

Audit professional learning and the antecedents and consequences: an empirical study of tax auditors (TAs) in Thailand

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Keywords

Audit professional learning, Holistic knowledge integration, Audit tactic intellectual, Innovation learning mindset, Proactive audit learning strategy, Audit sustainability

Abstract

The objective of this study is to examine the effects of audit professional learning, (APL) which includes holistic knowledge integration, audit tactic intellectual, innovation learning mindset and proactive audit learning strategy on audit sustainability. The mediating influences accounting outcomes namely, accounting information advantage, financial reporting reliability, decision making success and stakeholder creditability of the relationship are also investigated. Continual professional training, audit technological attentions and audit process improvement are hypothesized to become the antecedents. Tax auditors (TAs) 365 (23.90%) are used as the sample. Questionnaire was used to collect data and analyze by the Ordinary Least Squares (OLS) regression analysis. The results indicate that audit professional learning has positive impact on audit sustainability through accounting outcomes as the mediators. In addition, continual professional training, audit technological attentions and audit process improvement have positive relationship with audit professional learning. For moderating effects, both audit market competition and professional regulation shows partially positive supported effects. In this study, it helps Tax auditors to support their work for sustainability. Finally, give the idea of applying to the management audit. Conclusion and suggestions for future study are discussed.

1. Introduction

The business environment is highly competitive and more varieties, complexity in business activities. However, executives will operate them to success for survival and growth into future. Learning is an important complicate resource of the firm creating competitive advantage. Increasing of audit learning is a high expectation from executive's requirement as a high quality accounting outcome and audit success and the serious factors effects stakeholder creditability in Tax auditors' performance (Obaidat, 2007). Thus, most of Tax auditors have attempted to identify by learning and performing auditing process to reasonable opinion regarding the financial statements audited (AICPA, 2006).

Nowadays, the audit should be performed and report prepared with due professional care by persons who are sufficient for training, experience and competence in auditing by audit professional learning. Consistent with Gul *et al.* (1994) who state that auditors are expected by third parties to have academic training in accounting, taxation, auditing, and other areas related to their profession. Thus, audit professional learning has been attached into auditing for best audit practices in an attempt to increase on accounting information advantage and usefulness to decision making (Hui and Fatt, 2007). Besides, individual learning as new knowledge or insights has the potential to influence learning behavior which inhibits the ability to perceive, acquires and utilizes new knowledge to enhance individual performance.

Previous auditing researches show that the variety of elements has an impact on audit performance including ability to use standard and core principle for audit work (Howieson, 2009), communication and relationship between auditor and client (Hilton and Souhgate, 2007), knowledge and skill of audit techniques, and audit professional learning (Leung and Trotman, 2005). Nevertheless, this study proposes that the audit professional learning is the element of audit sustainability.

This study examines the audit professional learning of Tax auditors in Thailand. The reason is that Tax auditors 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 do accounting information advantage, financial reporting reliability, decision making success, and

stakeholder credibility mediate the relationship among audit professional learning and audit sustainability?, (2) how do accounting information advantage, financial reporting reliability and decision making success have an effect on stakeholders credibility?, (3) how do accounting information advantage and decision making success effect on financial reporting reliability?, (4) how does the stakeholder credibility have an effect on audit sustainability?, (5) how do the antecedents (continual professional training, audit technological attentions and audit process improvement) have an effect on audit professional learning?, (6) how does audit market competition moderate the relationship among antecedents and audit professional learning?, and (7) how does professional regulation moderate the relationship among audit professional learning and mediating?

2. Research Objectives

The main objectives of this study are as follows: (1) to empirically examine the relationships between audit professional learning and audit sustainability, (2) to examine the mediating effects of four consequences on the audit sustainability relationships; specially (3) to investigate the association between accounting information advantage and decision making success on financial reporting reliability, (4) to explore the relationships among three antecedents on audit professional learning. Moreover (5) to scrutinize the relationships between audit professional learning and consequences by using professional regulation as a moderator and (6) to test audit market competition as a moderator between antecedents and audit professional learning relationships.

3. Literature Review and Hypotheses Development

This research applies social cognitive theory and contingency theory to explain conceptual framework, to support how audit professional learning affects audit sustainability. Social cognitive theory emphasizes on behavior not only through our own experiences (what we act) but also by watching others (what we learn) depending on many factors (Nelson, 2009). So, this theory explains both cognitive and behavioral framework to environmental influences as follows: people can learn by outcomes of those behaviors; learning may or may not result in a behavior change; the reason for people to learn through observation alone may not enough for quality; awareness and use learning as the bridge association between behaviorists learning theories and cognitive learning theories (Bandura, 1977).

