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Audit Professional Proficiency and Audit Stability: An Empirical Research Involving Certified Public Accountants (CPAs) in Thailand

ความชำนาญงานสอบบัญชีอย่างมืออาชีพและความมั่นคงงานสอบบัญชี: การวิจัยเชิงประจักษ์ผู้สอบบัญชีรับอนุญาตในประเทศไทย

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บทคัดย่อ

งานวิจัยนี้มีวัตถุประสงค์เพื่อตรวจสอบเชิงประจักษ์ถึงผลกระทบของความชำนาญงานสอบบัญชีอย่างมืออาชีพต่อความมั่นคงงานสอบบัญชี โดยใช้แบบสอบถามในการเก็บข้อมูลจากผู้สอบบัญชีรับอนุญาตในประเทศไทยจำนวน 355 ราย และใช้สถิติการวิเคราะห์การถดถอยแบบกำลังสองน้อยที่สุดทั่วไป (OLS) ผลการศึกษาพบว่า ความชำนาญตรวจสอบบัญชีอย่างมืออาชีพมีผลกระทบเชิงบวกต่อความมั่นคงงานสอบบัญชีโดยผ่านตัวแปรคั่นกลางที่เป็นผลลัพธ์จากงานสอบบัญชี ส่วนตัวแปรที่เกิดขึ้นก่อนหน้านั้น ได้แก่ การฝึกอบรมอย่างต่อเนื่อง ความสนใจเทคโนโลยีการตรวจสอบ การปรับปรุงกระบวนการตรวจสอบ มีความสัมพันธ์เชิงบวกกับความชำนาญงานสอบบัญชีอย่างมืออาชีพ แต่ตัวแปร

แทรกประกอบด้วยกฎระเบียบทางวิชาชีพที่เข้มงวดมีความสัมพันธ์เชิงบวกระหว่างความชำนาญงานสอบบัญชีอย่างมืออาชีพกับตัวแปรคั่นกลางเป็นส่วนใหญ่ ในขณะที่การแข่งขันในตลาดงานสอบบัญชีมีความสัมพันธ์เชิงบวกระหว่างตัวแปรก่อนหน้านั้นกับความชำนาญงานสอบบัญชีอย่างมืออาชีพเพียงบางส่วนเท่านั้น

คำสำคัญ: ความชำนาญงานสอบบัญชีอย่างมืออาชีพ ความมั่นคงงานสอบบัญชี ผู้สอบบัญชีรับอนุญาตในประเทศไทย

Abstract

The objective of this research is to empirically examine the effects of audit professional proficiency on audit stability. The sample was 355 Certified Public Accountants (CPAs) in Thailand. A questionnaire was used to collect data and the analysis employed the Ordinary Least Squares (OLS) regression analysis. The results indicate that audit professional proficiency has a positive impact on audit stability through audit outcomes as the mediators. In addition, antecedent variables include continual professional training, audit technological attentions and audit process improvement have a positive relationship with audit professional proficiency. Regarding moderating effects, professional regulation has a positive relationship to audit professional proficiency and audit outcomes. While, audit market competition is shown to be partially positively supported between antecedent variables and audit professional proficiency.

Keywords: Audit Professional Proficiency, Audit Stability, Certified Public Accountants (CPAs) in Thailand, (CPA)

Introduction

In the new century and millennium, change in business is the expected trend and several firms have fallen into bankruptcy due to inefficient management controls and lack of serious auditor's attention to the financial reports that caused the corporate governance failure (Howieson, 2009). Certified Public Accountants (CPAs) are often criticized for failing to identify which financial statements and audit reports lack compliance with Generally Accepted Accounting Principles (GAAP) and Generally Accepted Auditing Standards (GAAS). Therefore, The American Institute of Certified Public Accountants (American Institute of Certified Public Accountants, 2001) has also mandated that auditors being assigned to significant audit responsibilities should possess the knowledge, skill and competency to effectively complete the audit task.

The National Auditing Standards Setter has been recognized in roles and responsibilities of CPAs involved in audit practices and audit credibility in communicating with financial statements. To enhance audit stability, CPAs employ a variety of methods to gather sufficient and appropriate audit evidence concerning knowledge and experience for the best audit professional proficiency. Therefore, an auditor's knowledgebase is the tool used in a supporting role in audit management and control. Effectiveness in the audit profession

is measured by examination and evaluation of the adequacy and effectiveness of the internal process and the firm's value (Institute of Internal Auditors, 2009: 5)

Audit professional proficiency is one of the cornerstones that play an important role in the auditor's effectiveness in explaining the audit task and report. To be successful, The Institute of Internal Auditors (2009) defines proficiency as the knowledge, skills and competencies needed to effectively carry out their professional responsibilities to achieve efficiency. Based on the literature reviewed, audit professional proficiency can help to improve the internal control system, to complete the audit task and to find suitable solutions (Feng, Li, and McVay, 2009: 198). Hence, auditors' professional proficiency is an important skill that enables them to perform quality audit work, succeed in audit markets and develop their own professional auditing to maintain stability in the audit profession.

Nowadays, auditing should be performed and reports prepared with due professional care by persons who have sufficient training, experience and competence in auditing and certified for audit professional proficiency. This study develops a construct of audit professional proficiency that consists of four dimensions, including audit holistic integration, audit tactic intellectual, audit innovation adoption and audit proactive control strategy.

Previous auditing researches show that a variety of elements has an impact on audit performance, including ability to use standard and core principles for audit work (Howieson, 2009: 75), communication and the relationship between auditor and client (Dorotta, et al., 2006: 158; Hilton and Southgate, 2007: 270), knowledge and skill in audit techniques, and audit professional proficiency (Nelson, 2009: 18). However, this study proposes that audit professional proficiency is the key element in audit stability and value to the firm.

