

# Audit specialization and audit success: an empirical investigation of certified public accountants (CPAs) in Thailand

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## Keyword

Audit Specialization, Audit Success, Audit Skepticism, Audit Excellence, Audit Reporting Quality.

## Abstract

*The purpose of this study is to examine effect of audit specialization on audit success. The data are collected from 255 certified public accountants (CPAs) in Thailand. OLS regression is examined in this study. The findings show that all dimensions of audit specialization have impact on audit skepticism, audit excellence, and audit reporting quality and resulted influence significantly to audit success. In addition, the results show that some antecedent variables affect dimensions of audit specialization such as: knowledge vision has a significant positive association with all dimensions of audit specialization, but continuous audit learning has insignificant positive association with all dimensions of audit specialization.*

*Moreover, this study also found that there is insignificant moderate in the relationship between antecedent variable and each dimension of audit specialization. Additionally, the potential discussion with the results is implemented in the study. Theoretical and managerial contributions are presented. Future study needs to search for mediating variables and moderating variables to include them in the conceptual model in order to increase the contributions and benefits of the study.*

## 1. Introduction

Nowadays, the phenomenon of fraudulent in financial reporting as a result the importance of the auditing was occurred awareness. Particularly, the collapse of Enron affects to the role of auditing that increases ensuring the quality of corporate earnings through task of auditor that expects in audit quality (Browning and Weil, 2002). In addition, stakeholders' requirement to auditing service is increasing, but they need to concern their interest from financial statement fraud. Specially, the role of auditing to capital market with insurance and assures service in information of financial report. In other words, the role of auditing is central to play protections for investors (Newman et al., 2005).

The reasons mentioned above as a result, auditing has become hot issue that has been widely interesting. Specially, the topic of interest in recent study is auditing specialization that there are many researches having investigated determinant of audit specialization in early. Until recently, there has been a few testing of consequence of audit specialization. However, there are a few studies that focus on relationship between audit specialization and audit success.

In this study, the researcher examines effect of audit specialization on audit success that through mediator variables: audit skepticism, audit excellence, and audit reporting quality. Moreover, the researcher developed new dimension of audit specialization.

Audit specialization refers to extra knowledge, ability and specialist skill that occur from superior experience in auditing. Auditors who have audit specialization can be applied and resolve problem in audit procedure as well. For example, auditors' specialize can be properly evaluate to audit evidence during audit planning process and contributes to the effectiveness and efficiency of auditing and success in performing the auditing in finally. In other words, the role of audit specialization pays a significant to helping auditors' achievement.

This study focuses on the audit specialization impact audit success. The key questions of this study are as follows: (1) How does each dimension of audit specialization affect audit skepticism, audit excellence and audit reporting quality? (2) How do audit skepticism, audit excellence and audit reporting quality affect audit success? (3) How does audit skepticism affect audit excellence; and audit excellence affect audit reporting quality? (4) How do knowledge vision, continuous audit learning, and environmental analysis competency affect to each dimensions of audit specialization. (5) How does the stakeholder expectation affect the relationship among the dimensions of audit

specialization, knowledge vision, continuous audit learning, and environmental analysis competency?

This study is organized as follows: Firstly, the theoretical framework is reviewed to describe the conceptual model and develop the related hypotheses for testing. Secondly, the research methods used to test the hypotheses including the sample selection and data collection procedure, measurement variables, statistics, and equations are presented. Finally, the contributions, and suggestions for future research are detailed.

## 2. Literature Reviews and Hypotheses Development

This study investigates the effects of audit specialization on audit success via the mediating influences of audit skepticism, audit excellence and audit reporting quality. Furthermore, Knowledge vision, Continuous audit learning, and Environmental analysis competency are determined as the antecedents of specialization. The conceptual model is presented in Figure 1

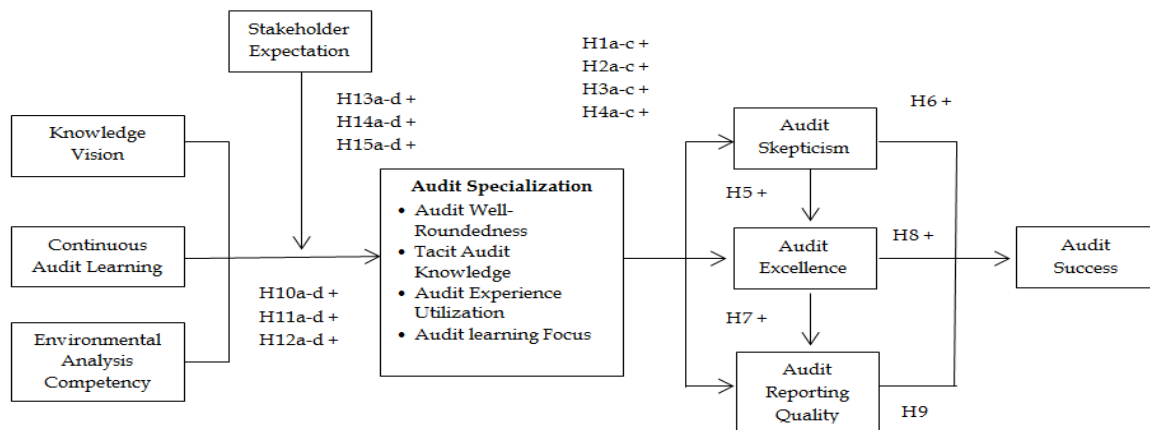


Figure 1: Conceptual Model of Audit Specialization

### 2.1 Audit Specialization

According to (Low, 2004) audit specialization refers to an ability of auditors to develop more extensive knowledge of an industry via a greater audit experience. In addition audit specialization refers to the capability of auditor about a body of knowledge consists of experience, and training about a particular industry (Robkob, Sangboon and Ussahawanitchakit, 2013). In summary, audit specialization is knowledgeable and capable of learning from experience, skills from training that there are specialists among individuals which have ability in practice and operational in effectively auditing. Thus, "specialists" pursue their work in isolation from one another rather than as aspects of planning or practice.