Secondly, contingency theory is applied to explain the moderating effects of audit market competition, and professional regulation, are viewed as the exogenous or environmental factors in auditing affecting Tax auditor's individual learning.

4. Conceptual Framework

Conceptual research is that related to some abstract idea(s) or theory. It is generally used by philosophers and thinkers to develop new concepts or to reinterpret existing one. The concept of audit professional learning seems to have emerged from a variety of sources. In this study, I describe four characteristics of audit professional learning highlighted in the literature, and question whether audit professional learning go through audit sustainability. Then, a conceptual model is presented as shown in Table 1

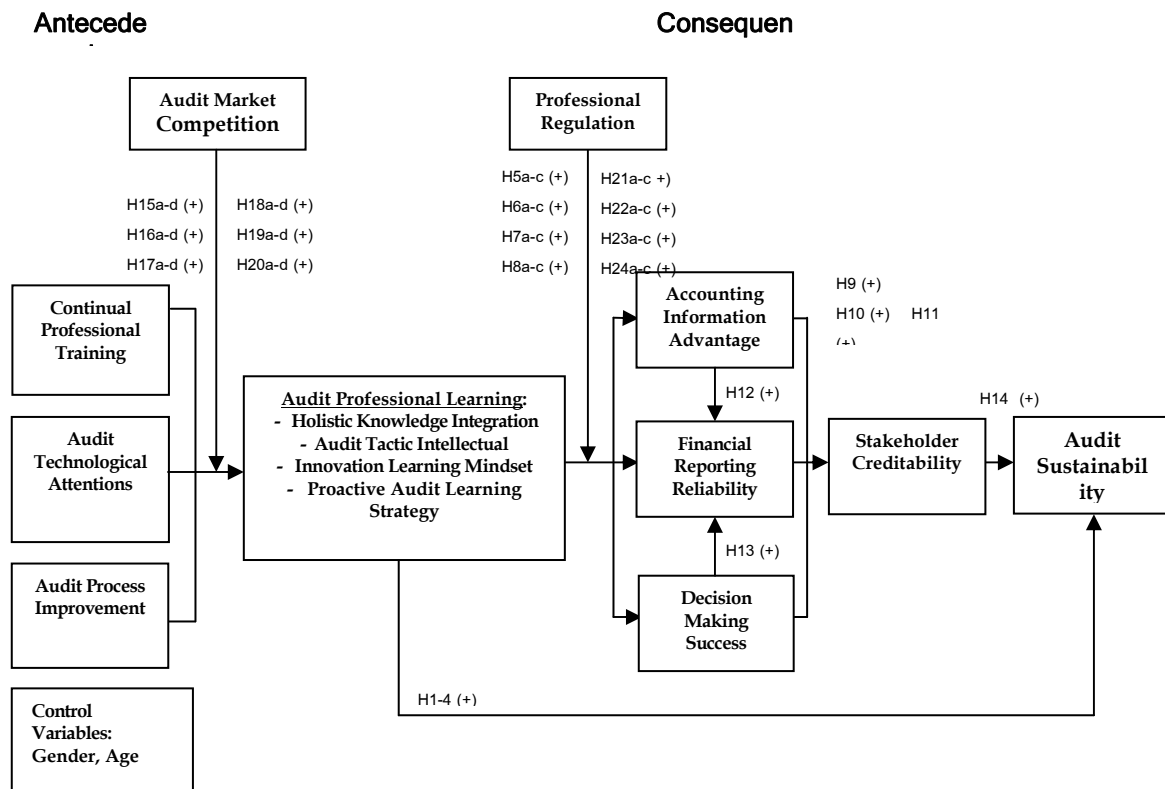


Table 1: Conceptual Model of Audit Professional Learning and the Antecedents and Consequences: an Empirical Study of Tax Auditors (TA) in Thailand

5. Audit Professional Learning

Audit professional learning is the process to identify whether our operations and practices are in compliance with regulatory requirements, company policies and procedures following accepted standards. Resemble to Allen (2005) who suggests that individual learning supports to enhance teamwork, lead to share and discuss in group and manage to make learning as a team easier. In this study, audit professional learning refers to the main processes which auditors acquire learning to insights in new knowledge and using behavior to enhance audit competency and audit professional.

5.1 Holistic Knowledge Integration refers to the process of incorporating new information and integration knowledge among different audit functional within the audit process that basically can increase efficiently for the audit sustainability. In this study, we define process and integrate information in audit knowledge that attempts to receive data context, elaborate learning transfer and attention to techniques such as training, observation, expansion and improving for learning efficiency. Therefore, Hypothesis 1 and Hypotheses 5a-c are formulated as follows:

Hypothesis 1: The greater the holistic knowledge integration is, the more likely that auditors will achieve higher audit sustainability.