This study examines the audit professional proficiency of Certified Public Accountants in Thailand. The reason is that CPAs must provide a differentiated service by providing a greater value proposition to their clients in order to gain client satisfaction. Hence, the specific research questions are (1) how does audit professional proficiency impact audit stability through mediating the relationship between accounting information advantage, financial reporting reliability, efficient audit practice, and stakeholder creditability, (2) how do the consequences, including accounting information advantage, financial reporting reliability and efficient audit practice have an effect on stakeholder creditability, (3) how does accounting information advantage and efficient audit practice effect financial reporting reliability, (4) how does the stakeholder

creditability have an effect on audit stability, (5) how do the antecedents, including continual professional training, audit technological attentions and audit process improvement have an effect on audit professional proficiency, (6) how does audit market competition moderate the relationship between antecedents and audit professional proficiency, and (7) how does professional regulation moderate the relationship between audit professional proficiency and mediating?

Objectives

The main objectives of this research are as follows: (1) to empirically examine the effects of audit professional proficiency on audit stability, (2) to examine the mediating effects of four consequences on the audit stability relationships; expressly (3) to investigate the association between accounting information advantage and efficient audit practice on financial reporting reliability, (4) to explore the relationships between three antecedents on audit professional proficiency. In addition, (5) to scrutinize the relationships between audit professional proficiency and consequences by using professional regulation as a moderator and (6) to test audit market competition as a moderator between antecedents and audit professional proficiency relationships.

Theoretical Foundation Literature Review and Hypotheses

This study applies the knowledge-based theory of the firm (KBT) and cognitive theory to explain the conceptual framework that supports how audit professional proficiency affects audit stability.

The significant key of knowledge-based theory of the firm (Grant, 1996) is knowledge, skill, competence, experience, proficiency and performance, and this conceptual model is regarded as representing a personal level. Moreover, the knowledge-based theory of the firm is the most important asset to the firm's strategy and is often difficult to imitate in a complex knowledge-based society. O'Leary (2002: 109) stated that auditors can succeed in the highly competitive information advantage, improve audit work and maximize the value of the firm.

Cognitive theory (Bandura, 1999) is important for understanding and explaining human behavior and action. Previous research has applied cognitive theory in a range of judgment and decision making areas. Thus, the construct of cognitive theory is defined as an individual's preferred way of gathering, processing, and evaluating information relating to creativity, problem-solving and decision making.

Literature Review, Conceptual Framework and Hypotheses Development

Proficiency is the most relevant factor in the operation of the audit professional and depends on extra skills and a wider knowledge of corporate procedures and control. Therefore, audit professional proficiency is a main determinant for explaining that audit work relies on ability to enhance important skills, as well as professional knowledge. The conceptual model of this study is presented as shown in Figure 1.

1. Audit Professional Proficiency

Audit professional proficiency (Asare and Wright, 2004; Wilks and Zimbelman, 2004) is considered specialized audit work and applies procedures and technique utilization to perform the audit effectively. According to Obaidat (2007: 28), proficiency is the most relevant factor in the operation of the audit professional and depends on extra skills and a wider knowledge of the complexity of corporate procedures and control. Therefore, audit professional proficiency consists of audit holistic integration, audit tactic intellectual, audit innovation adoption and audit proactive control strategy.

1.1 Audit Holistic Integration

Audit holistic integration (Goh and Richards, 1997) refers to the process of incorporating new information and integration of knowledge among different audit functions within the audit process that basically can increase efficiency for audit sustainability. In this study, we define process and integrate information with audit knowledge that attempts to reveal data context, elaborate learning transfer and attention to techniques, such as training, observation, expansion and improving,

for audit efficiency. Therefore, Hypothesis 1 and Hypotheses 5a-c are formulated as follows:

Hypothesis 1: The greater the audit holistic integration, the more likely those certified public accountants will achieve higher audit stability.

Hypotheses 5a-c: Audit holistic integration is expected to improve (a) accounting information advantage, (b) financial reporting reliability, and (c) efficient audit practice, to allow certified public accountants to focus more effectively on their audit task.

