Chi-Squared test to identify the significance (DeVellis, 2010; Mihert, 2010) found in Table 11. The P value was .0000, the  $X^2$  was 35.695, and the critical value was 7.815. Analyzing the results, the researcher rejected  $H7_0$ . Parlakkaya et al., (2014) stated auditors with a high education in accounting knowledge have a higher probability of understanding and implementing proper internal controls; which is concurrent with the findings of this study.

Table 11  
*Chi-Squared Test Accounting Level*

Description	Observed Value	Design Control Passed	Design Control Failed	Totals
You have not had any accounting classes.	1	0	1	1
You have taken a high school accounting classes.	2	1	25	26
You have taken undergraduate accounting classes.	3	36	15	51
You have taken Master level accounting classes	4	12	4	16
	Subtotal	49	45	94

Description	Expected Value	Design Control Passed	Design Control Failed	Totals
You have not had any accounting classes.	1	0.521	0.479	1
You have taken a high school accounting classes.	2	13.553	12.447	26
You have taken undergraduate	3	26.585	24.415	51

accounting  
classes.  
You have taken  
Master level  
accounting classes

4	8.340	7.660	16
Subtotal	49	45	94

$X^2$  35.695

p= 0.000

df 3

$\alpha$  0.05

Conclusion:  $P < \alpha$ , Reject  $H_0$

Conclusion: Reject Null Hypothesis

Critical Value of DF 3 7.815

### Research question 8 / hypothesis 8.

**RQ8:** Is there a significant correlation between the understanding of internal controls and internal control design?

$H_{80}$ : Understanding of the purpose of internal controls has no significant correlation with the internal control design.

$H_{8a}$ : Understanding of the purpose of internal controls has a significant correlation with the internal control design.

Of the participants that had responded, 11 had stated they have not had any training on the purpose of internal controls within the department; 22 had stated they have had very little training on the purpose of internal controls within the department, 33 had stated they have had some training on the purpose of internal controls within the department, 21 had stated they have

had strong training on the purpose of internal controls within the department; and 7 had stated they have been completely training on the purpose of internal controls within the department. The researcher utilized the Chi-Squared test to identify the significance (DeVellis, 2010; Mihert, 2010) found in Table 12. The P value was .000, the  $X^2$  was 41.567, and the critical value was 9.488. Analyzing the results, the researcher rejected  $H_0$ . Parlakkaya et al., (2014) stated the Internal Financial Reporting Standards (IFRS) and the International Standards on Auditing (ISAs) both state that for an auditor to be effective, the auditor needs to understand how internal controls work and the purpose of what the internal controls are trying to accomplish. The results within this study support Parlakkaya et al., (2014) statements.

*Table 12*  
*Understanding the Purpose of Internal Controls Within Your Department*

Description	Observed Value	Design Control Passed	Design Control Failed	Totals
You feel that you have never had any training on the purpose of internal controls within your department.	1	0	11	11
You feel that you have very little training on the purpose of internal controls within your department	2	3	19	22
You feel that you have some training on the purpose of internal controls within your department	3	23	10	33
You feel that you have strong training on the purpose of internal controls within your department	4	19	2	21
You feel that you have been completely trained on the purpose of internal controls within your department	5	4	3	7
Subtotal		49	45	94

Description	Expected Value	Design Control Passed	Design Control Failed	Totals
You feel that you have never had any training on the purpose of internal controls within your department.	1	5.734	5.266	11
You feel that you have very little training on the purpose of internal controls within your department	2	11.468	10.532	22
You feel that you have some training on the purpose of internal controls within your department	3	17.202	15.798	33
You feel that you have strong training on the purpose of internal controls within your department	4	10.947	10.053	21
You feel that you have been completely trained on the purpose of internal controls within your department	5	3.649	3.351	7
Subtotal		49	45	94

$X^2$	41.567
p=	0.000
df	4
$\alpha$	0.05
Conclusion: $P < \alpha$ , Reject $H_0$	
Conclusion	Reject Null Hypothes is
Critical Value of DF 4	9.488

### Research question 9 / hypothesis 9.

**RQ9:** Do the hours of internal control training have a significant correlation to the internal control design?

$H_{9_0}$ : The hours of internal controls training do not have a significant correlation with internal control design

$H_{9_a}$ : The hours of internal controls training do have a significant correlation with internal control design.

Of the participants that had responded, 31 had stated they have had no training of internal control training within the department; 10 had stated they have had less than 1 hour of internal controls training within the department; 38 had stated they had between 1 hour and 3 hours of

internal control training within the department; 12 had stated they have had over 3 hours to 6 hours of internal control training; and 3 had said they have had more than 6 hours of internal control training. The researcher utilized the Chi-Squared test to identify the significance (DeVellis, 2010; Mihert, 2010) found in Table 13. The P value was .00000, the  $X^2$  was 63.846, and the critical value was 11.07. Analyzing the results, the researcher rejected  $H_0$  from Chi-Squared Test. Mijret (2010) & Parlakkaya et al., (2014) stated that in order for internal controls to be successful, the auditor must have a clear understanding of what the internal controls are and how they are expected to function; this paper supports this concept.

Table 13  
Hours of Internal Controls Training

Description	Observed Value	Design Control Passed	Design Control Failed	Totals
No hours of training	1	1	30	31
Less than 1 hour of internal controls training	2	2	8	10
Between 1 hour and 3 hours of internal controls training	3	31	7	38
Over 3 hours to 6 hours	4	12	0	12
More than 6 hours of internal controls training	5	3	0	3
	Subtotal	49	45	94

Description	Expected Value	Design Control Passed	Design Control Failed	Totals
No hours of training	1	16.160	14.840	31
Less than 1 hour of internal controls training	2	5.213	4.787	10
Between 1 hour and 3 hours of internal controls training	3	19.809	18.191	38
Over 3 hours to 6 hours	4	6.255	5.745	12
More than 6 hours of internal controls training	5	1.564	1.436	3
	Subtotal	49	45	94

X<sup>2</sup> 63.846

p= 0.000

df 5

α 0.05



Conclusion:  $P < \alpha$ , Reject  $H_0$   
 Conclusion: Reject Null Hypothesis

Critical Value of  
 DF 5 11.070

### Research question 10 / hypothesis 10.

**RQ10:** Does the understanding of the department procedures have a significant correlation with the internal control design?

$H_{10_0}$ : The participant's understanding of the department procedures work does not have a significant correlation with internal control design.

$H_{10_a}$ : The participant's understanding of the department's procedures work has a significant correlation with internal control design.

Of the participants that had responded, 13 had stated they have could not explain the day-to-day procedures, 14 state they could provide a very high-level of the day-to-day procedures, 23 stated they could provide some detail to the day-to-day procedures, 33 stated the could provide in-depth detail regarding the department's day-to-day procedure; and 11 stated they could provide great-detail as to the departments day-to-day procedures. The researcher utilized the Chi-Squared test to identify the significance (DeVellis, 2010; Mihert, 2010) found in Table 14. The P value was .000, the  $X^2$  was 23.255, and the critical value was 9.488. Analyzing the results, the researcher rejected  $H_{10_0}$  from interpreting the results from the Chi-Squared Test. Boban &

Šušak (2015) stated in order for internal controls to be effective, an auditor must have understanding of the accounting information system to understand how best to utilize the internal controls.