Hypotheses 5a-c: The higher the holistic knowledge integration is expected to improve (a) accounting information advantage, (b) financial reporting reliability, and (c) decision making success to focus more clearly on its core business.

5.2 Audit Tactic Intellectual 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, protection risk audit activity and decision making. The advantage of audit tactic intellectual leads tax auditors to assess overall and look around of the audit work that they evaluate. Conclusively, tax auditors can increase the confidence of assurance in the correct of audit goals. Therefore, hypothesis 2 and Hypotheses 6a-c are formulated as follows:

Hypothesis 2: The greater the audit tactic intellectual is, the more likely that auditors will achieve higher audit sustainability.

Hypotheses 6a-c: The higher the audit tactic intellectual is expected that auditors will improve (a) accounting information advantage, (b) financial reporting reliability, and (c) decision making success to focus more clearly on its core business.

5.3 Innovation Learning Mindset is as an attempt to acquires new information that develop and maintains in audit professional. In this study, innovation learning mindset refers to ability to learn, to invent and implement in audit technology that appropriately helps provide information needed, in order to achieve audit goals which, in turn excellence audit credibility. Therefore, Hypothesis 3 and Hypotheses 7a-c are formulated as follows:

Hypothesis 3: The greater the innovation learning mindset is, the more likely that auditors will achieve higher audit sustainability.

Hypotheses 7a-c: The higher the innovation learning mindset is expected that auditors will improve (a) accounting information advantage, (b) financial reporting reliability, and (c) decision making success to focus more clearly on its core business.

5.4 Proactive Audit Learning Strategy is necessary to seek information and knowledge about competition in order to find way to complete audit sustainability. In this study, proactive audit learning strategy is defined as learning in the change of auditors needs and the dynamics of competitive forces in order to continuously adapt to firms' operation (Hewett *et al.*, 2003). Without an effective learning, the firms face risks of losing competitive adaptability and long term survival. Therefore, Hypothesis 4 and Hypotheses 8a-c are formulated as follows:

Hypothesis 4: The greater the proactive audit learning strategy is, the more likely that auditors will achieve higher audit sustainability.

Hypotheses 8a-c: The higher the proactive audit learning strategy is expected to improve (a) accounting information advantage, (b) financial reporting reliability, and (c) decision making success to focus more clearly on its core business.

6. Mediating Effects of Relationships-Accounting Outcomes

Accounting outcomes derived from audit professional learning are differently categorized in two distinct levels. The first sheds light on accounting operation perspective comprises of accounting information advantage, financial reporting reliability, and decision making success. Another one is stakeholder creditability.

6.1 Accounting Information Advantage acts as the provider of quality information that represents to related users. Effective accounting information significantly heightens efficiency of business administration (Davenport, 1998) that improves the ability of managerial decision making (Ismail and King, 2005).

In this study, accounting information advantage is defined as the potency of information processing and presentation of auditing regarding to business administration's rules and provides relevant information for management decision makers (Dull *et al.*, 2003; Ray *et al.*, 2003; Jermias and Gani, 2004; Feng and McVay, 2009). Therefore, the hypotheses 9 and 12 are formulated as follows:

Hypothesis 9: The higher the accounting information advantage is, the more likely that auditors will gain greater stakeholder creditability.

Hypothesis 12: Change in accounting information advantage form exists and may be related to an increased use of financial reporting reliability.

6.2 Financial Reporting Reliability refers the information in prepared financial statement that is free from material error and bias and can faithfully represent actual events and transactions (IASB, 2001). Financial reports reliability should contain the qualitative characteristics that composed of understandability, reliability, comparability, relevance, materiality, prudence, substance over form, and completeness (Nicolaou, 2000; Premuroso and Bhattacharya, 2008; Cormier *et al.*, 2009). Then, the higher audit sustainability will occur. Therefore, hypothesis 10 is formulated as follows:

Hypothesis 10: The higher the financial reporting reliability is, the more likely that auditors will gain greater stakeholder creditability.

6.3 Decision Making Success refers to the attainment in the selection among business alternatives that enables firms achieve their business objectives and audit goals. Thus, these effects should be associated with the improvement stakeholder creditability and audit sustainability (Poston and Grabski, 2001). Therefore, Hypotheses 11 and 13 are formulated as follows:

Hypothesis 11: The higher the decision making success is, the more likely that auditors will gain greater stakeholder creditability.

Hypothesis 13: Change in decision making success form exists and may be related to an increased use of financial reporting reliability.