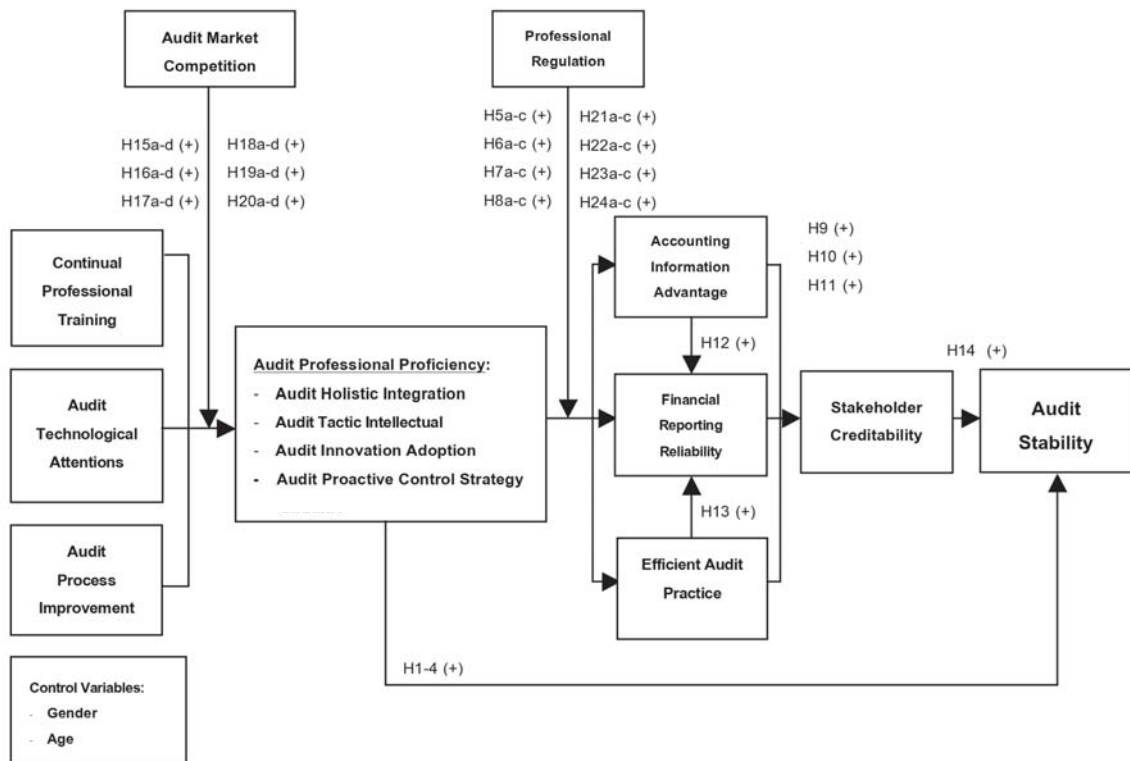


Figure 1 Conceptual Model of Audit Professional Proficiency and Audit Stability: An Empirical Research involving Certified Public Accountants (CPAs) in Thailand

1.2 Audit Tactic Intellectual

Audit tactic intellectual (Dorotta, et al., 2006) refers to linking all audit procedures together into the audit system in order to achieve the audit performance, such as financial reliability, process quality, information technology security and protection from risk from audit activity. The advantage of audit tactic intellectual is that it leads auditors to make an overall assessment and look around the audit work that they are evaluating. Therefore, Hypothesis 2 and Hypotheses 6a-c are formulated as follows:

Hypothesis 2: The greater the audit tactic intellectual, the more likely that certified public accountants will achieve higher audit stability.

Hypotheses 6a-c: Audit tactic intellectual is expected to improve (a) accounting information advantage, (b) financial reporting reliability, and (c) efficient audit practice, to allow certified public accountants to focus more effectively on their audit task.

1.3 Audit Innovation Adoption

Audit innovation adoption (Fenwick, 2003) is an essential tool that helps audit functions achieve their objectives, i.e. improve risk management and enhance the credibility of the audit function. Moreover, audit innovation adoption uses appropriate technology to increase their efficiency, such as reducing the time to complete a quality audit through

audit stability. Therefore, Hypothesis 3 and Hypotheses 7a-c are formulated as follows:

Hypothesis 3: The greater the audit innovation adoption, the more likely that the certified public accountants will achieve higher audit stability.

Hypotheses 7a-c: Audit innovation adoption is expected to improve (a) accounting information advantage, (b) financial reporting reliability, and (c) efficient audit practice, to allow certified public accountants to focus more effectively on their audit task.

1.4 Audit Proactive Control Strategy

Audit proactive control strategy (McMillan, 2004) is defined as an evaluation of careful watching and checking of internal control in order to comply with applicable laws and regulations. Moreover, auditors obtain an in-depth understanding of the audit practice in order to adjust a firms' operation and long-term survival. Therefore, Hypothesis 4 and

Hypotheses 8a-c are formulated as follows: Hypothesis 4: The greater the audit proactive control strategy, the more likely the certified public accountant will achieve higher audit stability.

Hypotheses 8a-c: Audit proactive control strategy is expected to improve (a) accounting information advantage, (b) financial reporting reliability, and (c) efficient audit practice, to

allow certified public accountants to focus more effectively on their audit task

2 Mediating of Relationships between Audit Professional Proficiency and Audit Outcomes

Audit outcomes derived from audit professional proficiency are differently categorized on two distinct levels. The first sheds light on the perspective audit operation and comprises accounting information advantage, financial reporting reliability, and efficient audit practice. The second is stakeholder credibility.

2.1 Accounting Information Advantage

Accounting information advantage is defined as the potency of information processing and presentation of the audit regarding the business administration's rules, and provides relevant audited information for management (Dull, Graham, and Baldwin, 2003: 196; Feng, Li, and McVay, 2009: 193). Therefore, Hypotheses 9 and 12 are formulated as follows:

Hypothesis 9: The level of accounting information advantage will positively relate to stakeholder credibility.

Hypothesis 12: There is a positive degree of association between accounting information advantage and financial reporting reliability.

2.2 Financial Reporting Reliability

Financial reporting reliability refers to the information in prepared financial statements that is free from material error and bias and can faithfully represent actual events and transactions (International Accounting Standard Board, 2001). A financial report's reliability should contain the qualitative characteristics composed of understandability, reliability, comparability, relevance, materiality, prudence, substance over form, and completeness (Nicolau, 2000: 103). Then, a higher audit stability will occur. Therefore, Hypothesis 10 is formulated as follows:

Hypothesis 10: The level of financial reporting reliability will positively relate to stakeholder credibility.

2.3 Efficient Audit Practice

Efficient audit practice (Malter and Dickson, 2001) is defined as the audit engagements of auditors who are also required to provide reasonable assurance about financial statements. Moreover, efficient audit practice can provide audit report quality, and, with that, attempt to enhance audit performance so as to influence audit survival. Therefore, Hypotheses 11 and 13 are formulated as follows:

Hypothesis 11: The level of efficient audit practice will positively relate to stakeholder credibility.

Hypothesis 13: There is a positive degree of association between efficient audit practice and financial reporting reliability.

2.4 Stakeholder Creditability

Stakeholder creditability refers to the satisfactory consideration of the auditors' performance by someone who uses financial statements. The financial statements are a serious problem with widespread and significant consequences (Miller, Reed, and Strawser, 1993: 44). Therefore, Hypothesis 14 is formulated as follows:

Hypothesis 14: The stronger the stakeholder creditability, the more likely the certified public accountants will achieve greater audit stability.