Table 14  
*Explain My Department's Day-to-Day Procedures*

Description	Observed Value	Design Control Passed	Design Control Failed	Totals
I cannot explain to my co-worker as to my department's day-to-day procedures	1	0	13	13
I could provide a very high-level to my co-worker as to my department's day-to-day procedures	2	5	9	14
I could provide some detail to my co-worker regarding my department's day-to-day procedures	3	13	10	23
I could provide in-depth detail to my co-worker regarding my department's day-to-day procedures, as I know almost every step.	4	25	8	33
I could I can explain to my co-worker in great detail as to my department's day-to-day procedures, as I know all of the procedures.	5	6	5	11
	Subtotal	49	45	94

Description	Expected Value	Design Control Passed	Design Control Failed	Totals
I cannot explain to my co-worker as to my department's day-to-day procedures	1	6.777	6.223	13
I could provide a very high-level to my co-worker as to my department's day-to-day procedures	2	7.298	6.702	14
I could provide some detail to my co-worker regarding my department's day-to-day procedures	3	11.989	11.011	23
I could provide in-depth detail to my co-worker regarding my department's day-to-day procedures, as I know almost every step.	4	17.202	15.798	33
I could I can explain to my co-worker in great detail as to my department's day-to-day procedures, as I know all of the procedures.	5	5.734	5.266	11
	Subtotal	49	45	94
	X <sup>2</sup>	23.255		

p=	0.000
df	4
$\alpha$	0.05
Conclusion: $P < \alpha$ ,	
Reject $H_{10}$	Reject
	Null
Conclusi	Hypothe
on:	sis
Critical	
Value of	
DF 4	9.488

### Evaluation of the Findings

Using the results from the 94 participants from the financial services industry who had completed the survey, this quantitative study was created to explore if external auditor attributes can be associated with internal auditor attributes in regards to impacting internal controls. The researcher gathered the information from surveymonkey.com from the participants and reviewed and analyzed the information in excel via the Chi-Squared test. There were 10 research questions identified and examined within this research paper. Utilizing the data of the 94 participants, the following paragraphs provide the summary of the findings.

RQ1 examined if there was a significant correlation between gender and internal controls. Looking at the results for  $H_{10}$ : The researcher failed to reject  $H_{10}$ . The data suggests gender does not influence internal controls. There are different viewpoints on the impact of gender on internal controls. A study conducted by Reheul, Van Caneghem, Van, & Verbruggen (2017)

which stated females are more adept at identifying errors within internal controls; another study by Kangtao, Chen, & Gao (2014) stated males have a higher propensity of identifying questionable actions. Keller, Smith, & Smith (2007) completed a study that stated gender does not have an impact to an auditor's decision making in regards to accounting. Within this study, after the researcher reviewed the Chi-Squared test results, the researcher failed to reject the null hypothesis supporting the study from Keller et al., (2017).

RQ2 examined if there was a significant correlation between an auditor's education level and internal controls. Reviewing the Chi-Squared results for  $H2_0$ : The researcher failed to accept  $H2_0$ . The data suggests there is a significant correlation between the auditor's education level and internal control design which falls in line with studies conducted by Reyneke & Shuttleworth (2018) stating education level of an auditor is an important attribute needed to increase the auditor's abilities and by Chang, Chen, Cheng, & Chi (2019) stating there is a positive relationship between the education level of an auditor and internal controls.

RQ3 examined if the experience level of the internal auditor had a significant correlation with internal control design. Reviewing the chi-squared results for  $H3$ : The researcher failed to accept  $H3_0$  which is consistent with Chang et al., (2019) study stating the experience level of the auditor is important to internal controls within an organization.

RQ4 examined if the years of service working with the current company had a correlation to internal controls within an organization. The researcher reviewed the results from the Chi-Squared Test and failed to accept the  $H4_0$ , which is consistent with Haislip et al., (2019) study that the length of experience of an auditor would positively influence the ability of the auditor to identify a material weakness.

RQ5 examined if the age of an auditor had a correlation with the internal controls within an organization. The researcher reviewed the results from the Chi-Squared Test and failed to accept the  $H5_0$  which is consistent with a concept by Carrera, Carmona, & Gutierrez (2008) which identified age and experience of an auditor will have an impact on the internal controls within an organization.

RQ6 examined if the years of experience of an auditor had a correlation with internal controls. The researcher reviewed the results from the Chi-Squared Test and failed to accept the  $H6_0$  which is consistent with Baker, Cohainer, & Leo (2017) concept of the more time an auditor has in the workforce, the more that person will have gained more information of how to influence internal controls within an organization.

RQ7 examined if the accounting education level of the internal auditor had a correlation with internal controls. The researcher examined the Chi-Squared Test and failed to accept  $H7_0$ . Parlakkaya et al., (2014) stated auditors with a high education in accounting knowledge have a higher probability of understanding and implementing proper internal controls within an organization. This concept is consistent with the findings from the researcher.

RQ8 examined if the educational level of an auditor had a correlation with internal controls. Kozlowski (2017) completed a study where the education level was increased causing the participants understanding of internal controls to increase which lead to a stronger internal control process. This concept was confirmed within this study as the researcher examined the Chi-Squared Test and failed to accept  $H8_0$ . The data from the study suggests there is a correlation between the accounting education level of the internal auditor and internal controls aligning with the pervious study

RQ9 examined if an auditor's understanding of how internal controls work within the company had a correlation with the effectiveness of internal controls. After reviewing the Chi-Squared Test, the researcher failed to accept  $H9_0$ . Parlakkaya et al., (2014) stated the Internal Financial Reporting Standards (IFRS) and the International Standards on Auditing (ISAs) both state that for an auditor to be effective, the auditor needs to understand how internal controls work and the purpose of what the internal controls are trying to accomplish. Mijret (2010) & Parlakkaya et al., (2014) stated an auditor needs to have an understanding of what are the purpose of internal controls and how they are to be implemented within an organization in order to understand how effect the internal controls.

RQ10 examined if the understanding of how the department procedures work within the company had a correlation with the effectiveness of internal controls. After reviewing the Chi-Squared Test, the researcher failed to accept  $H10_0$ . Boban & Šušak (2015) stated an auditor could utilize internal controls after the auditor has an understanding of the company's procedures. Boban & Šušak (2015) stated when the accounting information systems are analyzed and understood and then an auditor can implement the right internal controls helping to reduce fraud.