6.4 Stakeholder Creditability reports on audited financial statements confidentiality are appeared to fill the demand for stakeholders (Nelson and Kinney, 1997; Bamber and Stratton, 1997). The stakeholder creditability refers to satisfactory consideration in auditors' performance by someone who uses financial statements. The financial statements are a serious problem with widespread and significant consequences (Miller *et al.*, 1993). Therefore, the hypothesis 14 is formulated as follows:

Hypothesis 14: The stronger stakeholder creditability is, the more likely that auditors will achieve greater audit sustainability.

7. Antecedents of Audit Professional Learning

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

7.1 Continual Professional Training refers to an auditor's always learning attitude that variety 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 conservations with among auditors (Real *et al.*, 2006; Wong and Cheung, 2008). Therefore, the hypothesis 15 is formulated as follows:

Hypotheses 15a-d: Audit firms which having continual professional training, are more likely to have a greater extent of audit professional learning.

7.2 Audit Technological Attentions refers to auditor's talent to implementation the advance programs/tools/ techniques as computer-assisted that can automate an aspect of the audit (Curtis and Payne, 2008). Several prior researches codify the increased role for technology in audit practice because audit technological attentions reduced audit hours for the task, and the greatly increasing the reliability of conclusion (AICPA, 2001). Therefore, the hypothesis 16 is formulated as follows:

Hypotheses 16a-d: Audit firms which having audit technological attentions, are more likely to have a greater extent of audit professional learning.

7.3 Audit Process Improvement refers to the enhancement of accounting process and auditing sustainability, which consists of data collection, classification, analyzed, summary, and report. Intentionally, audit process improvement is designed around the best audit professional learning (Davenport, 1998; O'Leary, 2002), enhancing the ability in interpretation and presentation. Therefore, the hypothesis 17 is formulated as follows:

Hypotheses 17a-d: Audit firms which having audit process improvement, are more likely to have a greater extent of audit professional learning.

8. 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.

8.1 Audit Market Competition. Auditors are concerned when change of market competition audited work to develop the higher professional skills when they serve their clients. In this study, audit market competition is positively related to audit professional learning. Therefore, the hypotheses 18-20 are formulated as follows:

Hypotheses 18-20: The impact of leverage audit market competition is, the relationship will be more positive between antecedents and (a) holistic knowledge integration, (b) audit tactic intellectual, (c) innovation learning mindset, and (d) proactive audit learning strategy is.

8.2 Professional Regulation is defined as the professional role and controlled by regulator or profession institutions that have a direct effect on the audit task and outcome. Barratt (2005) suggests that new regulation (Sarbanes-Oxley Act of 2002) may also threaten efficiency by creating additional audit work.

Hypotheses 21-24: The impact of leverage professional regulation is, the relationship will be more positive between audit professional learning and (a) accounting information advantage, (b) financial reporting reliability, (c) decision making success is.

9. Research Methodology

Research Methodology is a way to systematically solve the research problem. Consistent with my theoretical perspective that Tax auditor professional is socially constituted groups, evidence was gathered through quantitative analysis, and so developed a questionnaire to be sent to and find out how people feel or what they think about a particular subject or institution is also quantitative research. The aims were explored through two sets of research method – sample and data collection procedure and questionnaire development and variable measurement.

9.1 Sample and Data Collection Procedure

The population is Tax auditors in Thailand, because each of auditors have practiced different accounting outcome and has gained various performance. The sample of this research is chosen from the Revenue Department database online: <http://www.rd.go.th>. This data base includes 1,527 tax auditors. The equation under the 95% confidentiality is used to calculate appropriate sample size by Krejcie Morgan method. Accordingly, based on prior business research, 20% response rate for a mail survey, without an appropriate follow-up procedure is sufficient (Aaker *et al.*, 2001). With respect to the questionnaire mailing, 383 responses are returned, 17 of the auditor surveys are not complete because some auditors dismissed in audit or had moved to unknown locations. 365 responses are usable. The effective response rate is approximately 23.90%.

9.2 Questionnaire Development and Variable Measurement

The purpose of the questionnaire development is to determine relevance of the questions and the extent to which there may be problems in obtaining responses. Moreover, variable measurement is a research tool and also a research area, that validity is whether or not a measurement is really measuring the item of interest. In contrast, reliability focuses on the consistency of the measurement. If a measurement is reliable you should get the same results if you repeat it.

Six parts of questionnaires include: part one is for demography, part two through four are dimensions of audit professional learning construct. Part three discusses construct of accounting outcomes, stakeholder creditability, and audit sustainability. Part four is for antecedents construct. Part five dispute construct of moderating effect. And the final part is an open-ended for suggestions and opinion.