3 Antecedents of Audit Professional Proficiency

All professional proficient auditors are obliged to engage in lifelong learning to keep up-to-date on developments influencing the profession and the quality of the services that they provide as outlined below:

3.1 Continual Professional Training

Continual professional training refers to an auditor's attitude towards lifelong learning, that is that a variety of knowledge is acquired mainly through education and training in accounting and auditing programs, communication or interaction with the external

environments such as clients and others, and conversations with other auditors (Real, Leal, and Roldán, 2006: 511; Wong and Cheung, 2008: 118). Therefore Hypothesis 15 is formulated as follows:

Hypotheses 15a-d: Certified public accountants with the most continual professional training are more likely to have a greater degree of audit professional proficiency.

3.2 Audit Technological Attentions

Audit technological attention refers to the auditor's talent to implement the advanced computer-assisted programs/tools/techniques that can automate an aspect of the audit. Several prior researches codify the increased role for technology in audit practice because audit technological skills reduced audit hours for the task, and greatly increased the reliability of conclusions (American Institute of Certified Public Accountants, 2001). Therefore, Hypothesis 16 is formulated as follows:

Hypotheses 16a-d: Certified public accountants that have more audit technological skills are more likely to have a greater degree of audit professional proficiency.

3.3 Audit Process Improvement

Audit process improvement refers to the enhancement of the accounting process and auditing stability through data collection, classification, analysis, summary, and report.

Intentionally, audit process improvement is designed around the best audit professional proficiency (O'Leary, 2002: 102), enhancing the ability for interpretation and presentation. Therefore, the Hypothesis 17 is formulated as follows:

Hypotheses 17a-d: Certified Public Accountants which have more audit process improvement are more likely to have a greater degree of audit professional proficiency.

4. Moderating effects of the relationships

A moderator variable changes the strength of an effect or relationship between two variables. Moderators indicate when or under what conditions a particular effect can be expected.

4.1 Audit Market Competition

Auditors are concerned when there is a change in market competition for audited work to consciously develop higher professional skills (Barrett, Cooper, and Jamal, 2005: 16) to serve their clients. Therefore, the Hypotheses 18-20 are formulated as follows:

Hypotheses 18-20: Audit market competition has a moderating effect on the relationship between the number of antecedents and audit professional proficiency.

4.2 Professional Regulation

Professional regulation is defined as the

professional role controlled by a regulator or professional institution that has a direct effect on the audit task and outcome. Barrett, Cooper and Jamal (2005: 18) suggest that new regulations may also threaten efficiency by creating additional audit work. Therefore, the Hypotheses 21-24 are formulated as follows:

Hypotheses 21-24: Professional regulation has a moderating effect on the relationship between audit professional proficiency and audit outcomes.

Research Methodology

The aims were explored through two sets of research methods – (1) sample selection and data collection procedure and (2) questionnaire development.

1. Sample Selection and Data Collection Procedure

The population consisted of certified public accountants in Thailand, chosen from the Development of Business Department (DBD), Ministry of Commerce Thailand database online: <https://www.dbd.go.th>. This data base includes 4,292 active auditors (information drawn on August 7, 2014).

With regard to the questionnaire mailing, an equation under the 95% confidentiality rule was used to calculate the appropriate sample size, using the Krejcie Morgan method (Krejcie and Morgan, 1970: 608). Accordingly, based

on prior business research, a 20% response rate for a mail survey, without an appropriate follow-up procedure, is deemed sufficient (Aaker, Kuma, and Day, 2001: 255). Thus, 1,770 ($354 \times 5 = 1,770$) mailed questionnaires are an appropriate distribution for a mail survey. Ninety-five surveys were undeliverable and 17 were not complete. Consequently, the valid mailing was 1,658 surveys from which 355 responses were received as completed surveys. The effective response rate was approximately 21.41%. (Aaker, Kuma, and Day, 2001: 256).

2. Questionnaire Development

In this study, several constructs and multiple scale items were developed from new scales and from literature reviews, therefore, a pre-test method is appropriate to assert validity and reliability of the questionnaire. The instrument was then pretested by thirty CPAs randomly chosen from a population frame that was not included in the sampling (Hewett, Roth, and Roth, 2003: 577). Modifications were made based on participant feedback, and reviews by experts in auditing and accounting. Recommendations to revise the questionnaire

as well as to pretest the revision and improve the construct validity before sending were fulfilled.

The questionnaire had six parts that included: part one for demography, part two through four were dimensions of audit professional proficiency construct. Part three discusses construct of audit outcomes, stakeholder creditability, and audit stability. Part four was for antecedents construct. Part five covered dispute construct of a moderating effect and the final part was open-ended for suggestions and opinions. All of the variables were obtained from the survey and were measured by a five-point Likert Scale, ranging from 1 (strongly disagree) to 5 (strongly agree).

Reliability and Validity

Table 1, shows that all variables have factor loading cores between 0.647 - 0.865, indicating construct validity. Also, the Cronbach's Alpha coefficients for all variables ranging from 0.706-0.855 indicate that these constructs are at an acceptable reliability level (Cronbach, 1951: 301).

Table 1 The Results of Measure Validation and Reliability

Variables	Factor Loadings	Cronbach's Alpha
Audit Stability (AS)	0.836-0.852	0.835
Audit Holistic Integration (AHI)	0.778-0.865	0.812
Audit Tactic Intellectual (ATI)	0.733-0.816	0.798
Audit Innovation Adoption (AIA ₁)	0.795-0.849	0.753
Audit Proactive Control Strategy (APCS)	0.804-0.863	0.855
Accounting Information Advantage (AIA ₂)	0.733-0.804	0.724
Financial Reporting Reliability (FRR)	0.680-0.793	0.806
Efficient Audit Practice (EAP)	0.711-0.863	0.827
Stakeholder Creditability (SC)	0.758-0.822	0.839
Continual Professional Training (CPT)	0.746-0.841	0.708
Audit Technological Attentions (ATA)	0.735-0.855	0.802
Audit Process Improvement (API)	0.768-0.788	0.706
Audit Market Competition (AMC)	0.647-0.688	0.756
Professional Regulation (PR)	0.685-0.707	0.712