In this study, audit specialization defined as auditors' a unique feature that auditors have extra knowledge, ability and specialist skill that occur from superior experience. As a result, audit specialization can be applied and resolved problem in audit procedure as well. Particularly, special features of the auditor are relative with knowledge, experience, learning, skill. In this study, four dimensions of audit specialization consisting of audit well-roundedness, tacit audit knowledge, audit experience utilization, and audit learning focus, are reexamined which adapted from Abdolmohammadi et al., (2004). Moreover, an auditor with specialization is able to resolve problem in audit procedures with extra knowledge, specialist skill, and superior experience. In addition, audit specialization can also affect the performance of an audit by an auditor with specialization will be able to succeed in the auditing. Audit specialization pays role driving audit success (Ussahawanitchakit, 2012).

#### 2.1.1 Audit Well-Roundedness

Audit Well-Roundedness is defined as a variety of knowledge that is relative with auditing such as, accounting standard, auditing standard, taxation, law, regulation, technology knowledge and other knowledge. Maister (1999) stated that knowledge is fundamental to professional skill. Therefore, a variety of knowledge may help audit skeptical that is a component of these knowledge

will be able to process audit evidence to predict events that may be an error in the financial statements. In addition, audit well-roundedness expresses an opinion in auditor's report with quality and leads to audit success in finally. Thus, it leads to the hypothesis below:

Hypotheses 1a - c: Audit Well-Roundedness is positively related to (a) audit skepticism, (b) audit excellence, and (c) audit reporting quality.

### **2.1.2 Tacit Audit Knowledge**

Tacit audit knowledge refers to knowledge that is possessed by an individual and difficult to communicate to others via words and symbols that are difficult to transfer to another person. An individual can acquire tacit knowledge developed from skills, training, observation and experience. Therefore, an auditor with tacit audit knowledge will use knowledge in audit task such as, skepticism in audit evidence or review appropriate audit evidence in order to express an opinion in auditor's report. As a result, it will lead to efficient auditing and audit success in finally. In this study, the expected positive relationships between tacit audit knowledge and audit skepticism, audit excellence and audit reporting quality. Thus, it leads to the hypothesis below:

Hypotheses 2a - c: Tacit Audit Knowledge is positively related to (a) audit skepticism, (b) audit excellence, and (c) audit reporting quality.

### **2.1.3 Audit Experience Utilization**

Audit experience utilization is defined as the characteristic of an auditor in the implementation of previous audit experiences. Shelton (1999) found that auditors with high experience will reduce dilution effect on audit judgment. Benefit of previous audit experiences are important in auditing performance because an auditor who is using the knowledge and understanding from previous working skill to enhance audit performance; for example, reduce the time, reduce the redundancy, reduce audit cost, and effectiveness in audit planning. Moreover, an auditor will be more careful in audit procedures by the experience of mistake in the past such as more skepticism, more audit effort. As a result, it will lead to audit excellence and audit reporting quality. Hence, this study proposes the following hypotheses below:

Hypotheses 3a - c: Audit Experience Utilization is positively related to (a) audit skepticism, (b) audit excellence, and (c) audit reporting quality.

### **2.1.4 Audit Learning Focus**

According to Hurtt (2010) and Nelson (2009) audit learning refers to general search for knowledge with curiosity and audit learning is an important source of skeptic behavior. As well as, Beck and Wu (2006) audit learning is defined as accumulation of client-specific knowledge and experience by performing audit engagement and non-audit services and on the job-training. Therefore, in this study audit learning focus is defined as auditors who recognize the importance of learning, additional education, and training that are relevant to auditing such as, learning in development of technology to perform an auditing, application of new technique in auditing, recognizing the importance of training and knowledge regularly. Audit learning is that auditors gain an advantage in audit procedures to increase audit effectiveness. In addition, Hurtt (2010) and Nelson (2009) state that audit learning is an important source of skeptic behavior. Thus, the hypotheses are proposed as follows:

Hypotheses 4a - c: Audit Learning Focus is positively related to (a) audit skepticism, (b) audit excellence, and (c) audit reporting quality.

## **2.2 Audit Skepticism**

Skepticism is defined in the auditing standards as an attitude that includes a questioning mind, a critical assessment and substantive evaluation of audit evidence, and a willingness to suspend judgment about the honesty of client management. Hurtt (2010) demonstrated that audit professional skepticism is composed of skeptical evaluation of audit evidence, understanding of evidence providers, and effective act on the audit evidence. Therefore, in this study defined as the characteristics and behavior of auditor that demonstrate wariness to audit practice and audit procedures. At this point, audit skepticism has the potential possibility to affect audit excellence and audit success in finally. Thus, the hypotheses are proposed as follows:

Hypothesis5: Audit skepticism is positively related to audit excellence.

Hypothesis6: Audit skepticism is positively related to audit success.

### 2.3 Audit Excellence

Audit excellence is defined as auditors who operate effective audit regarding GAPP and GAAS by using resources efficiently, with the use of innovative appropriately and maintain relationships with colleagues. Therefore, characteristic of audit excellence expected has the potential possibility to affect audit success. Thus, the hypotheses are proposed as follows:

Hypothesis7: Audit excellence is positively related to audit reporting quality.