9.3 Reliability and Validity

Confirmatory factor analysis (CFA) was used to test the validity of instrument to confirm that a measure or set of measures accurately represents the concept. This analysis has a high potential to inflate the component loadings. Therefore, a higher rule-of-thumb, a cut-off value of 0.40, was accepted (Nunnally and Berstein, 1994) and used Cronbach's alpha to measure the internal consistency which should be greater than 0.70 (Hair *et al.*, 2006). Table 2, shows that all variables have factor loading cores between 0.647 - 0.865 indicating that there is the construct validity. Also, the Cronbach's Alpha coefficients for all variables ranging from 0.706 - 0.855 indicates that these constructs accepted reliability level (Cronbach, 1951).

Variables	Factor Loadings	Cronbach's Alpha
Audit Sustainability (AS)	0.836 - 0.852	0.835
Holistic Knowledge Integration (HKI)	0.778 - 0.865	0.812
Audit Tactic Intellectual (ATI)	0.733 - 0.816	0.798
Innovation Learning Mindset (ILM)	0.795 - 0.849	0.753
Proactive Audit Learning Strategy (PAS)	0.804 - 0.863	0.855
Accounting Information Advantage (AIA)	0.733 - 0.804	0.724
Financial Reporting Reliability (FRR)	0.680 - 0.793	0.806
Decision Making Success (DMS)	0.711 - 0.863	0.827
Stakeholder Credibility (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

Table 2: The Results of Measure Validation

Correlation analysis was used to test correlation among all variables for the initial analysis. Then, factor analysis is used to group highly correlated variables together and the factor score of all variables is prepared to avoid the multicollinearity problem. Then, the Ordinary Least Squares (OLS) regression analysis is used to test all hypotheses following the conceptual model. We used to examine the hypothesized relationships, the equation models are shown as follows:

$$\text{Equation 1: AS} = \alpha_1 + \beta_1\text{HKI} + \beta_2\text{ATI} + \beta_3\text{ILM} + \beta_4\text{PAS} + \beta_5\text{SEX} + \beta_6\text{AGE} + \epsilon$$

$$\text{Equation 2: AIA} = \alpha_2 + \beta_7\text{HKI} + \beta_8\text{ATI} + \beta_9\text{ILM} + \beta_{10}\text{PAS} + \beta_{11}\text{PR} + \beta_{12}(\text{HKI} * \text{PR}) + \beta_{13}(\text{ATI} * \text{PR}) + \beta_{14}(\text{ILM} * \text{PR}) + \beta_{15}(\text{PAS} * \text{PR}) + \beta_{16}\text{SEX} + \beta_{17}\text{AGE} + \epsilon$$

$$\text{Equation 3: FRR} = \alpha_3 + \beta_{18}\text{HKI} + \beta_{19}\text{ATI} + \beta_{20}\text{ILM} + \beta_{21}\text{PAS} + \beta_{22}\text{PR} + \beta_{23}(\text{HKI} * \text{PR}) + \beta_{24}(\text{ATI} * \text{PR}) + \beta_{25}(\text{ILM} * \text{PR}) + \beta_{26}(\text{PAS} * \text{PR}) + \beta_{27}\text{SEX} + \beta_{28}\text{AGE} + \epsilon$$

$$\text{Equation 4: DMS} = \alpha_4 + \beta_{29}\text{HKI} + \beta_{30}\text{ATI} + \beta_{31}\text{ILM} + \beta_{32}\text{PAS} + \beta_{33}\text{PR} + \beta_{34}(\text{HKI} * \text{PR}) + \beta_{35}(\text{ATI} * \text{PR}) + \beta_{36}(\text{ILM} * \text{PR}) + \beta_{37}(\text{PAS} * \text{PR}) + \beta_{38}\text{SEX} + \beta_{39}\text{AGE} + \epsilon$$

$$\text{Equation 5: SC} = \alpha_5 + \beta_{40}\text{AIA} + \beta_{41}\text{FRR} + \beta_{42}\text{DMS} + \beta_{43}\text{SEX} + \beta_{44}\text{AGE} + \epsilon$$

$$\text{Equation 6: FRR} = \alpha_6 + \beta_{45}\text{AIA} + \beta_{46}\text{DMS} + \beta_{47}\text{SEX} + \beta_{48}\text{AGE} + \epsilon$$