Correlation analysis was used to test correlation among all variables for the initial analysis. Then, the Ordinary Least Squares (OLS) regression analysis was used to test all hypotheses following the conceptual model because both dependent and independent

variables in this research are categorical data and interval data. We examined the hypothesized relationships to test factors affecting audit professional proficiency on audit stability. Therefore, the equation models of the relationships are shown as follows:

$$\text{Equation 1: AS} = \alpha_1 + \beta_1 \text{AHI} + \beta_2 \text{ATI} + \beta_3 \text{AIA}_1 + \beta_4 \text{APCS} + \beta_5 \text{GEN} + \beta_6 \text{AGE} + \varepsilon$$

$$\begin{aligned} \text{Equation 2: AIA}_2 &= \alpha_2 + \beta_7 \text{AHI} + \beta_8 \text{ATI} + \beta_9 \text{AIA}_1 + \beta_{10} \text{APCS} + \beta_{11} \text{PR} + \beta_{12} (\text{AHI} * \text{PR}) \\ &+ \beta_{13} (\text{ATI} * \text{PR}) + \beta_{14} (\text{AIA}_1 * \text{PR}) + \beta_{15} (\text{APCS} * \text{PR}) + \beta_{16} \text{GEN} + \beta_{17} \text{AGE} + \varepsilon \end{aligned}$$

$$\begin{aligned} \text{Equation 3: FRR} &= \alpha_3 + \beta_{18} \text{AHI} + \beta_{19} \text{ATI} + \beta_{20} \text{AIA}_1 + \beta_{21} \text{APCS} + \beta_{22} \text{PR} + \beta_{23} (\text{AHI} * \text{PR}) \\ &+ \beta_{24} (\text{ATI} * \text{PR}) + \beta_{25} (\text{AIA}_1 * \text{PR}) + \beta_{26} (\text{APCS} * \text{PR}) + \beta_{27} \text{GEN} + \beta_{28} \text{AGE} + \varepsilon \end{aligned}$$

$$\begin{aligned} \text{Equation 4: EAP} &= \alpha_4 + \beta_{29} \text{AHI} + \beta_{30} \text{ATI} + \beta_{31} \text{AIA}_1 + \beta_{32} \text{APCS} + \beta_{33} \text{PR} + \beta_{34} (\text{AHI} * \text{PR}) \\ &+ \beta_{35} (\text{ATI} * \text{PR}) + \beta_{36} (\text{AIA}_1 * \text{PR}) + \beta_{37} (\text{APCS} * \text{PR}) + \beta_{38} \text{GEN} + \beta_{39} \text{AGE} + \varepsilon \end{aligned}$$

$$\text{Equation 5: SC} = \alpha_5 + \beta_{40} \text{AIA}_2 + \beta_{41} \text{FRR} + \beta_{42} \text{EAP} + \beta_{43} \text{GEN} + \beta_{44} \text{AGE} + \varepsilon$$

$$\text{Equation 6: FRR} = \alpha_6 + \beta_{45} \text{AIA}_2 + \beta_{46} \text{EAP} + \beta_{47} \text{GEN} + \beta_{48} \text{AGE} + \varepsilon$$

$$\text{Equation 7: AS} = \alpha_7 + \beta_{49} \text{SC} + \beta_{50} \text{GEN} + \beta_{51} \text{AGE} + \varepsilon$$

$$\begin{aligned} \text{Equation 8: AHI} = & \alpha_8 + \beta_{52} \text{CPT} + \beta_{53} \text{ATA} + \beta_{54} \text{API} + \beta_{55} \text{AMC} + \beta_{56} (\text{CPT} * \text{AMC}) \\ & + \beta_{57} (\text{ATA} * \text{AMC}) + \beta_{58} (\text{API} * \text{AMC}) + \beta_{59} \text{GEN} + \beta_{60} \text{AGE} + \varepsilon \end{aligned}$$

$$\begin{aligned} \text{Equation 9: ATI} = & \alpha_9 + \beta_{61} \text{CPT} + \beta_{62} \text{ATA} + \beta_{63} \text{API} + \beta_{64} \text{AMC} + \beta_{65} (\text{CPT} * \text{AMC}) \\ & + \beta_{66} (\text{ATA} * \text{AMC}) + \beta_{67} (\text{API} * \text{AMC}) + \beta_{68} \text{GEN} + \beta_{69} \text{AGE} + \varepsilon \end{aligned}$$

$$\begin{aligned} \text{Equation 10: AIA}_1 = & \alpha_{10} + \beta_{70} \text{CPT} + \beta_{71} \text{ATA} + \beta_{72} \text{API} + \beta_{73} \text{AMC} + \beta_{74} (\text{CPT} * \text{AMC}) \\ & + \beta_{75} (\text{ATA} * \text{AMC}) + \beta_{76} (\text{API} * \text{AMC}) + \beta_{77} \text{GEN} + \beta_{78} \text{AGE} + \varepsilon \end{aligned}$$

$$\begin{aligned} \text{Equation 11: APCS} = & \alpha_{11} + \beta_{79} \text{CPT} + \beta_{80} \text{ATA} + \beta_{81} \text{API} + \beta_{82} \text{AMC} + \beta_{83} (\text{CPT} * \text{AMC}) \\ & + \beta_{84} (\text{ATA} * \text{AMC}) + \beta_{85} (\text{API} * \text{AMC}) + \beta_{86} \text{GEN} + \beta_{87} \text{AGE} + \varepsilon \end{aligned}$$

Results

Descriptive statistics and correlation matrix for all variables are shown in Table 2. Variance inflation factors (VIFs) ranged from 3.147-3.593 (Table 3) are well below the

cut-off value of 10 as recommended by Hair, et al. (2006), which means that the independent variables are not correlated with each other. Accordingly, no significant multicollinearity problems were found.