Hypothesis8: Audit excellence is positively related to audit success.

### 2.4 Audit Reporting Quality

Audit reporting quality is defined as the outcome of the auditor's review of the financial statements through the qualification of the auditor's reservations regarding GAPP and GAAS as quality which is the goodness and excellence for the interest and needs of users and other stakeholder (Uachanachit and Ussahawanitchakit, 2012). Therefore, audit reporting quality can be provided to enhance audit success that is due to acceptance by clients, client satisfaction, reliability of financial statements and audit achievement. Based on these rationales, the following hypothesis is postulated:

Hypothesis9: Audit reporting quality is positively related to audit success.

### 2.5 Knowledge Vision

Knowledge vision is defined as appreciation in the importance of knowledge by seeking, storing, creating, organizing, and sharing of knowledge that auditors should synthesize knowledge and apply this knowledge to the work being performed efficiency auditing. In other words, the auditors who have knowledge vision will be effective knowledge implementation and have a tendency to more efficient audit report and be able to become specialize in finally. Therefore, knowledge vision is one factor that has an effect on auditor specialized trait. According to the above reasoning, the hypotheses are formulated below:

Hypotheses 10a - d: Knowledge vision is positively related to (a) audit well-roundedness (b) tacit audit knowledge (c) audit experience utilization, and (d) audit learning focus.

### 2.6 Continuous Audit Learning

According to Musig and Ussahawanitchakit (2010) continuous audit learning refers to an auditor who always has learning attitude that a variety of knowledge is acquired mainly through education and training. In this study continuous audit learning is defined as auditors with continuous learning will possess knowledge with learning attitude all the time, attend training, tracking information from regulator, and apply to auditing appropriately. Hurtt (2010) and Nelson (2009) argue that audit learning is an important source of skeptic behavior. Auditors with continuous learning will possess knowledge that is effectively identification errors and complex patterns of evidence that indicate errors and there are more likely to not easily believe or accept clients' explanations. Therefore, continuous audit learning is one factor that has an effect on auditor specialized trait. According to the above reasoning, the hypotheses are formulated below:

Hypotheses 11a - d: Continuous audit learning is positively related to (a) audit well-roundedness (b) tacit audit knowledge (c) audit experience utilization, and (d) audit learning focus.

### 2.7 Environmental Analysis Competency

Audit environmental is auditor's external factor and relative with auditing practice such as, changing in law or regulation, technology, and uncertainly of client's business. Environmental analysis competency is defined as auditors who have talent in the analysis of the environment that is related to audit procedures, including forecasting trends in the changes of GAPP, GASS, and another law that are expected to occur and may have an impact to audit practice. Therefore, environmental analysis competency is one factor that has an effect on auditor specialized trait. According to the above reasoning, the hypotheses are formulated below:

Hypotheses 12a - d: Environmental analysis competency is positively related to (a) audit well-roundedness (b) tacit audit knowledge (c) audit experience utilization, and (d) audit learning focus.

## 2.8 Stakeholder Expectation

Clarkson (1995) stated that stakeholder is shareholders, employees, competitors, consumers, suppliers and government agencies. Therefore, stakeholder expectation refers to individual auditor perceived in expectation of financial users for reliability and responsibility of the information audit report which affect decision-making usefulness. Therefore, stakeholder expectation can provide to influence audit specialization which has four dimensions including (1) audit well-roundedness (2) tacit audit knowledge (3) audit experience utilization, and (4) audit learning focus. At this point, stakeholder expectation has the potential possibility affecting to relationships between antecedent variables and each dimension of audit specialization. Based on these arguments, the following hypotheses are postulated:

Hypotheses 13a - d: Stakeholder expectation will have positive relationships between knowledge vision and dimensions of audit specialization: (a) audit well-roundedness (b) tacit audit knowledge (c) audit experience utilization, and (d) audit learning focus.

Hypotheses 14a - d: Stakeholder expectation will have positive relationships between continuous audit learning and dimensions of audit specialization: (a) audit well-roundedness (b) tacit audit knowledge (c) audit experience utilization, and (d) audit learning focus.

Hypotheses 15a - d: Stakeholder expectation will have positive relationships between environmental analysis competency and dimensions of audit specialization: (a) audit well-roundedness (b) tacit audit knowledge (c) audit experience utilization, and (d) audit learning focus.

## 3. Research Methodology

### 3.1 Sample and Data Collection

The population of this study is Certified public accountants (CPAs) in Thailand. The sample is chosen from the data based online of Federation of Accounting Professions under the Royal Patronage of His Majesty the King ([www.fap.or.th](http://www.fap.or.th)). The questionnaires are directly distributed to 934 randomly choosing CPAs in Thailand by a mail survey in order to investigate public auditors. Of the surveys completed and returned, only 255 responses were usable. The effective response rate was approximately 27.41%. The response rate for a mail survey with an appropriate follow-up procedure, if greater than 20% is considered acceptable (Aaker et al., 2001).

Moreover, to protect against possible non-response bias problems between respondents and non-respondents, a t-test comparison of the means of all variables between early and late respondents is implemented and corresponds with the test for non-response bias by Armstrong and Overton (1977). The results find no statistically significant difference between early and late respondents that demonstrate representing non-respondents. Therefore, a non-response bias is not a problem in this study.