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

$$\text{Equation 8: HKI} = \alpha_8 + \beta_{52}\text{CPT} + \beta_{53}\text{ATA} + \beta_{54}\text{API} + \beta_{55}\text{AMC} + \beta_{56}(\text{CPT} * \text{AMC}) + \beta_{57}(\text{ATA} * \text{AMC}) + \beta_{58}(\text{API} * \text{AMC}) + \beta_{59}\text{SEX} + \beta_{60}\text{AGE} + \epsilon$$

$$\text{Equation 9: ATI} = \alpha_9 + \beta_{61}\text{CPT} + \beta_{62}\text{ATA} + \beta_{63}\text{API} + \beta_{64}\text{AMC} + \beta_{65}(\text{CPT} * \text{AMC}) + \beta_{66}(\text{ATA} * \text{AMC}) + \beta_{67}(\text{API} * \text{AMC}) + \beta_{68}\text{SEX} + \beta_{69}\text{AGE} + \epsilon$$

$$\text{Equation 10: ILM} = \alpha_{10} + \beta_{70}\text{CPT} + \beta_{71}\text{ATA} + \beta_{72}\text{API} + \beta_{73}\text{AMC} + \beta_{74}(\text{CPT} * \text{AMC}) + \beta_{75}(\text{ATA} * \text{AMC}) + \beta_{76}(\text{API} * \text{AMC}) + \beta_{77}\text{SEX} + \beta_{78}\text{AGE} + \epsilon$$

$$\text{Equation 11: PAS} = \alpha_{11} + \beta_{79}\text{CPT} + \beta_{80}\text{ATA} + \beta_{81}\text{API} + \beta_{82}\text{AMC} + \beta_{83}(\text{CPT} * \text{AMC}) + \beta_{84}(\text{ATA} * \text{AMC}) + \beta_{85}(\text{API} * \text{AMC}) + \beta_{86}\text{SEX} + \beta_{87}\text{AGE} + \epsilon$$

10. Research Findings

Table 2 presents the results of OLS regression analysis based on equation 1. The hypotheses 1-4 predicted positive relationships. Accordingly, the results show that holistic knowledge integration, audit tactic intellectual, innovation learning mindsets and proactive audit learning strategy have a positive significant effect on audit sustainability ($b_1 = .253, p < .05$; $b_2 = .298, p < .05$; $b_3 = .242, p < .05$; $b_4 = .216, p < .05$). Thus, H1- 4 are supported. The results to support that previous relevant research by Struweg and Meingtjes (2008), the findings can imply that auditors with more professional learning in audit advance of knowledge, skills, competence, improve audit planning, and audit tactic are enhance auditors' job reliability and achieve audit sustainability.

Equations 2-4 show the hypotheses that predicted are positively effects dimensions of audit professional learning on accounting outcomes. In equation 2, the results indicate that the holistic

knowledge integration ($b_7 = .223$, $p < 0.05$), audit tactic intellectual ($b_8 = .287$, $p < 0.05$), innovation learning mindset ($b_9 = .304$, $p < 0.05$) have significant positive effects on accounting information advantage. Thus, Hypotheses 5a, H6a and H7a are supported, only proactive audit learning strategy ($b_{10} = .014$, $p > 0.05$), Thus, H8a is not supported. Consistent with Malter and Dickson (2001) who found that the audit learning ability as the best individual mental models often become visible to group members and related to accounting information.

Meanwhile in equation 3, the results show that the holistic knowledge integration ($b_{18} = .283$, $p < 0.05$), audit tactic intellectual ($b_{19} = .351$, $p < 0.05$), innovation learning mindset ($b_{20} = .209$, $p < 0.05$), and proactive audit learning strategy ($b_{21} = .227$, $p < 0.05$) have significant positive effects on financial reporting reliability. Thus, Hypotheses H5b-H8b are supported. Moreover, in equation 4, the results show that holistic knowledge integration ($b_{29} = 0.226$, $p < 0.05$), and audit tactic intellectual ($b_{30} = .254$, $p < 0.05$) have significant positive effects on decision making success. However, the results show that innovation learning mindset ($b_{31} = .135$, $p > 0.05$), and proactive audit learning strategy ($b_{32} = .043$, $p > 0.05$) have insignificant effect on decision making success. This means that Tax auditor's action learning, and tacit learning is implemented to achieve accounting outcome. Thus, Hypotheses H5c, and H6c are supported but Hypotheses H7c, 8c are not supported.

Equation 5, results showed that accounting information advantage, financial reporting reliability and decision making success are positively significant on stakeholder credibility ($b_{40} = .238$, $p < 0.05$; $b_{41} = .273$, $p < 0.05$; and $b_{42} = .284$, $p < 0.05$). Therefore, Hypotheses 9-11 are supported. The results consist of the prior research which indicated that the expertise action of auditors which promise their accounting information and independent in financial statement rely on trust, reliability and usefulness for users in decision making (Ferris *et al.*, 2007).

Equation 6, the result shows that accounting information advantage and decision making success are positively significant related on financial reporting reliability ($b_{45} = .196$, $p < 0.05$; $b_{46} = .261$, $p < 0.05$). Thus, Hypotheses 12 and 13 are supported. The result consistent with prior researchers suggests that the integrity of accounting information leads to information reliability and toward information usefulness (Watkins *et al.*, 2004; Arens and Loebbecke, 1994).