Table 2 Descriptive Statistics and Correlation Matrix

Variables	AS	SC	AIA2	FRR	EAP	AHI	ATI	AIA1	APCS	CPT	ATA	API	AMC	PR
Mean	4.10	4.11	4.43	4.31	4.11	4.38	4.27	4.30	4.22	4.12	4.15	4.04	4.03	4.06
S.D.	0.168	0.634	0.627	0.678	0.528	0.647	0.643	0.601	0.637	0.505	0.632	0.504	0.415	0.559
AS	1.000													
SC	.700**	1.000												
AIA2	.374**	.321**	1.000											
FRR	.618**	.525**	.589**	1.000										
EAP	.611**	.501**	.78**	.241**	1.000									
AHI	.417**	.539**	.635**	.584**	.421**	1.000								
ATI	.369**	.401**	.665**	.491**	.761**	.632**	1.000							
AIA1	.333**	.329**	.734**	.541**	.721**	.652**	.719**	1.000						
APCS	.734**	.626**	.353**	.627**	.555**	.482**	.352**	.363**	1.000					
CPT	.634**	.593**	.284**	.498**	.209**	.437**	.363**	.284**	.740**	1.000				
ATA	.501**	.428**	.354**	.426**	.703**	.392**	.396**	.345**	.486**	.535**	1.000			
API	.521**	.467**	.247**	.406**	.605**	.365**	.317**	.245**	.605**	.553**	.387*	1.000		
AMC	.473**	.436**	.256**	.377**	.219**	.331**	.329**	.244**	.536**	.672**	.401**	.780**	1.000	
PR	.353**	.533**	.223**	.493**	.332**	.493**	.290**	.424**	.295**	.631**	.659**	.455**	.511**	1.000

** Correlation is significant at the .05 level (2 tailed)

Table 3 presents the results of OLS regression analysis based on equation 1. The Hypotheses 1-4 predicted positive relationships. Accordingly, the results show that audit holistic integration, audit tactic intellectual, audit innovation adoption and audit proactive control strategy have a positive significant effect on audit stability ($b_1 = .253$, $p < .05$; $b_2 = .298$, $p < .05$; $b_3 = .242$, $p < .05$; $b_4 = .216$, $p < .05$). Thus, Hypotheses 1- 4 were supported. The results support previous research by McMillan (2004: 950). The findings can imply that auditors with more professional proficiency in audit

with advanced knowledge, skills, competence, improved audit planning, and audit tactics enhance the auditors' job reliability and achieve higher audit stability.

Equations 2-4 show the predicted hypotheses positively effects dimensions of audit professional proficiency on consequences (accounting outcomes). In Equation 2, the results indicate that audit holistic integration ($b_7 = .223$, $p < .05$), audit tactic intellectual ($b_8 = .287$, $p < .05$), and audit innovation adoption ($b_9 = .304$, $p < .05$) have positive

significant effects on accounting information advantage. Thus, Hypothesis 5a, 6a and 7a were supported. However, audit proactive control strategy ($b_{10} = .014$, $p > .05$) was not supported. This is consistent with Malter and Dickson (2001: 106) who found that audit professional proficiency, as the best individual mental models, often become visible to group members and became accounting information.

Meanwhile, in Equation 3 the results show that audit holistic integration ($b_{18} = .283$, $p < .05$), audit tactic intellectual ($b_{19} = .351$, $p < .05$), audit innovation adoption ($b_{20} = .209$, $p < .05$), and audit proactive control strategy ($b_{21} = .227$, $p < .05$) have positive significant effects on financial reporting reliability. Thus, Hypotheses 5b-8b were supported. Moreover, in Equation 4, the results show that audit holistic integration ($b_{29} = 0.226$, $p < .05$), and audit tactic intellectual ($b_{30} = .254$, $p < .05$) have a positive significant effect on efficient audit practice. However, the results show that audit innovation adoption ($b_{31} = .135$, $p > .05$), and audit proactive control strategy ($b_{32} = .043$, $p > .05$) have an insignificant effect on efficient audit practice. This means that certified public accountants' professional proficiency and tacit learning is implemented to achieve accounting outcomes and efficient audit performance (Malter and Dickson, 2001: 114). Thus, Hypotheses 5c, and 6c were supported but Hypotheses 7c and 8c were not supported.

Equation 5 results showed that accounting information advantage, financial reporting reliability and efficient audit practice are positively significant on stakeholder credibility ($b_{40} = .238$, $p < .05$; $b_{41} = .273$, $p < .05$; and $b_{42} = .284$, $p < .05$). Therefore, Hypotheses 9-11 were supported. The results are consistent with prior research which indicated that the expert action of auditors which produce their accounting information and independent financial statements rely on trust, reliability and usefulness for users in decision making.

Equation 6 results show that accounting information advantage and efficient audit practice are significantly positively related in financial reporting reliability ($b_{45} = .196$, $p < .05$; $b_{46} = .261$, $p < .05$). Thus, Hypotheses 12 and 13 were supported. The results are consistent with prior researchers suggesting that the integrity of accounting information leads to information reliability and toward information usefulness (Watkins, Hillison, William, and Morecroft, 2004: 168).

Table 3 also tested Equation 7 on the relationship between stakeholder credibility and audit stability. The results show that stakeholder credibility has a significantly positive effect on audit stability ($b_{49} = .251$, $p < .05$). Moreover, stakeholder credibility can enhance audit stability (Peecher, Schwartz, and Solomon, 2007: 469). Thus, Hypothesis 14 was supported.

The effect of interaction between audit professional proficiency and professional regulation on consequences. The findings indicated that the interaction between professional regulations and audit holistic integration have a significantly positive effect on the accounting information advantage ($b_{12} = 0.192$, $p < .05$), and financial reporting reliability ($b_{23} = .154$, $p < .05$). Feng, Li, and McVay

(2009: 198), which suggest that knowledge integration has a positive effect on accounting information. If the auditor does not have the ability to manage knowledge integration, financial reporting may fail to develop. In addition, this interaction has a negative effect on efficient audit practice ($b_{34} = -.073$, $p > .05$). Therefore, hypotheses 21a-b were supported but hypothesis 21c was not supported.