### 3.2 Questionnaire Development

In this study, a questionnaire consists of five parts. Part one asks for personal information such as gender, age, status, education level, audit experience, income from audit per year, number of customers, type of firm for auditor employ audit, that audit and location. Part two through four are related to evaluating each of the constructs in the conceptual model. These parts are anchored by a five-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree). In part two all questions deal with the measurements of the four dimensions of audit specialization of CPAs in Thailand. The questions in part three measure audit skepticism, audit excellence, audit reporting quality, and audit success. In part four measures knowledge vision, continuous audit learning, environmental analysis competency, and stakeholder expectation. Finally, an open-ended question for the CPAs' suggestions and opinions are included in part five.

### 3.3 Variables and Measurement

In this study, all variables shown in Table 1 are anchored by the five-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree). The variable measurements are described below:

### 3.3.1 Dependent Variable

*Audit success* is focus on achievement of auditing goals, pride, worthiness and acceptance and satisfaction of the client. It is measured by five items developed as a new scale modified from Chanruang and Ussahawanitchakit (2010).

### 3.3.2 Independent Variable

This study consists of seven independent variables: audit specialization, audit skepticism, audit excellence, audit reporting quality, knowledge vision, continuous audit learning, environmental analysis competency, as well as stakeholder expectation.

The first one is the core construct of this study. This variable is measured using four dimensions: audit well-roundedness, tacit audit knowledge, audit experience utilization, and audit learning focus. The measure of each dimension is developed as a new scale with four items per variable.

*Audit well-roundedness* was measured by four-item scale that focuses on a vary knowledge such as accounting standard, auditing standard, taxation, law, regulation, technology.

*Tacit audit knowledge* was measured by four-item scale. It was defined as knowledge possessed by an individual and difficult to communicate to others via words and symbols that it is difficult to transfer to another person.

*Audit experience utilization* was measured by four-item scale that focuses on the characteristic of an auditor in the implementation of previous audit experiences.

*Audit learning focus* was measured by four-item scale. It was defined as auditors who recognize the importance of learning, additional education, training.

Other independent variables are audit skepticism, audit excellence, audit reporting quality, knowledge vision, continuous audit learning, environmental analysis competency, as well as stakeholder expectation in this study. The measure of each characteristic is detailed in the following.

*Audit skepticism* is modified from Laohamethanee and Ussahawanitchakit (2012) and developed as a new scale including five items. It focuses on characteristics and behavior of auditor that demonstrate wariness to audit practice and audit procedures.

*Audit excellence* and *audit reporting quality* modified from Chanruang and Ussahawanitchakit (2010) that developed as a new scale including five items per each variable.

*Audit excellence* defined as auditors who operate effective audit according to the objective regarding GAAP and GAAS by using resources efficiently, with the use of innovative appropriately and maintain relationships with colleagues.

*Audit reporting quality* defined as the outcome of the auditor's review of the financial statements through the qualification of the auditor's reservations regarding GAPP and GAAS as quality which is the goodness and excellence for the interest and needs of users and other stakeholder.

Knowledge vision, environmental analysis competency and continuous audit learning that construct is developed as a new scale including five items per each variable.

*Knowledge vision* defined as appreciation in the importance of knowledge by seeking, storing, creating, organizing, and sharing of knowledge that auditors should synthesis knowledge and apply to audit task.

*Environmental analysis competency* defined as the auditors who have talent in the analysis of the environment that related audit procedures, including forecasting trends in the changes of GAAP, GAAS, and another law that are expected to occur and may have an impact to audit practice.

*Continuous audit learning* defined as auditors with continuous learning will possess knowledge that has learning attitude all the time, attends training, tracks information from regulator, and applies to auditing appropriately.

### 3.3.3 Moderating Variables

Stakeholder expectation modified from Uachanachit and Ussahawanitchakit (2012) and developed as a new scale including five items. Stakeholder expectation refers to individual auditor perceived in expectation of financial users for reliability and responsibility of the information audit report which affect decision-making usefulness.

### 3.4 Reliability and Validity

Validity in this study uses confirmatory factor analysis (CFA) to test the construct validity of the instrument by examining the underlying relationships of a large number of items, and to determine whether they can be reduced to a smaller set of factors. This analysis has a high potential to inflate the component loading. Therefore, as a higher rule-of-thumb, a cut-off value of 0.40 is accepted (Hair et al., 2010). All factor loadings greater than the 0.40 cut-off are statistically significant. Furthermore, the reliability of the collected data were tested by Cronbach's alpha coefficients which are greater than 0.70 (Nunnally and Bernstein, 1994). The scales of all measures seem to produce internally consistent results. Therefore, these measures are considered appropriate for further analysis because they indicate an adopted validity and reliability in this study. Table 1 presents the results for both factor loadings and Cronbach's alpha for multiple-item scales in this study.

Constructs	Factor Loadings	Cronbach Alpha
Audit well-roundedness (WELL)	0.714-0.840	0.782
Tacit audit knowledge (TACIT)	0.825-0.878	0.871
Audit experience utilization (EXP)	0.807-0.860	0.867
Audit learning focus (LEARN)	0.841-0.881	0.884
Audit success (SUC)	0.763-0.881	0.917
Audit skepticism (SKP)	0.824-0.894	0.883
Audit excellence (EXCEL)	0.787-0.864	0.915
Audit reporting quality (REP)	0.824-0.892	0.869
Knowledge vision (VIS)	0.832-0.887	0.906
Continuous audit learning (CON)	0.818-0.854	0.893
Environmental analysis competency (ENV)	0.793-0.878	0.892
Stakeholder expectation (STK)	0.810-0.892	0.888

**Table 1: Result of Measure of Validation**

The result in Table 1 shows that all variables have a factor loadings core between 0.714 - 0.894 indicating that the result is constructed validity. Furthermore, Cronbach's alpha coefficients for all variables are presented between 0.782 - 0.917. Consequently, the reliability of all variables is adopted.