## Summary

The purpose of this quantitative study was to expand on the concept of Human Capital Theory (Amankwah-Amoah et al., 2016; Bagisnska, 2016) and apply SKA's of external auditors to internal auditors to identify if there are correlations which can be made between SKA's and internal controls within an organization. Reliability of the instrument was proven via the Cronbach's alpha test that provided a result of .79. Face, construct, external, and content validity

were proven by the researcher subjective review of the instrument, the researcher provided evidence of literary support, and utilizing the Chi-Squared Test.

The researcher provided detail on the population demographics and recapped the attributes that were measured. The researcher provided information on the 94 participants and summarized the data gathered. The researcher reviewed the non-parametric data obtained via the instrument and provided an analysis with the Chi-Squared Test for the 10 different research questions as to whether accept or fail to accept the null hypothesis. The researcher analyzed the data via the Chi-Squared Test for the 10 research questions and failed to reject the  $H_{10}$  regarding gender; and rejected the null hypothesis for research questions 2 – 10 which dealt with education level; length of time within the current position; years of service; understanding the department's internal controls; understanding the department's procedures; level of accounting classes; comfort level of internal control training; feelings regarding understanding the department's procedures; hours of internal control training, and age. For each of the 10 research questions, the researcher provided literary support corroborating and validating the information obtained providing sound judgement as to the validity and reliability of the study conducted.

### **Summary**

The researcher provided detail on the population demographics and recapped the attributes that were measured. The researcher provided information on the 94 participants and summarized the data gathered. The researcher reviewed the non-parametric data obtained via the instrument and provided an analysis with the Chi-Squared Test for the 10 different research questions as to whether accept or fail to accept the null hypothesis. The researcher analyzed the data via the Chi-Squared Test for the 10 research questions and failed to reject the  $H_{10}$  regarding gender; and rejected the null hypothesis for research questions 2 – 10 which dealt with education



level; length of time within the current position; years of service; understanding the department's internal controls; understanding the department's procedures; level of accounting classes; comfort level of internal control training; feelings regarding understanding the department's procedures; hours of internal control training, and age. For each of the 10 research questions, the researcher provided literary support corroborating and validating the information obtained providing sound judgement as to the validity and reliability of the study conducted.

## Chapter 5: Implications, Recommendations, and Conclusions

An area of concern within the community is how to enhance an audit's effectiveness (Farkas & Hirsch, 2016). Multiple studies have linked robust internal control procedures to external auditor attributes such as accounting knowledge, education level, understanding of the business, training level on internal controls, etc. (Sirwardane, Hu, & Low, 2014; Seigel & Miller, 2010; Abdolmohammadi, 2012; Doyle, Ge, & McVay, 2006). There is much less research expanding the internal auditor's role in relation to audit effectiveness compared to the role of external auditor (Alzeban & Gwilliam, 2014). The purpose of this quantitative research paper was to provide more information on internal auditor attributes and examine the correlation with internal controls.

Research has defined human capital theory as skills and abilities of the employees that a company leverages to help improve the efficiency within the organization (Amankwah-Amoah et al., 2016; Bagisnska, 2016). Researchers have considered human capital an important piece of the development of companies (Bagisnska, A. 2016). Researchers have also stated that another important piece of human capital pertains to the concept that employees have value to the company and employees provides future income to the company (Bagisnska, A. 2016). An accounting firm will search for individuals that have a high level of accounting experience, knowledge, and skills due to companies requesting an accounting firm to provide high-quality services (Bagisnska, A. 2016). Employees of an accounting firm will be valuable to the firm when the employees utilize and leverage their intellectual capital at the work place (Bagisnska, A. 2016). The researcher explored the human capital theory within this quantitative research paper by delving into the attributes associated with external auditors and examining if there is a correlation with auditor attributes and the quality of internal controls within an organization.

The focus of an auditor is to improve the financial reporting quality of a company (Samagaio & Rodrigues, 2016). The quality of the audit is dependent on the auditor's abilities, competence, independence, integrity, and honesty to confirm the financial information so that the public can have confidence in the information published by a company (Samagaio & Rodrigues, 2016). Human capital is vital to drive a company's competitiveness and successfulness (Attanasio, 2015; Samagaio & Rodrigues, 2016). Samagaio & Rodrigues (2016) conducted a study to examine the auditor's human capital attributes and a young firm's performance that focused on identifying the different attribute combinations of human capital that has an impact on a young audit firm's performance. The concept identified was combinations of human capital attributes have a direct impact to the competitiveness, growth, and profitability of the firm (Samagaio & Rodrigues, 2016).

The researcher's quantitative study expands on the attributes of an auditor within the realm of human capital Theory. The researcher built on the importance of skills, knowledge, and attitudes (SKAs) for auditors within the business environment. Siriwardane, Kin Hoi Hu, & Low (2014) conducted a study, in Singapore; examining 20, SKAs of auditors to determine which attributes a company should consider the most important auditor qualities for an auditor. Siriwardane et al., (2014) built on the concept of developing auditor's competencies causing a direct impact to the accuracy of the financial information reported by companies. The ability for an auditor to assess audit data, understand a client's business, and knowledge of internal controls is vital for an auditor to complete a successful audit (Siriwardane et al., 2014). The researcher provided insight into how SKAs of internal auditors have a correlation to the internal controls within a financial services company.

The limitations of the study pertained to only Financial Services employees who work in either Farmington Hills, MI or Fort Worth, TX within the Financial Services Sector. The researcher did not examine the financial services industry as a whole but focused on one individual company. The attributes examined by the researcher were age; internal auditor's experience; internal auditor's accounting knowledge; internal auditors work history; auditor's knowledge of internal controls; internal auditor's length of time within the company and length of time within the current department; internal auditor's gender; and internal auditor's understanding of the concept of internal controls. The researcher could not examine every auditor attribute and reviewed the literature to decide on which independent variables might have the greatest correlation to the dependent variable of pass or fail of internal auditors. The study is limited to only the responses of the workers at a Financial Services company who have completed an internal controls survey within the last calendar year. The study will not include other Financial Services employees within the company that have not completed an internal controls survey within 2017 or in 2018.

The researcher utilized a questionnaire, Appendix A, where the criteria for a participant in the survey was if the participant had completed or reviewed a Risk Control Tracking System (RCTS) Assessment within 2017 or 2018. One hundred and eight-six people made up the total population within the company and the researcher received 94 responses. The data gathered was in the form of nonparametric statistics using a Likert Scale of 1-5 based on questions constructed from various research papers. The attributes reviewed were: education level of the participant; length of time of the participant in their current position; length of time the participant has been at their current company; the participant's knowledge level of the department's internal control procedures; the participant's accounting education; participant's comfort level of internal

controls training within the department; the participant's feelings towards the department's procedures; the participant's classification hours of training regarding internal controls; participants age; and participants gender. The researcher constructed the context of defining each of these attributes by providing examples from other studies providing a basis of academic construct and validity within the Human Capital Theory. The researcher provided sound literature evidence supported the concept of how each of the attributes provide reasonable correlation to the impact of internal controls; providing validity as to why the researcher examined those auditor attributes.