Table 3 The Results of OLS Regression Analysisa

Independent Variables	Dependent Variables					
	E 1, 7: Audit Stability	E 2: Accounting Information Advantage	E 3: Financial Reporting Reliability	E 4: Efficient Audit Practice	E 5: Stakeholder Creditability	E 6: Financial Reporting Reliability
Audit Holistic Integration (AHI)	.253** (.067)	.223** (.073)	.283** (.041)	.226** (.068)		
Audit Tactic Intellectual (ATI)	.298** (.058)	.287** (.065)	.351** (.081)	.254** (.065)		
Audit Innovation Adoption (AIA1)	.242** (.071)	.304** (.048)	.209** (.076)	.135 (.041)		
Audit Proactive Control Strategy (APCS)	.216** (.075)	.014 (.050)	.227** (.080)	.043 (.043)		
Professional Regulation (PR)		.246** (.068)	.239** (.075)	.215** (.071)		
AHI x PR		.192** (.071)	.154** (.060)	-.073 (.077)		
ATI x PR		.204** (.083)	.215** (.093)	-.080 (.077)		
AIA1 x PR		.099* (.067)	.126** (.073)	.121* (.081)		

Table 3 The Results of OLS Regression Analysisa (Continue)

Independent Variables	Dependent Variables					
	E 1, 7: Audit Stability	E 2: Accounting Information Advantage	E 3: Financial Reporting Reliability	E 4: Efficient Audit Practice	E 5: Stakeholder Credibility	E 6: Financial Reporting Reliability
APCS x PR		.024 (.060)	.040 (.066)	-.011 (.070)		
Accounting Information Advantage (AIA ₂)					.238** (.040)	.196** (.053)
Financial Reporting Reliability (FRR)					.273** (.045)	
Efficient Audit Practice (EAP)					.284** (.039)	.261** (.053)
Stakeholder Credibility (SC)	.251** (.053)					
Gender (Gen)	.032 (.094)	-.051 (.066)	-.081 (.083)	.120 (.096)	-.045 (.067)	.135 (.088)
AGE	.140 (.094)	-.046 (.066)	-.122 (.083)	-.011 (.096)	-.032 (.068)	-.054 (.089)
Adjusted R square	.301	.369	.384	.432	.445	.434
Maximum VIF	3.593	3.593	3.593	3.593	3.328	3.147

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

The interaction between professional regulations and audit tactic intellectual has a significantly positive effect on accounting information advantage (b13 = 0.204, p < .05), and financial reporting reliability (b24 = .215, p < .05). However, this interaction has an insignificantly negative effect on efficient audit practice (b35 = -.080, p > .05). Certified

public accountants should effectively integrate their audit tactic intellectual so that it assists in manipulating the financial information and achieves a successful audit report. Therefore, Hypotheses 22a-b was supported but Hypotheses 22c was not supported.

Accordingly, the interaction between professional regulations and audit innovation

adoption has a significantly positive effect on accounting information advantage ($b_{14} = .099$, $p < .10$), financial reporting reliability ($b_{25} = .126$, $p < .05$), and efficient audit practice ($b_{36} = .121$, $p < .10$). Therefore, Hypotheses 23a-c was supported. Barrett, Cooper, and Jamal (2005: 15) suggest that new regulations may also threaten efficiency by creating additional audit work.

Moreover, the interaction between professional regulations and audit proactive control strategy have no significant or positive effect on accounting information advantage ($b_{15} = .024$, $p > .05$), and financial reporting reliability ($b_{26} = .040$, $p > .05$), but have a negative effect on efficient audit practice ($b_{37} = -.011$, $p > .05$). Therefore, Hypotheses 24a-c were not supported. Surprisingly, since professional regulations have a partly moderating effect on almost all relationships relating to audit professional proficiency on consequences. Certified public accountants who have the ability for effective knowledge implementation, led to the development of the highly structured audit process. In keeping with with Mansi, Maxwell, and Miller (2004: 762), this indicates that accounting outcomes efficiency increased

with effective audit proficiency and knowledge implementation.

Table 4 variance inflation factors (VIFs) show 3.198, which mean that the independent variables are not correlated with each other. Accordingly, there were no significant multicollinearity problems found in this study. This Table also presents the results of OLS regression analysis based on the positive relationship between antecedents of audit professional proficiency and the moderating effect of audit market competition.

Equations 8-11 results show that continual professional training has significantly positive effects on audit holistic integration ($b_{52} = .248$, $p < .05$), audit innovation adoption ($b_{70} = .147$, $p < .10$), and audit proactive control strategy ($b_{79} = .267$, $p < .05$). This finding supports the fact that auditors must require all professional auditors to take steps under their authority and to the extent of their capacity, to undertake the work they perform with proficiency. However, continual professional training has no significant effects on audit tactic intellectual ($b_{61} = .058$, $p > .10$). Thus, Hypotheses 15a, and 15c-d were supported but Hypothesis 15b was not supported.

Table 4 The Results of OLS Regression Analysis^a

Independent Variables	Dependent Variables			
	E 8: AHI	E 9: ATI	E 10: AIA2	E 11: APCS
Continual Professional Training (CPT)	.248** (.084)	.058 (.072)	.147* (.077)	.267** (.077)
Audit Technological Attentions (ATA)	.140* (.094)	.048 (.080)	.256** (.085)	.139* (.085)
Audit Process Improvement (API)	.132* (.064)	.134* (.055)	.268** (.059)	.241** (.059)
Audit Market Competition (AMC)	.116* (.093)	.175** (.080)	.049 (.085)	.033 (.085)
CPT x AMC	.087* (.090)	.074* (.077)	.031 (.082)	.077* (.082)
ATA x AMC	.016 (.098)	.023 (.084)	.028 (.090)	.013 (.090)
API x AMC	.096* (.112)	.058* (.096)	-.006 (.102)	-.020 (.102)
Gender (GEN)	.018 (.103)	-.081 (.088)	.006 (.094)	-.007 (.094)
AGE	.018 (.105)	-.024 (.090)	.009 (.095)	-.018 (.096)
Adjusted R square	.385	.374	.336	.357
Maximum VIF	3.198	3.198	3.198	3.198

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

Moreover, audit technological attentions have significant positive influences on audit holistic integration (b53 = .140, p < .10), audit innovation adoption (b71 = .256, p < .05), and audit proactive control strategy (b80 = .139, p < .10). The results prove that auditors should be professionally proficient based on their

experience in audit techniques that help to create an audit process. Thus, Hypotheses 16a, and 16c-d were supported but Hypothesis 16b was not supported.