### 3.5 Statistical Testing

Multiple regression analysis is an appropriate method for examining the hypothesized relationships. In this study, the model of the relationships is depicted as follows:

$$\begin{aligned}
 \text{Equation 1: SKP} &= a_{01} + \beta_1 \text{WEL} + \beta_2 \text{TACIT} + \beta_3 \text{EXP} + \beta_4 \text{LEARN} + \varepsilon_1 \\
 \text{Equation 2: EXCEL} &= a_{02} + \beta_5 \text{WEL} + \beta_6 \text{TACIT} + \beta_7 \text{EXP} + \beta_8 \text{LEARN} + \varepsilon_2 \\
 \text{Equation 3: REP} &= a_{03} + \beta_9 \text{WEL} + \beta_{10} \text{TACIT} + \beta_{11} \text{EXP} + \beta_{12} \text{LEARN} + \varepsilon_3 \\
 \text{Equation 4: EXCEL} &= a_{04} + \beta_{13} \text{SKP} + \varepsilon_4 \\
 \text{Equation 5: REP} &= a_{05} + \beta_{14} \text{EXCEL} + \varepsilon_5 \\
 \text{Equation 6: SUC} &= a_{06} + \beta_{15} \text{SKP} + \beta_{16} \text{EXCEL} + \beta_{17} \text{REP} + \varepsilon_6 \\
 \text{Equation 7: WEL} &= a_{07} + \beta_{18} \text{VIS} + \beta_{19} \text{CON} + \beta_{20} \text{ENV} + \varepsilon_7 \\
 \text{Equation 8: WEL} &= a_{08} + \beta_{21} \text{VIS} + \beta_{22} \text{CON} + \beta_{23} \text{ENV} + \beta_{24} \text{STK} + \beta_{25} (\text{STK} * \text{VIS}) + \\
 &\quad \beta_{26} (\text{STK} * \text{CON}) + \beta_{27} (\text{STK} * \text{ENV}) + \varepsilon_8 \\
 \text{Equation 9: TACIT} &= a_{09} + \beta_{28} \text{VIS} + \beta_{29} \text{CON} + \beta_{30} \text{ENV} + \varepsilon_9 \\
 \text{Equation 10: TACIT} &= a_{10} + \beta_{31} \text{VIS} + \beta_{32} \text{CON} + \beta_{33} \text{ENV} + \beta_{34} \text{STK} + \beta_{35} (\text{STK} * \text{VIS}) + \\
 &\quad \beta_{36} (\text{STK} * \text{CON}) + \beta_{37} (\text{STK} * \text{ENV}) + \varepsilon_{10} \\
 \text{Equation 11: EXP} &= a_{11} + \beta_{38} \text{VIS} + \beta_{39} \text{CON} + \beta_{40} \text{ENV} + \varepsilon_{11} \\
 \text{Equation 12: EXP} &= a_{12} + \beta_{41} \text{VIS} + \beta_{42} \text{CON} + \beta_{43} \text{ENV} + \beta_{44} \text{STK} + \beta_{45} (\text{STK} * \text{VIS}) + \\
 &\quad \beta_{46} (\text{STK} * \text{CON}) + \beta_{47} (\text{STK} * \text{ENV}) + \varepsilon_{12} \\
 \text{Equation 13: LEARN} &= a_{13} + \beta_{48} \text{VIS} + \beta_{49} \text{CON} + \beta_{50} \text{ENV} + \varepsilon_{13} \\
 \text{Equation 14: LEARN} &= a_{14} + \beta_{51} \text{VIS} + \beta_{52} \text{CON} + \beta_{53} \text{ENV} + \beta_{54} \text{STK} + \beta_{55} (\text{STK} * \text{VIS}) + \\
 &\quad \beta_{56} (\text{STK} * \text{CON}) + \beta_{57} (\text{STK} * \text{ENV}) + \varepsilon_{14}
 \end{aligned}$$

## 4. Result and Discussion

The descriptive statistics and correlation matrix for all variables are shown in Table 2 with

regard to potential problems relating to multicollinearity. The correlation between two independent variables is equal to 1 or -1. In this study, it is found that correlation between two independent variables range from 0.424 - 0.772, well below the cutoff value of 0.80. Therefore, there are no multicollinearity problems confronted in this study (Stevens, 1992).

Variables	WELL	TACIT	EXP	LEARN	SUC	SKP	EXCEL	REP	VIS	CON	ENV	STK
Mean	4.2490	4.1922	4.2686	4.2569	4.0588	4.1784	4.2314	4.2647	4.2137	4.2275	4.2000	4.2627
S.D.	.51907	.56500	.51302	.58836	.64484	.56342	.55716	.55017	.55805	.56404	.56226	.58153
WELL	1											
TACIT	.622**	1										
EXP	.609**	.711**	1									
LEARN	.554**	.582**	.618**	1								
SUC	.424**	.515**	.562**	.559**	1							
SKP	.541**	.625**	.651**	.601**	.648**	1						
EXCEL	.586**	.640**	.667**	.665**	.644**	.755**	1					
REP	.537**	.583**	.661**	.625**	.680**	.695**	.750**	1				
VIS	.546**	.568**	.576**	.630**	.586**	.604**	.641**	.607**	1			
CON	.508**	.563**	.615**	.597**	.575**	.646**	.668**	.687**	.695**	1		
ENV	.510**	.569**	.608**	.594**	.611**	.685**	.650**	.675**	.679**	.772**	1	
STK	.428**	.505**	.594**	.582**	.560**	.556**	.589**	.659**	.597**	.684**	.682**	1