In Table 3, also tested equation 7 the relationship between stakeholder creditability and audit sustainability. The results show that stakeholder creditability has a significant positive effects on audit sustainability ($b_{49} = .251$, $p < 0.05$). Moreover, this result similar to stakeholder creditability can enhance audit sustainability (Peecher *et al.*, 2007). Thus, Hypothesis 14 is supported. The effect of interaction between audit professional learning and professional regulation on consequences. The findings indicated that the interaction between professional regulation and holistic knowledge integration have a positive significant effect on accounting information advantage ($b_{12} = 0.192$, $p < 0.05$), and financial reporting reliability ($b_{23} = .154$, $p < 0.05$). Feng and McVay (2009) suggest that knowledge integration has positive effect on accounting information, if auditor does not has ability to manage integrate knowledge, it may fail to develop audit sustainability. In addition, this interaction have a negative effect on decision making success ($b_{34} = -.073$, $p > 0.05$), Therefore, Hypotheses 21a-b are supported but Hypothesis 21c is not.

Independent Variables	Dependent Variables					
	E 1, 7: Audit Sustainability	E 2: Accounting Information Advantage	E 3: Financial Reporting Reliability	E 4: Decision Making Success	E 5: Stakeholder Creditability	E 6: Financial Reporting Reliability
Holistic Knowledge Integration (HKI)	.253** (.067)	.223** (.073)	.283** (.041)	.226** (.068)		
Audit Tactic Intellectual (ATI)	.298** (.058)	.287** (.065)	.351** (.081)	.254** (.065)		
Innovation Learning Mindset (ILM)	.242** (.071)	.304** (.048)	.209** (.076)	.135 (.041)		
Proactive Audit Learning Strategy (PAS)	.216** (.075)	.014 (.050)	.227** (.080)	.043 (.043)		
Professional Regulation (PR)		.246** (.068)	.239** (.075)	.215** (.071)		
HKI x PR		.192** (.071)	.154** (.060)	-.073 (.077)		
ATI x PR		.204** (.083)	.215** (.093)	-.080 (.077)		
ILM x PR		.099* (.067)	.126** (.073)	.121* (.081)		
PAS x PR		.024 (.060)	.040 (.066)	-.011 (.070)		
Accounting Information Advantage (AIA)					.238** (.040)	.196** (.053)
Financial Reporting Reliability (FRR)					.273** (.045)	
Decision Making Success (DMS)					.284** (.039)	.261** (.053)
Stakeholder Creditability (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.Table 3: The Results of OLS Regression Analysis^a

Equation 6, the result shows that accounting information advantage and decision making success are positively significant related on financial reporting reliability ($b_{45} = .196$, $p < .05$; $b_{46} = .261$, $p < .05$). Thus, Hypotheses 12 and 13 are supported. The result consistent with prior researchers suggests that the integrity of accounting information leads to information reliability and toward information usefulness (Watkins *et al.*, 2004; Arens and Loebbecke, 1994).

In Table 3, also tested equation 7 the relationship between stakeholder creditability and audit sustainability. The results show that stakeholder creditability has a significant positive effects on

audit sustainability ($b_{49} = .251, p < .05$). Moreover, this result similar to stakeholder creditability can enhance audit sustainability (Peecher *et al.*, 2007). Thus, Hypothesis 14 is supported.

The effect of interaction between audit professional learning and professional regulation on consequences. The findings indicated that the interaction between professional regulation and holistic knowledge integration have a positive significant effect on accounting information advantage ($b_{12} = 0.192, p < 0.05$), and financial reporting reliability ($b_{23} = .154, p < 0.05$). Feng and McVay (2009) suggest that knowledge integration has positive effect on accounting information, if auditor does not has ability to manage integrate knowledge, it may fail to develop audit sustainability. In addition, this interaction have a negative effect on decision making success ($b_{34} = -.073, p > 0.05$). Therefore, Hypotheses 21a-b are supported but Hypothesis 21c is not.

The interaction between professional regulation and audit tactic intellectual have positive significant effect on accounting information advantage ($b_{13} = 0.204, p < 0.05$), and financial reporting reliability ($b_{24} = .215, p < 0.05$). However, this interaction has a negative effect on decision making success ($b_{35} = -.080, p > 0.05$), and insignificant. Tax auditors should effectively integrate of their audit tactic intellectual, that assists to perform the financial information and gain audit report. Therefore, Hypotheses 22a-b are supported but Hypotheses 22c is not.

Accordingly, the interaction among professional regulation and innovation learning mindset have significant and positive effect on accounting information advantage ($b_{14} = .099, p < 0.10$), financial reporting reliability ($b_{25} = .126, p < 0.05$), and decision making success ($b_{36} = .121, p < 0.10$). Therefore, Hypotheses 23a-c are supported. Barrett (2005) [30] suggests that new regulation may also threaten efficiency by creating additional audit work.