In addition, audit process improvement has significantly positive impacts on audit holistic integration (b54 = .132, p < .10), audit

tactic intellectual ($b63 = .134, p < .10$), audit innovation adoption ($b72 = .268, p < .05$), and audit proactive control strategy ($b81 = .241, p < .05$). This evidence emphasizes that audit process improvement can reveal the auditors' signature in audit work by their control, and thereby maintain a long-term relationship with clients (Martinov-Bennie and Pflugrath, 2009: 244). Prior researches indicated that audit process improvement leads to clients' satisfaction, completing on-time, and being useful for the regulator (Nicolaou, 2000: 99). Thus, Hypotheses 17a-d was supported.

Finally, in Table 4 the result shows a significantly positive effect from audit market competition on the relationship between continual professional training---audit holistic integration ($b56 = .087, p < .10$), audit tactic intellectual ($b66 = .074, p < .10$), and audit proactive control strategy ($b83 = .077, p < .10$). Surprisingly, the result shows a significantly positive effect of audit market competition on the relationship between audit process improvement, audit holistic integration ($b58 = .096, p < .10$), and audit tactic intellectual ($b67 = .058, p < .10$). Thus, Hypotheses 18a-b, 18d, and 20a-b were supported but Hypotheses 18c, 19a-d and 20c-d were not supported. This indicated that an increase in audit market competition may motivate auditors to develop and increase professional proficiency for a new audit approach when providing services to clients.

Discussion

Auditing is a structured process that (a) involves the application of analytical skills, professional judgment and professional skepticism; (b) is usually performed by a team of professionals, directed by managerial strategy; (c) uses appropriate forms of technology and adheres to a methodology audit; (d) complies with all relevant technical standards, such as international Standards on Auditing (ISAs), International Standards on Quality Control (ISQCs), International Financial Reporting Standards (IFRS), International Public Sector Accounting Standards (IPSAS), and any applicable international, national or local equivalents; and (e) complies with required standards of professional ethics.

Auditing is also an integral part of the evolving systems of accountability and responsibilities within organizations and society worldwide. Audits of historical financial information may be mandated by regulations and laws. In addition, organizations may voluntarily undertake audits to evaluate the fairness of financial representations and assertions or to provide a credible report of the financial stewardship of their resources to their stakeholders.

Globalization of business has dramatically increased the need for consistent and high-quality financial reporting within countries and across borders. This directly affects both

accounting and auditing. Many stakeholders in today's global business environment expect compliance with recognized international standards in accounting and auditing. Establishing audit professional proficiency for the competence, professional skills and practical experience will help to promote and develop audit organizations, regulatory authorities, and other third parties.

This study also helps audit firms to understand the importance of audit professional proficiency that provide firm achievement goals. Moreover, this study provides the empirical evidence which may be of useful guidance to the audit function and audit task at the organizational level.

Conclusion

The concept of survival in the business world is achieved performance or organization goals, particularly for long-term operation audit firms. Audit professional proficiency is one of the cornerstones that play an important role in the audit task. Certified public accountants (CPAs) employ a variety of methods for gathering audit evidence to support audit management.

The objective of this study was to examine the effect of audit professional proficiency on audit stability of certified public accountants (CPAs) via the mediating effects of accounting information advantage, financial reporting

reliability, efficient audit practice and stakeholder creditability. Audit professional proficiency includes audit holistic integration, audit tactic intellectual, audit innovation adoption and an audit proactive control strategy, which are independent variables while audit stability is a dependent variable of this study. Antecedent variables include continual professional training, audit technological attentions and audit process improvement, and are hypothesized to have direct relationships with the dimensions of audit professional proficiency. The instrument for data collection is a questionnaire that was mailed to 355 certified public accountants in Thailand as the sample of the study. The results of OLS regression analysis indicate that audit professional proficiency has a positive impact on audit stability through audit outcomes as the mediators. In addition, antecedent variable have a positive relationship with audit professional proficiency. For moderating effects, both audit market competition and professional regulation shows a partially positive support. Consequently, audit professional proficiency is a significantly powerful tool for audit firm success, including enhancing effectiveness of the organization, achieve its performance goals and growth stability in the long-term.

Suggestion

In an economics crisis, the superior traits are continuously applied to improve the quality of audit work and create a reputation in the

audit profession. This study helps auditors to improve traits that lead to successful intelligence and maintain audit stability. Auditors should find other ways to continuously preserve the intelligent competence for audit proficiency. Meanwhile, the results provide auditors with the need to emphasize skill training, knowledge learning, and support the source of new information to increase skill and knowledge. For auditors, audit standards are regulated to develop capabilities of certified public accountants and tax auditors to apply audit professional proficiency in order to meet audit stability. Moreover, conducting in-depth interviews in future research is suggested because it may provide more in depth validity and reliability of the instrument and seek for new moderator relationships. In addition, it may provide other statistic tests and a new dimension to assess audit professional proficiency.

Likewise, to expand the research contributions and verify the research generalizability, future research is needed to collect data from other auditing professions such as tax auditors (TAs), governmental auditors (GAs), and co-operative auditors (CAs) or Thai-Listed firms in Thailand.

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