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

Table 2: Descriptive statistics and Correlation Matrix

Independent Variables	Dependent Variables					
	SKP	EXCEL	REP	EXCEL	REP	SUC
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
WELL	0.107* (0.061)	0.208*** (0.055)	0.121** (0.061)			
TACIT	0.233*** (0.061)	0.182** (0.059)	0.112* (0.066)			
EXP	0.375*** (0.062)	0.228*** (0.056)	0.377*** (0.063)			
LEARN	0.169*** (0.059)	0.332*** (0.053)	0.271*** (0.060)			
SKP				0.805*** (0.037)		0.293*** (0.066)
EXCEL					0.815*** (0.036)	0.333*** (0.073)
REP						0.241** (0.068)
Adjusted R <sup>2</sup>	0.603	0.680	0.597	0.646	0.663	0.649

\*\*\* p< .01, \*\* p<.05, \* p<.10, a Beta coefficients with standard errors in parenthesis.

Table 3: Result of Regression Analysis

Table 3 model 1-3 shows the results of OLS regression analysis of the relationships among four dimensions of audit specialization and audit skepticism, audit excellent and audit reporting quality are hypotheses H1a-c, H2a-c, H3a-c, H4a-c audit specialization includes audit well-roundedness, tacit audit knowledge, audit experience utilization, and audit learning focus. Audit well-roundedness has a significant positive impact on audit skepticism, audit excellent and audit reporting quality respectively (H1 a:  $b_1 = 0.107$ ,  $p < 0.10$ ; H1 b:  $b_5 = 0.208$ ,  $p < 0.01$ ; H1 c:  $b_9 = 0.121$ ,  $p < 0.05$ ). Then, the auditors who have more audit well-roundedness tend to achieve greater audit skepticism, audit excellent and audit reporting quality. Therefore, *Hypotheses H1a, H1b, H1c are supported.*

In addition, tacit audit knowledge has a significant positive impact on audit skepticism, audit excellent and audit reporting quality (H2 a:  $b_2 = 0.233$ ,  $p < 0.01$ ; H2 b:  $b_6 = 0.182$ ,  $p < 0.05$ ; H2 c:  $b_{10} = 0.112$ ,  $p < 0.10$ ). Greater tacit audit knowledge is related with greater audit skepticism, audit excellent and audit reporting quality. Hence, *Hypotheses H2a, H2b, H2c are supported*

Moreover, audit experience utilization has a significant positive impact on audit skepticism, audit excellent, and audit reporting quality (H3 a:  $b_3 = 0.375$ ,  $p < 0.01$ ; H3 b:  $b_7 = 0.228$ ,  $p < 0.01$ ; H3 c:  $b_{11} = 0.377$ ,  $p < 0.01$ ). The auditors who have more audit experience utilization tend to achieve greater audit skepticism, audit excellent, and audit reporting quality. According to Karaoz and Albeni (2005) who stated that skills, abilities and experience will help make audit success. Thus, *Hypotheses H3a, H3b, H3c are supported.*



Finally, audit learning focus has a significant positive impact on audit skepticism, audit excellent, and audit reporting quality (H4 a:  $b_4 = 0.169$ ,  $p < 0.01$ ; H4 b:  $b_8 = 0.332$ ,  $p < 0.01$ ; H4 c:  $b_{12} = 0.271$ ,  $p < 0.01$ ). These findings suggest that auditors with higher audit learning focus tend to achieve greater audit skepticism, audit excellent, and audit reporting quality. Therefore, *Hypotheses H4a, H4b, H4c are supported.*

Results in model 1-3 show that all of dimensions of audit specialization (audit well-roundedness, tacit audit knowledge, audit experience utilization, and audit learning focus) have a significant positive effect on audit skepticism, audit excellent, and audit reporting quality. These results indicate that the auditors with higher audit specialization will have greater audit skepticism, audit excellent, and audit reporting quality.

Moreover, Table 3 model 4-6 presents the relationship between audit skepticism is positively related to audit excellence. (H5:  $b_{13} = 0.805$ ,  $p < 0.01$ ). This finding suggests that greater audit skepticism tends to achieve greater audit excellence. Therefore, *Hypothesis H5 is supported.*

In addition, audit excellence is positively related to audit reporting quality (H7:  $b_{14} = 0.815$ ,  $p < 0.01$ ). The evidences indicate that greater audit excellence tend to achieve greater audit reporting quality. The auditors who have audit excellence will be effectiveness audit procedure. According to Chang et al. (2009) state that audit should make excellent audit planning to increase quality of audit report. Thus, the auditors who have higher audit excellence tend to achieve more audit reporting quality. Therefore, *Hypothesis H7 is supported.*

Furthermore, the result presents that audit skepticism, audit excellence, and audit reporting quality are positively related to audit success (H6:  $b_{15} = 0.293$ ,  $p < 0.01$ ; H8:  $b_{16} = 0.333$ ,  $p < 0.01$ ; H9:  $b_{17} = 0.241$ ,  $p < 0.05$ ). It implies that auditors who have high audit skepticism, audit excellence, and audit reporting quality will gain high audit success. Therefore, *Hypotheses H6, H8, and H9 are supported.*

Moreover; audit excellence is positively related to audit reporting quality. This is consistent with (Ussahawanitchakit, 2012) who finds that reflective observation has significant positive effect audit specialization on audit success. In addition, Carcello and Nagy (2004) found that industry specialization leads to higher quality audits; and auditor industry specialization has negative relation on client financial fraud. Rittenberg et al. (2010) and Balsam et al. (2003) state that accounting firm that engages the auditor specialization in audit process will be able to select and implement audit procedure that are more effective than the non-auditor specialization.