The researcher took great care to make sure data collection process was confidential and the data was secure. The researcher provides validity and reasonableness of the instrument utilized for this quantitative study. The researcher provides literature support as to the themes and concerns regarding the importance of this study. This chapter provides insight into the implications of internal auditor's attributes related to the correlation of internal controls. The researcher provides insight as to the application of these findings and the researcher provides recommendations as to apply these concepts in practice and theory. Finally, the researcher will discuss the study's conclusions.

### **Implications**

The results from this quantitative study provide insight into internal auditor attributes and the correlation they have with internal control designs within a financial services company. The attributes examined in the study were gender; education level; length of time in current role; length of time within the organization; understanding the department's internal control procedures; understanding department procedures; reported accounting level education; comfort level on the training of internal controls within the organization; ability to discuss the

departments day-to-day activities; number of hours of internal controls training; years in the workforce; and age of the participant.

RQ1 examined if there was a correlation between gender and internal controls regarding internal auditors. In the context of human capital theory, the researcher wanted to identify if gender was an attribute that influenced internal controls that could provide a company with a competitive advantage. The purpose of the researcher asking RQ1 was to examine if there was a correlation between gender and internal control design. The chi-squared test performed on gender provided evidence that there is no correlation between gender and internal controls design that is consistent with a study by Keller, Smith, & Smith (2007) which stated gender does not have an impact to an auditor's decision making in regards to accounting. The significance of this information provides evidence to a company that gender is not one of the factor's a hiring manager should consider when looking to obtain internal auditors within the organization. This study provides statistical evidence that there is no correlation between gender and internal control design.

RQ2 examined if there is correlation between the education level of the internal auditor and internal controls. In the context of human capital theory, the researcher wanted to identify if education was an attribute that influenced internal controls that could provide a company with a competitive advantage. The purpose of the researcher asking RQ2 was to examine if there was a correlation between education and internal control design. The chi-squared test performed on gender provided evidence that there is a significant correlation between education level of the internal auditor and internal controls design. Ye, Cheng, & Gao (2014) found the education level of an auditor will impact the auditor's audit judgement (Ye, Cheng, & Gao, 2014) as well as have a positive correlation with identifying misstatements (Siriwardane, Kin Hoi Hu, & Low,

2014). The significance of this information provides evidence to a company that the education level of an auditor is a factor a hiring manager should consider when looking to obtain internal auditors within the organization. This study provides statistical evidence that there is a correlation between education level of an auditor and internal control design.

RQ3 examined if the experience level of the internal auditor have a correlation with internal controls. Within the context of human capital theory, can the experience level of the internal auditor provide a company with a competitive advantage? The purpose of the researcher asking RQ3 was to examine if there was a correlation between the experience level of an auditor and internal control design. The chi-squared test performed on the experience level of the auditor provided evidence that there is a significant correlation between experience level of the internal auditor and internal controls design. Ye, Cheng, & Gao (2014) found the education level of an auditor will impact the auditor's audit judgement (Ye, Cheng, & Gao, 2014) as well as have a positive correlation with identifying misstatements (Siriwardane, Kin Hoi Hu, & Low, 2014). The significance of this information provides evidence to a company that the education level of an auditor is a factor a hiring manager should consider when looking to obtain internal auditors within the organization. This study provides statistical evidence that there is a correlation between education level of an auditor and internal control design.

RQ4 examined if the years of service working with the current company have a correlation to internal controls within an organization. Within the context of human capital Theory, can the experience level of the internal auditor provide a company with a competitive advantage? The purpose of the researcher asking RQ4 was to examine if there was a correlation between the years of service of an auditor and internal control design. The chi-squared test performed on the years of service of the auditor provided evidence that there is a significant

correlation between years of service of an auditor and internal controls design. Shin, Zhaohui, and Lacina, (2011) provided insight on this attribute by stating the more the auditor is familiar with the organization's practices; the better the auditor would be suited to identify material weakness and increase the period between a restatement of financials. The significance of this information provides evidence to a company that the years of service of an auditor is a factor a hiring manager should consider when looking to obtain internal auditors within the organization. This study provides statistical evidence that there is a correlation between years of service of an auditor and internal control design.

RQ5 examined if the age of the internal auditor have a correlation with internal controls within an organization. Within the context of human capital theory, can the age of the internal auditor provide a company with a competitive advantage? The purpose of the researcher asking RQ5 was to examine if there was a correlation between the age of an auditor and internal control design. The chi-squared test performed on the age of the auditor provided evidence that there is a significant correlation between years of service of an auditor and internal controls design. Carrera, Carmona, & Gutierrez (2008) study provided the literature support that the age and experience of an auditor will affect the internal controls within an organization. The researcher's results are in agreement with Carrera et al., (2008). The significance of this information provides evidence to a company that the age of an auditor is a factor a hiring manager should consider when looking to obtain internal auditors within the organization. This study provides statistical evidence that there is a correlation between age of an auditor and internal control design.

RQ6 examined if the years of experience worked by the participant affect internal controls within an organization. Within the context of human capital theory, can the years of



experience of the internal auditor provide a company with a competitive advantage? The purpose of the researcher asking RQ6 was to examine if there was a correlation between the years of experience worked by an auditor and internal control design. The chi-squared test performed on the years of experience provided evidence that there is a significant correlation between years of experience of an auditor and internal controls design. Recent research studies found that the auditor's experience plays a role in the audit behavior of the individual (Donnelly, Quirin, & O'Bryan, 2003, Parlakkaya, Akmesse, & Akmesse, 2014) and have been proved within this study. The significance of this information provides evidence to a company that the years of experience of an auditor is a factor a hiring manager should consider when looking to obtain internal auditors within the organization. This study provides statistical evidence that there is a correlation between years of experience of an auditor and internal control design.

RQ7 examined if the accounting education level of the internal auditor has a correlation with the internal controls within an organization. Within the context of human capital theory, can the accounting education level of the internal auditor provide a company with a competitive advantage? The purpose of the researcher asking RQ7 was to examine if there was a correlation between the accounting education level of an auditor and internal control design. The chi-squared test performed on the accounting education level provided evidence that there is a significant correlation between the accounting education level of an auditor and internal controls design. Parlakkaya et al., (2014) stated auditors with a high education in accounting knowledge have a higher probability of understanding and implementing proper internal controls. The current study's chi-squared test results providing additional research support to Parlakkaya et al., (2014) results. The significance of this information provides evidence to a company that the accounting level of an auditor is a factor a hiring manager should consider when looking to

obtain internal auditors within the organization. This study provides statistical evidence that there is a correlation between accounting level of an auditor and internal control design

RQ8 examined if the understanding of how internal controls work within the company affect the effectiveness of internal controls within an organization. Within the context of human capital theory, can the understanding of how internal controls within the company provide a competitive advantage? The purpose of the researcher asking RQ8 was to examine if there was a correlation between the accounting education level of an auditor and internal control design. The chi-squared test performed on the understanding of how internal controls work within the company provided evidence that there is a significant correlation between the accounting education level of an auditor and internal controls design. Internal Financial Reporting Standards (IFRS) and the International Standards on Auditing (ISAs) both state that for an auditor to be effective, the auditor needs to understand how internal controls work and the purpose of what the internal controls are trying to accomplish; which is supported by study with the chi-squared test results (Parlakkaya et al., 2014). The significance of this information provides evidence to a company that understanding internal controls by an auditor is a factor a hiring manager should consider when looking to obtain internal auditors within the organization. This study provides statistical evidence that there is a correlation between understanding of how internal controls work within the company and internal control design.