Moreover, the interaction between professional regulation and proactive audit learning strategy have no significant and positive effect on accounting information advantage ($b_{15} = .024, p > 0.05$), and financial reporting reliability ($b_{26} = .040, p > 0.05$), but negative effect on decision making success ($b_{37} = -.011, p > 0.05$). Therefore, Hypotheses 24a-c are not supported. Surprisingly, the professional regulation is partially moderator effect on almost the relationships among audit professional learning on consequences. Tax auditors who are affected by effective knowledge implementation, led to develop of highly structure audit process. Consistent with Mansi and Maxwell (2004) indicated that accounting outcomes efficiency increased with effective learning and knowledge implementation.

Independent Variables	Dependent Variables			
	E 8: APL (HKI)	E 9: APL (ATI)	E 10: APL (ILM)	E 11: APL (PAS)
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.

Table 4: The Results of OLS REGRESSION Analysis^a

Table 4, variance inflation factors (VIFs) shows 3.198 meaning that the independent variables are not correlated with each other. Accordingly, there are no significant multicollinearity problems confronted in this study. This table also presents the results of OLS regression analysis based on the relationship positively between antecedents of audit professional learning and moderating effect of audit market competition.

Equations 8-11, the result shows that continual professional training has significant positive effects on holistic knowledge integration ($b_{52} = .248, p < .05$), innovation learning mindset ($b_{70} = .147, p < .10$), and proactive audit learning strategy ($b_{79} = .267, p < .05$). This finding supports that auditors must require all professional audit to take steps under their authority in capacity, to undertake the work they perform by learning. However, continual professional training has no significant effects on audit tactic intellectual ($b_{61} = .058, p > .10$). Thus, Hypotheses 15a, H15c-d are supported but H15b is not.

Moreover, audit technological attentions has significant positive influences on holistic knowledge integration ($b_{53} = .140, p < .10$), innovation learning mindset ($b_{71} = .256, p < .05$), and proactive audit learning strategy ($b_{80} = .139, p < .10$). The results provide that auditors should be audit professional by their experience in audit techniques that helps to create on audit process. Thus, Hypotheses 16a, H16c-d are supported but H16b is not.

In addition, audit process improvement has significant positive impacts on holistic knowledge integration ($b_{54} = .132, p < .10$), audit tactic intellectual ($b_{63} = .134, p < .10$), innovation learning mindset ($b_{72} = .268, p < .05$), and proactive audit learning strategy ($b_{81} = .241, p < .05$). This evidence summarizes that audit process improvement can indicate auditors' act in audit work by their control and maintain to clients (Bennie and Pflugrath, 2009). Prior researches indicated that audit process improvement leads to make a clients' satisfaction, on-time, useful for regulator. Thus, Hypotheses 17a-d are supported.

Finally, table 4, the result shows significant positive effective of audit market competition on the relationship between continual professional training-holistic knowledge integration ($b_{56} = .087, p < .10$), audit tactic intellectual ($b_{66} = .074, p < .10$), and proactive audit learning strategy ($b_{83} = .077, p < .10$). Surprisingly, the result shows significant positive effect of audit market competition on the relationship among audit process improvement-holistic knowledge integration ($b_{58} = .096, p < .10$), audit tactic intellectual ($b_{67} = .058, p < .10$). Thus, Hypotheses 18a-b, H18d, and H20a-b, are supported but H18c, H19a-d and H20c-d are not. This indicated that if increasing in audit market competition may motivate auditor to develop and learning for new audit approach when providing services to clients.

11. Research 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 with managerial skills; (c) uses appropriate forms of technology and adheres to a methodology; (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 organization and society worldwide. Although audits of historical financial information may be mandated by regulation 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 learning for the competence, professional skills and practical experience will help to promote and develop, audit organizations regulatory authorities, and other third parties.

12. Recommendations

In economics crisis, the superior traits are continuously applied to improve quality of audit and make frame in audit profession. This research helps auditors to improve traits that lead to successful intelligence and maintain audit sustainability. Auditors should find other ways in order to continuously preserve the intelligence competence for learning. Meanwhile, The results provide auditors to emphasize on the skill training, knowledge learning, and support the source of new information to person in order to increase skill and knowledge. And for auditors, audit standards are regulated to develop capabilities of tax auditors and to apply audit professional learning in order to meet audit success. Moreover, in-depth interview is for future suggestion because it may provide a wider ground in validity and reliability of the instrument and seek for new moderator relationship. In addition, it may provide other statistic test and the new dimension to assess audit professional learning.

13. References

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