These results indicate that audit skepticism is positively related to audit excellence. The result is consistent with Laohamethanee and Ussahawanitchakit (2012) who found that audit professional skepticism has a significant positive effect on audit report effectiveness. An auditor who is specialized in auditing has enhanced audit effectiveness and efficiency of audit work by tending to use appropriate skeptical on audit procedure. In other word, the role of audit specialization for developing audit skepticism, audit excellence, and audit reporting quality.

The findings unsurprisingly indicate that the auditors with higher audit specialization will have greater audit skepticism, audit excellent and audit reporting quality.

Independent Variables	Dependent Variables							
	WELL	WELL	TACIT	TACIT	EXP	EXP	LEARN	LEARN
	Model 7	Model 8	Model 9	Model 10	Model 11	Model 12	Model 13	Model 14
VIS	.294*** (0.089)	0.291*** (0.090)	0.297*** (0.085)	0.297*** (0.086)	0.141 (0.080)	0.145 (0.080)	0.294*** (0.078)	0.300*** (0.079)
CON	0.080 (0.121)	0.080 (0.124)	0.116 (0.116)	0.141 (0.118)	0.106 (0.109)	0.084 (0.111)	0.142 (0.106)	0.127 (0.109)
ENV	0.309* (0.116)	0.309** (0.119)	0.246** (0.111)	0.226** (0.113)	0.181* (0.104)	0.198* (0.106)	0.124 (0.102)	0.133 (0.104)
STK		0.000 (0.085)		0.055 (0.081)		0.364*** (0.076)		0.254*** (0.074)
STK*VIS		-0.017 (0.080)		0.061 (0.077)		0.006 (0.072)		-0.054 (0.070)
STK*CON		0.049 (0.118)		0.032 (0.112)		-0.147 (0.105)		-0.044 (0.103)
STK*ENV		-0.002 (0.099)		-0.126 (0.094)		0.105 (0.088)		0.076 (0.086)
Adjusted R <sup>2</sup>	0.400	0.394	0.452	0.450	0.519	0.518	0.539	0.536

\*\*\* p < .01, \*\* p < .05, \* p < .10, a Beta coefficients with standard errors in parenthesis.

Table 4: Result of Regression Analysis

Table 4 presents the impact of antecedent variables: knowledge vision, continuous audit learning, and environmental analysis competency on each dimension of audit specialization. Moreover, the testing effect of moderator variable: stakeholder expectation moderates the relationship between antecedent variables and each dimension of audit specialization.

### (1) Audit Well-Roundedness

The findings show that there are significant positive relationship effects of knowledge vision on audit well-roundedness (H10a:  $b_{18} = 0.294$ ,  $p < 0.01$ ), significant positive effects of environmental analysis competency on audit well-roundedness (H12a:  $b_{20} = 0.309$ ,  $p < 0.10$ ). Therefore, *Hypotheses 10a, 12a are supported*. It implies that auditors who have higher knowledge vision, higher environmental analysis competency tend to achieve higher audit well-roundedness. But the result found insignificant positive effects of continuous audit learning on audit well-roundedness (H11a:  $b_{19} = 0.080$ ,  $p > 0.01$ ), Hence, *Hypothesis 11a is not supported*.

In addition, table 4 provides the evidence indicates that there is no interaction between stakeholder expectation and knowledge vision (H13a:  $b_{25} = -0.017$ ,  $p > 0.01$ ), continuous audit learning (H14a:  $b_{26} = 0.049$ ,  $p > 0.01$ ), and environmental analysis competency (H15a:  $b_{27} = -0.002$ ,  $p > 0.01$ ) with audit well-roundedness. Hence, stakeholder expectation does not increase the relationship between three antecedent variables and audit well-roundedness. Therefore, *Hypotheses 13a, 14a, and H15a are not supported*.

### (2) Tacit Audit Knowledge

The findings show that there are significant positive effects of knowledge vision on tacit audit knowledge (H10b:  $b_{28} = 0.297$ ,  $p < 0.01$ ), and there are significant positive effects of environmental analysis competency on tacit audit knowledge (H12b:  $b_{30} = 0.246$ ,  $p < 0.05$ ). It implies that auditors who have higher knowledge vision tend to achieve higher tacit audit knowledge. Therefore, *Hypotheses 10b, 12b are supported*. But the result found there are insignificant positive effects of continuous audit learning on tacit audit knowledge (H11b:  $b_{29} = 0.116$ ,  $p > 0.01$ ), Hence, *Hypothesis 11b is not supported*.

In addition, table 4 provides the evidence that indicates there is no interaction between stakeholder expectation and knowledge vision (H13b:  $b_{35} = 0.061$ ,  $p > 0.01$ ), continuous audit learning (H14b:  $b_{36} = 0.032$ ,  $p > 0.01$ ), and environmental analysis competency (H15b:  $b_{37} = -0.126$ ,  $p > 0.01$ ) with tacit audit knowledge. It implies that stakeholder expectation does not increase the relationship between three antecedent variables and tacit audit knowledge. Hence, *Hypotheses 13b, 14b, and H15b are not supported*.