RQ9 examined if the hours of internal control training of the participant have a correlation with the effectiveness of internal controls within an organization. Within the context of human capital theory, can the hours of internal controls training of the internal auditor within the company provide a competitive advantage? The purpose of the researcher asking RQ9 was to examine if there was a correlation between hours of internal controls training and internal

control design. The chi-squared test performed on the hours of internal controls training of the participant provided evidence that there is a significant correlation with internal controls design. Mijret (2010) & Parlakkaya et al., (2014) stated that in order for internal controls to be successful, the auditor must have a clear understanding of what the internal controls are and how they are expected to function; which is supported by study with the chi-squared test results. The significance of this information provides evidence to a company that hours of internal controls given to the auditor by the company, will provide stronger internal controls within the organization. This study provides statistical evidence that there is a correlation between hours of internal controls training and internal control design.

RQ10 examined if the understanding of how the department's procedures work within the company have a correlation with the effectiveness of internal controls within an organization. Within the context of human capital theory, can the understanding of the department's procedures within the company provide a competitive advantage? The purpose of the researcher asking RQ10 was to examine if there was a correlation between understanding the department's procedures and internal control design. The chi-squared test performed on the understanding of how the department's procedures work within the organization provided evidence that there is a significant correlation with internal controls design. Boban & Šušak (2015) stated an auditor would effectively utilize internal controls after the auditor has an understanding of the company's procedures. Boban & Šušak (2015) stated when an auditor examines and understands the accounting information systems; then an auditor can implement the right internal controls helping to reduce fraud. The researcher is able to validate this concept by interpreting the chi-squared test results. The significance of this information provides evidence to a company that the internal auditors will be more successful if they have an understanding of how the

department's procedures work within the organization. This study provides statistical evidence that there is a correlation between understanding of the department's procedures and internal controls design within an organization.

This study builds on the existing literature by expanding the human capital theory by examining internal auditor attributes within an automotive financial services company looking at key factors that have a direct correlation to internal control designs. A study had stated there was a need for research to identify the impact of Skills, Knowledge, and Attributes (SKA's) have on United States corporations and the impact SKAs might have on internal controls (Siriwardane et al., 2014). This study helps to provide more information on SKAs by examining internal auditor attributes and the correlation they have with internal controls. The information in this research paper helps to provide more insight into how internal auditor attributes affect internal controls within an organization. The information gathered in this research paper can be useful to organizations that want to build up the internal auditor skills and abilities by focusing on the concepts described within this quantitative study.

### **Recommendations for Practice**

Companies, who utilize internal auditors, can review their auditors skill sets to determine if the company should invest in strengthening their core attributes. Seol & Sarkis (2005) stated companies need to understand what qualities of internal auditors are needed as hiring the wrong internal auditor can be costly for the corporation. The researcher has added to literary knowledge as well as the real world practice of companies being able to review their internal auditors and While the research provided evidence which supports Weller et al. (2018) conclusion that gender does not provide a correlation to internal controls, Reheul, Van Caneghem, Van, & Verbruggen (2017) had a study that stated females are more adept at

identifying errors within internal controls. Companies may want to examine if reviewing internal controls are gender related instead of designing internal controls. The human capital theory is a key point within this study as the people attributes are the important drivers that add to a company's competitiveness and successfulness (Attanasio, 2015; Samagaio & Rodrigues, 2016). Corporations need to start to look at the attributes described within this study and identify if the current internal auditors need to strengthen or grown their attributes to help improve the internal controls within the organization. Corporations could pair young and old internal auditors together to help knowledge share within the auditors. A corporation could rotate internal auditors within different departments to help increase their department knowledge and could help to strengthen internal controls within the organization. A corporation can invest in training the auditors so that they have a strong level of internal controls understanding. A corporation could encourage their internal auditors to take accounting classes to help increase their knowledge that would have a direct correlation to the strength of their internal controls.

When a company examines the attributes of an internal auditor and invests into strengthening the auditor skill sets, the internal controls will become stronger and help to increase the accuracy of the financial statements (Morrill, Morrill & Kopp, 2012). A corporation's ability to produce accurate and truthful financial statements will be impacted by the internal control design and the level of implementation (Morrill et al., 2012). A corporation can examine the 10 attributes explained within this quantitative study and examine if there are internal auditors within their departments that might need more training or need more experience which will have an impact to the long-term success of internal controls within the organization. This study provides insight to corporations to start to examine which of their auditors have what level of these attributes. Seol & Sarkis (2005) stated companies need to understand what

qualities of internal auditors are needed as hiring the wrong internal auditor can be costly for the corporation. The corporation can start to look for missing attributes and focus on reviewing the internal controls completed by those auditors to ensure the internal controls are as strong as they should be to help prevent fraud.

### **Recommendations for Future Research**

Future research could examine other industries other than the automotive financial services. Another avenue future research might compare this information gained to another or multiple automotive financial services company to see if there are different attributes that might be more impactful in other automotive financial service corporations. The instrument can be replicated by future researchers and then apply this instrument to other industries to identify if these same internal auditor attributes have the same correlation to internal controls in other sectors. Although gender did not have a correlation to internal control design, future research could examine if gender plays a role in reviewing internal controls or finding errors within the internal control procedures. Future research could examine the 20 SKAs identified within a study conducted by Sirwardane, Hu, & Low (2014) and follow the concepts created within the research applying it to the same automotive financial services industry or examine other sectors within the United States.

Future research could also examine the correlation between internal auditor attributes and external auditor attributes to identify if the same attributes have the same correlation to internal controls. Further research could expand on the human capital theory by examining if there are certain auditor attributes that might have a greater impact to internal control. Another future research could examine what types of internal controls might have the best benefit to a corporation. These future studies will help to define and shape the internal auditors and provide

insight into how internal auditor attributes have an impact on the quality of internal controls of a corporation.

## **Conclusions**

The purpose of this quantitative study was to examine how the following internal auditor attributes: gender; education level; length of time in current position; years of service with the company; understanding the department's internal control procedures; understand departments procedures; the level of education on the accounting classes; the comfort level of internal control training by the auditor; the auditor's feeling regarding understanding department's procedures; the amount of hours of internal controls training; and the age of the auditor to identify if there was a significant correlation with internal control design. The researcher interpreted the chi-squared test and found that gender was the only attribute not to have a significant correlation with internal control design. Education level; length of time in current position; years of service with the company; understanding the department's internal control procedures; understand departments procedures; the level of education on the accounting classes; the comfort level of internal control training by the auditor; the auditor's feeling regarding understanding department's procedures; the amount of hours of internal controls training; and the age of the auditor had a significant correlation to internal control design. Gender had no significant correlation to internal control design within the study.

The researcher believes the importance of this study is to companies that are utilizing internal auditors to create, monitor, and validate internal controls. An internal controls department can examine these same attributes to identify if any of their internal auditors might be lacking or have weak attributes which could mean weak internal controls within the organization. A company could save time by replicating the instrument and applying the survey

to their internal auditors and comparing the results to see if there could be a potential risk where internal controls may need to be strengthened. For example, if a company had 20 different departments, a company could replicate the survey. If one of the departments' results came back with the internal auditors having no hours of internal control training, the company could then quickly focus on assessing the internal controls instead of random sampling of all of the 20 departments and provide internal control training to those internal auditors.

The problem addressed was there is limited knowledge regarding internal auditor attributes (Sirwardane et al., 2014; Seigel & Miller, 2010; Abdolmohammadi, 2012; Doyle, Ge, & McVay, 2006). The real worked problem associated with this study relates to Seol & Sarkis (2005) comments that companies need to understand what qualities of internal auditors are needed as hiring the wrong internal auditor can be costly for the corporation. Many researchers have done studies that have linked robust internal control procedures to attributes of external auditors such as accounting knowledge; education level; understanding of the business; training level on IC controls; etc. (Sirwardane, et al., 2014; Seigel & Miller, 2010; Abdolmohammadi, 2012; Doyle et al., 2006). There is much less research expanding the internal auditor's role in relation to audit effectiveness compared to the role of external auditor (Alzeban & Gwilliam, 2014). The researcher addresses this issues by examining internal auditor attributes and the correlation they have with internal control design.

The researcher recommends that companies assess their internal auditors and validate the internal auditors have the set of auditor attributes defined within this quantitative study. The researcher has provided sound evidence if internal auditors have these attributes there will be a significant correlation to internal control design; impacting the quality of internal controls. Li et al., (2012) stated the financial reporting function of a company that compose of managing



operations, monitoring company performance, creating forecasts, and reporting the financial results to stakeholders are greatly impacted by the quality of internal controls. Therefore, if a company assesses internal auditor attributes there will be direct impact to the financial reporting of the company.

Companies must validate that internal auditors have the ability to complete their tasks of reviewing, implementing, and testing internal controls within the organization. One way a company can do this is by confirming they have the skills, knowledge, and abilities to complete their jobs effectively. By reviewing their internal auditor's skills, the assumption is the risk of ineffective internal control designs will decrease which will have a direct impact to the financial reporting and investor confidence.

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## Appendices

### Appendix A: Survey Questionnaire

You have been requested to complete a survey by Don Sharp, PhD candidate at Northcentral University to gather data regarding attributes associated with internal auditors. You are not required to complete this survey nor will there be any monetary benefit's provided to you by the researcher. Please read the questions and provide your response then hit submit. Please note all answers will be confidential and the information will not be reported back to your manager at your current company. Your help is needed in expanding knowledge regarding internal auditor attributes found within the financial services industry. Please answer as truthfully as possible as this data will be useful in expanding the knowledge of internal auditors. Please note there are no right or wrong answers. You are not required to answer all of the questions if you choose not to. You are under no obligation to complete this survey and may stop participating at any time. This topic is regarding the RCTS (Risk Control Tracking System) Assessment. The criterion is if you have completed an RCTS Assessment or reviewed a RCTS assessment within the last year then you are eligible to complete the survey. By clicking the box next to I agree to participate in the survey, you are agreeing that I may use your responses in my research.

Have you completed an RCTS Assessment or reviewed a RCTS assessment in 2017 or in 2018?

1  Yes I have completed a RCTS Assessment or reviewed a RCTS assessment within 2017 or in 2018. If yes, please click the box next to 1 and continue to Question 1.

2  No I have not completed an RCTS Assessment or reviewed a RCTS assessment within the last year. If no, please click the box and please disregard the rest of the survey.

I agree to participate in the survey

#### Question 1:

Please click the box that has the corresponding number to which best describes your highest education level:

1  You have a high school diploma

2  You have some college; you have not obtained a BA/BS

3  You have graduated with obtaining a BA/BS

4  You have graduated with obtaining a MS/MBA/MA

5  You have graduated with obtaining a PhD.

#### Question 2:

Please click the box that has the length of time you have been in your current position:

- 1  You have been in your current role for less than 1 year
- 2  You have been in your current role from over 1 year to 3 years.
- 3  You have been in your current role over 3 years to 5 years
- 4  You have been in your current role from over 5 years to 8 years
- 5  You have been in your current role for longer than 8 years

### Question 3

Please click the box that has the corresponding number which best describes your length of time you have been working at your current company:

- 1  You have been working at the current company for less than 1 year
- 2  You have been working at the current company for over 1 year to 3 years.
- 3  You have been working at the current company for over 3 years to 5 years
- 4  You have been working at the current company for over 5 years to 8 years
- 5  You have been working at the current company for longer than 8 years

### Question 4

Please click the box that has the corresponding number which best describes your feeling as to how best do you believe you understand the department's Internal Control procedures in which you work:

- 1  You feel that you do not have any knowledge of the department's Internal Control procedures
- 2  You feel that you have very little knowledge of the department's Internal Control procedures
- 3  You feel that you have some knowledge of the department's Internal Control procedures
- 4  You feel that you have strong knowledge of the department's Internal Control procedures
- 5  You feel that you completely understand the department's Internal Control procedures

### Question 5

Please click the box that has the corresponding number which best describes your feeling as to how best do you believe you understand your department's day to day procedures in which you work:

- 1  You feel that you do not have any knowledge of the department's procedures
- 2  You feel that you have very little knowledge of the department's procedures
- 3  You feel that you have some knowledge of the department's procedures
- 4  You feel that you have strong knowledge of the department's procedures
- 5  You feel that you completely understand the department's procedures

### Question 6

Please click the box that has the corresponding number which best describes the highest level of accounting classes you have taken in school.

- 1  You have not had any accounting classes.
- 2  You have taken a high school accounting classes.

- 3  You have taken undergraduate accounting classes.
- 4  You have taken master level accounting classes.
- 5  You have taken PhD level accounting classes.

### Question 7

Please click the box that has the corresponding number which best describes your feeling as to how do you believe you have been trained by your current company on what is the purpose of internal controls within your department:

- 1  You feel that you have never had any training on the purpose of internal controls within your department.
- 2  You feel that you have very little training on the purpose of internal controls within your department
- 3  You feel that you have some training on the purpose of internal controls within your department
- 4  You feel that you have strong training on the purpose of internal controls within your department
- 5  You feel that you have been completely trained on the purpose of internal controls within your department

### Question 8

Please click the box that has the corresponding number which statement best suits your feeling regarding the department's procedures:

- 1  I cannot explain to my co-worker as to my department's day-to-day procedures
- 2  I could provide a very high-level to my co-worker as to my department's day-to-day procedures
- 3  I could provide some detail to my co-worker regarding my department's day-to-day procedures
- 4  I could provide in-depth detail to my co-worker regarding my department's day-to-day procedures as I know almost every step.
- 5  I could explain to my co-worker in great detail as to my department's day-to-day procedures, as I know all of the procedures.