### (3) Audit Experience Utilization

The findings show that there are significant positive effects of environmental analysis competency on audit experience utilization (H12c:  $b_{40} = 0.181$ ,  $p < 0.10$ ). It implies that auditors who have higher environmental analysis competency tend to achieve higher tacit audit knowledge. Therefore, *Hypothesis 12c is supported*. But the result found there are insignificant positive effects of knowledge vision on audit experience utilization (H10c:  $b_{38} = 0.141$ ,  $p > 0.10$ ), and there are insignificant positive effects of continuous audit learning on audit experience utilization (H11c:  $b_{39} = 0.106$ ,  $p > 0.10$ ), Hence, *Hypotheses 10c, 11c are not supported*.

In addition, table 4 provides the evidence that indicates there is no interaction between stakeholder expectation and knowledge vision (H13c:  $b_{45} = 0.006$ ,  $p > 0.01$ ), continuous audit learning (H14c:  $b_{46} = -0.147$ ,  $p > 0.01$ ), and environmental analysis competency (H15c:  $b_{47} = 0.105$ ,  $p > 0.01$ ) with audit experience utilization. It implies that stakeholder expectation does not increase the relationship between three antecedent variables and audit experience utilization. Hence, *Hypotheses 13c, 14c, and H15c are not supported*.

### (4) Audit Learning Focus

The findings show that there are significant positive effects of knowledge vision on audit learning focus (H10d:  $b_{48} = 0.294$ ,  $p < 0.01$ ). Therefore, *Hypotheses 10d is supported*. The result found there are insignificant positive effects of environmental analysis competency on audit learning focus (H12d:  $b_{50} = 0.124$ ,  $p > 0.01$ ), and there are insignificant positive effects of continuous audit learning

on audit learning focus (H11d:  $b_{49} = 0.142$ ,  $p > 0.01$ ), Hence, *Hypotheses 11d and H12d are not supported*.

In addition, table 4 provides the evidence that indicates there is no interaction between stakeholder expectation and knowledge vision (H13d:  $b_{55} = -0.054$ ,  $p > 0.01$ ), continuous audit learning (H14d:  $b_{56} = -0.044$ ,  $p > 0.01$ ), and environmental analysis competency (H15d:  $b_{57} = 0.076$ ,  $p > 0.01$ ) with audit learning focus. It implies that stakeholder expectation does not increase the relationship between three antecedent variables and audit learning focus. Hence, *Hypotheses 13d, 14d, and H15d are not supported*.

In summary, the impact of three antecedent variables on each dimension of audit specialization found that the effect of knowledge vision on all of dimensions of audit specialization with positive relationship, except audit experience utilization is insignificant. Moreover; the results found that the effect of environmental analysis competency on all of dimensions of audit specialization with positively relationship, except continuous audit learning is insignificant.

Surprisingly, the evidence moderating influences, and stakeholder expectation are not found significant positive relationship between three antecedent variables and each dimension of audit specialization. This is inconsistent with Krajnc and Glavic (2005) and Qi et al. (2005) who found that stakeholder pressures drive auditors' actions. According to Miller and Bahnson (2004) the auditors have a responsibility to be gatekeepers to protect the investing public as a result of these is due to the auditors who have rigorous conduct in audit procedure in accordance with auditing standards of regulatory authorities. Therefore, stakeholder expectations may not adequate effect to make the auditor have to 1) knowledge vision, 2) continuous audit learning, and 3) environmental analysis competency for greater auditing specialize in order to meet these expectations.

## 5. Contributions

### 5.1 Theoretical Contributions

This study provides a clearer understanding of the relationships among four dimensions of audit specialization on audit skepticism, audit excellence, and audit reporting quality that influence audit success in finally.

Furthermore, the study provides unique theoretical implications extending on previous knowledge and literature of audit specialization, knowledge vision, continuous audit learning, environmental competency, and stakeholder expectation. To advance the field theoretically, this research is one of the first known studies to link audit specialization, audit skepticism, audit excellence, audit reporting quality, and audit success of CPAs in Thailand.

### 5.2 Managerial Contributions

This study definitely helps another implication now exists for CPAs. This study helps CPAs identify and justify key components that affect audit success which are audit skepticism, audit excellence, and audit reporting quality. CPAs should enhance four dimensions of the audit specialization in order to improve audit skepticism, audit excellence, and audit reporting quality. Furthermore, the auditor should focus on knowledge vision, continuous audit learning, and environmental analysis that have influence to audit specialization that ultimately achieve audit success.

## 6. Conclusion

This study investigates the effects of audit specialization on audit success of CPAs in Thailand. The data are collected from 255 CPAs in Thailand. Audit specialization has become the antecedents of audit success by using audit skepticism, audit excellence, and audit reporting quality as the mediator. The results of the OLS regression analysis indicated that audit specialization positively impacts on audit skepticism, audit excellence, and audit reporting quality. Moreover, audit skepticism, audit excellence, and audit reporting quality positively influence to audit success. In additional, findings explain that auditing specialization is superior audit specialization in four dimensions as follow: 1) Audit Well-Roundedness 2) Tacit Audit Knowledge 3) Audit Experience Utilization, and 4) Audit Learning. In order to improve audit success, the auditor should enhance in three factors consist of: 1) audit skepticism, 2) audit excellence, and 3) audit reporting quality. Moreover, knowledge vision impacts significantly on audit specialization. However, moderating

effects of stakeholder expectation has relationship among antecedent variable and audit specialization, but have no influence in this study. Moreover, the results must be cautiously interpreted and given the sample of the study only CPAs in Thailand. Finally, future research is suggested to examine another moderator variable. Moreover; further research is needed to examine a larger sample of auditors and other auditors, such as tax auditors (TAs) and internal auditors (IAs).

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