### Question 9

Please click the box that has the number of hours of internal controls training have you had within your department within the last year?

- 1  I have not had any training regarding internal controls within my department.
2.  I have had less than 1 hour of training regarding internal controls within my department.
- 3  I have had between 1 hour and 3 hours of internal controls training within my department.
- 4  I have had more than 3 hours to 6 hours of internal controls training within my department.
- 5  I have had more than 6 hours of internal controls training within my department.

**Question 10**

Please type in the numeric value for the following question:

How many years have you worked at your current company? **Answer:**

**Question 11**

Please type in the numeric value for the following question:

How many years have you been in your current role? **Answer:**

**Question 12**

How old are you?

Please click the box that has the number (1 -5) which is associated with your age range:

1  is defined as 18 years old to 25 years old

2  is defined as 26 years old to 30 years old.

3  is defined as 31 years old to 35 years old.

4  is defined as 36 years old to 40 years old.

5  is defined as 41 years old and older

**Question 13**

Please click the box which corresponds with your gender:

1  Male

2  Female

**Question 14**

**A:** How many design control objectives do you have in your assessment?

**Answer here please type in the number:**

**B:** How many of the design control objective(s) were rated green?

**Answer here please type in the number:**

**C:** How many of the design control objective(s) were rated yellow?

**Answer here please type in the number:**

**D:** How many of the design control objective(s) were rated orange?

**Answer here please type in the number:**

**Question 15**

**A:** How many control objective effectiveness items did you have in your assessment?

**Answer here please type in the number:**

**Question 16**

**A:** How many control objective(s) effectiveness testing were rated green?

**Answer here please type in the number:**

**B:** How many control objective(s) effectiveness testing were rated yellow?

**Answer here please type in the number:**

**C:** How many control objective(s) effectiveness testing were rated orange?

**Answer here please type in the number:**

Optional: You may include your name

Optional: You may include your email address

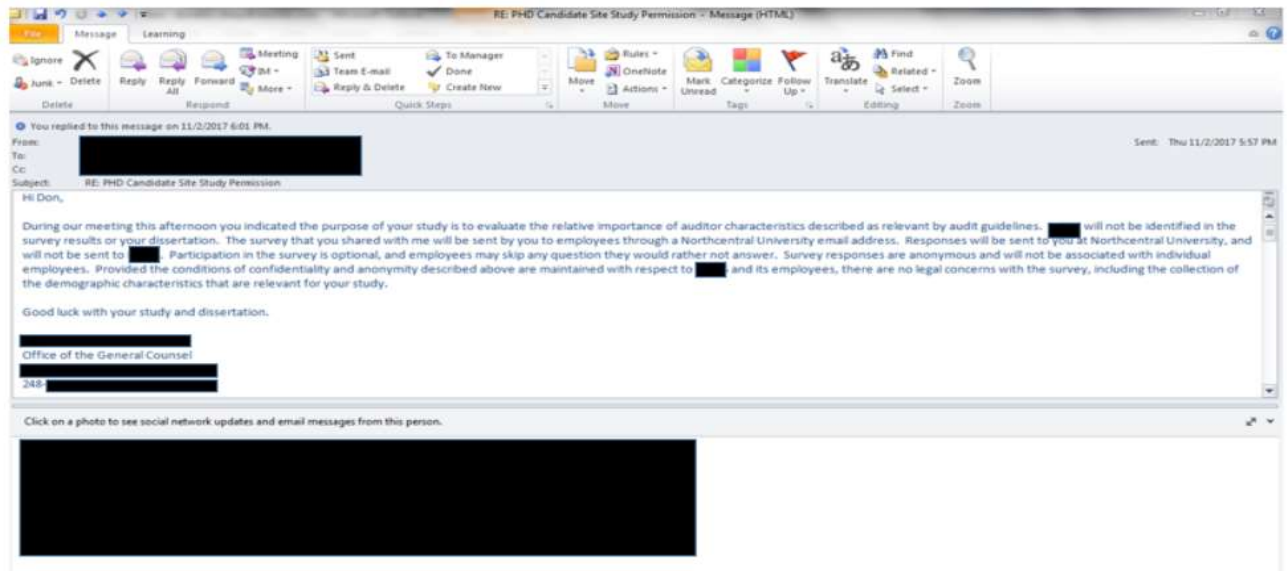
**You have now completed the survey!**

Thank you

Don Sharp



## Appendix B: Site Approval from the Company



Approval with blacking out the company information to keep the company confidential as requested.

## Appendix C: Email Request

### Introduction:

My name is Donald Sharp. I am a doctoral student at Northcentral University. I am doing a research study on auditor attributes and the relationship between internal controls. I am asking you to help me with my study by filling out a survey through google surveys. By clicking on the box next to: I agree to participate in the survey, you are saying it is okay for me to use your responses in my research.

### Activities:

If you choose to complete this survey, you will be asked to:

1. Provide consent to use your data in my research.
2. Read the survey.
3. Complete the survey which should take about 20 minutes to complete.
4. This survey is located at [https://docs.google.com/forms/d/e/1FAIpQLSfHF0FXc-AWQG8wGOtoGVe5perfwQgxKavmTXgZ\\_t2zqctpZw/viewform?c=0&w=1](https://docs.google.com/forms/d/e/1FAIpQLSfHF0FXc-AWQG8wGOtoGVe5perfwQgxKavmTXgZ_t2zqctpZw/viewform?c=0&w=1)

### Eligibility:

You can complete this form if you:

1. Have done an RCTS (Risk Control Tracking System) Assessment or reviewed a RCTS assessment from the Internal Controls Department in 2017 or 2018.

You should not fill out this form if you:

1. If you have not done an internal controls questionnaire in 2017 or 2018.

I hope to have no less than 30 people complete this questionnaire.

### Risks:

There are minimal risks in this study. You can complete the survey on [https://docs.google.com/forms/d/e/1FAIpQLSfHF0FXc-AWQG8wGOtoGVe5perfwQgxKavmTXgZ\\_t2zqctpZw/viewform?c=0&w=1](https://docs.google.com/forms/d/e/1FAIpQLSfHF0FXc-AWQG8wGOtoGVe5perfwQgxKavmTXgZ_t2zqctpZw/viewform?c=0&w=1) from the link provided. You may contact me at [d.sharp8473@o365.ncu.edu](mailto:d.sharp8473@o365.ncu.edu) with any questions or concerns. One risk is the subject may feel the information gathered will be used against the participant in their review. Another risk might be the subject might feel that the information is not kept confidential. A third risk might be the participant might feel their name will be used in the study.

To help reduce that risk, please note all information gathered will be kept private and will not be shared with the company. No information will be provided to the company to be used

against the participant during their yearly review. Any name provided will be kept private and not provided to the company.

**Benefits:**

If you complete the survey, there are no direct benefits to you.

The potential benefits to others are: understanding auditor attributes and the connection to internal auditor attributes.

**Confidentiality:**

The survey you completed will be kept private to the extent allowable by law. Some steps I will take to keep your identity private are: Each survey will be identified by a number and no names will be published within the study. Your names will be kept private and the information will not be reported back to the company.

This study is anonymous, and it is not the intention of the researcher to collect your name. However, you do have the option to provide your name voluntarily. Please know that if you do, it may be linked to your responses in this study. Any consequences are outside the responsibility of the researcher, faculty supervisor, or Northcentral University. If you do wish to provide your name, a space will be provided. Again, including your name is voluntary, and you can continue in the study if you do not provide your name.

The people who will be able to see your survey are: Myself and my dissertation chair. The Institutional Review Board may also look at my research and view your information.

I will keep your information safe by following these steps: Using encryption on my computer which will store the data. I will keep your data for 7 years. Then, I will delete electronic data and destroy paper data.

**Contact Information:**

If you have questions, you can contact me at: D.Sharp8473@email.ncu.edu or call me at 248-508-0948

My dissertation chair's name is Dr. Charles Fenner. He works at Northcentral University and is supervising me on the research. You can contact him at: cfenner@ncu.edu

If you have questions about your rights in the research, or if you have a problem with this study, or if you are injured due to being in this study, please send an email to or call the Institutional Review Board at: irb@ncu.edu or 1-888-327-2877 ext 8014.

**Voluntary Participation:**

Your participation is voluntary. If you do not want to complete the survey, or if you do not want to complete after you have started, there will be no penalty to you. You will not lose any benefit by not completing the survey.

**Signature:**

By clicking: I agree to participate in the survey, you are agreeing that I may use your data within the research.

Thank you,

Donald Sharp

[D.Sharp8473@ncu.edu](mailto:D.Sharp8473@ncu.edu)

248-508-0948

#### Appendix D: Protocol/Study Closure Notification

NORTHCENTRAL UNIVERSITY INSTITUTIONAL REVIEW BOARD

#### Protocol/Study Closure Notification

(Use this form to submit notification to the NCU IRB upon completion of protocol and/or study when data have been collected, de-identified, and securely stored; this form is submitted directly to the Dissertation Tracking System (DTS))

Principal investigator (PI): Donald Sharp

PI e-mail address: [D.Sharp8473@0365.ncu.edu](mailto:D.Sharp8473@0365.ncu.edu)

Chair name (if applicable): Dr. Fenner

Title Of study: External Auditor Attributes impact on Internal Controls

Date of IRB approval: 6/4/2018

Date of IRB continuing review (as applicable):


Date protocol/study closed: 6/20/2018

Closure summary (as applicable please summarize any unanticipated changes to protocol or study-related events not previously disclosed to the NCU IRB): No changes or study related events not previously disclosed to the NCU IRB

A check in this box indicates study data have been collected, de-identified, and securely stored per the protocol approved on the IRB approval date above.

Students: Your chair must upload this form to the Dissertation Tracking System as soon as your data are collected and de-identified. Please do not wait until completion of the DM *way with the IRB.* to close your study with the IRB.

PI

Signature  Date 6/22/18

Other PI's: Please email this form to [irb@ncu.edu](mailto:irb@ncu.edu)

A typed signature is not acceptable on this form. Please either: 1) use Adobe software to convert to pdf and to add an electronic signature or 2) add a wet signature and scan the form.

**Date:** June 04, 2018

**PI Name:** Don Sharp

**Chair Name (if applicable):** Charles Fenner

**Application Type:** Initial Submission

**Review Level:** Exempt - Category 2

**Study Title:** External Auditor Attributes impact on Internal Controls

Approval Date June 04, 2018

Expiration Date June 03, 2019

Dear Don:

Congratulations! The purpose of this letter is to inform you that your IRB application has been approved. Your responsibilities include the following:

1. Follow the protocol as approved. If you need to make changes, please submit a modification form requesting approval of any proposed changes before you make them.

2. If there is a consent process in your research, you must use the consent form approved with your final application. Please make sure all participants receive a copy of the consent form.
3. Continuing review is required as long as you are in data collection or if data have not been identified. Failure to receive approval of the continuing review before the expiration date means the research must stop immediately.
4. If there are any injuries, problems, or complaints from participants, you must notify the IRB at [IRB@ncu.edu](mailto:IRB@ncu.edu) within 24 hours.
5. IRB audit of procedures may occur. The IRB will notify you if your study will be audited.
6. When data are collected and de-identified, please submit a study closure form to the IRB.
7. You must maintain current CITI certification until you have submitted a study closure form.
8. If you are a student, please be aware that you must be enrolled in an active dissertation course with NCU in order to collect data.

Congratulations from the NCU IRB. Best wishes as you conduct your research!

Respectfully,

Northcentral University Institutional Review Board

Email: [irb@ncu.edu](mailto:irb@ncu.edu)

Appendix E: IRB Approval Letter

**Date:** June 04, 2018

**PI Name:** Don Sharp

**Chair Name (if applicable):** Charles Fenner

**Application Type:** Initial Submission

**Review Level:** Exempt - Category 2

**Study Title:** External Auditor Attributes impact on Internal Controls

**Approval Date** June 04, 2018

**Expiration Date** June 03, 2019

Dear Don:

Congratulations! The purpose of this letter is to inform you that your IRB application has been approved. Your responsibilities include the following:

1. Follow the protocol as approved. If you need to make changes, please submit a modification form requesting approval of any proposed changes before you make them.
2. If there is a consent process in your research, you must use the consent form approved with your final application. Please make sure all participants receive a copy of the consent form.
3. Continuing review is required as long as you are in data collection or if data have not been identified. Failure to receive approval of the continuing review before the expiration date means the research must stop immediately.
4. If there are any injuries, problems, or complaints from participants, you must notify the IRB at [IRB@ncu.edu](mailto:IRB@ncu.edu) within 24 hours.
5. IRB audit of procedures may occur. The IRB will notify you if your study will be audited.
6. When data are collected and de-identified, please submit a study closure form to the IRB.
7. You must maintain current CITI certification until you have submitted a study closure form.
8. If you are a student, please be aware that you must be enrolled in an active dissertation course with NCU in order to collect data.

Congratulations from the NCU IRB. Best wishes as you conduct your research!

Respectfully,

Northcentral University Institutional Review Board

Email: [irb@ncu.edu](mailto:irb@ncu.edu) 2488 Historic Decatur Rd., Suite 100, San Diego, CA 92106 USA

www.ncu.edu · p: 928-541-8014 · f: 928-515-5519