Forensic accounting competency and audit success: an empirical research of certified public accountants (CPAs) in Thailand

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Abstract

The objectives of the present study were 1) to examine the effects of forensic accounting competency on audit strategy, audit practice, and audit success, and 2) to investigate the effects of audit experience, technology competency, and environmental force on forensic accounting competency. The certified public accountants (CPAs) in Thailand were the key informants. The population of this research was obtained from the database of The Federation of Accounting Professions. The data were collected from the mailed questionnaire assigned to 346 auditors in Thailand and response rate was 21.69%. The hypothesized relationships were examined by ordinary least square (OLS) regression analysis. The findings demonstrated that the forensic accounting competency had positive effects on audit strategy, audit practice, and audit success. Furthermore, audit experience, technology competency, and environmental force have a positive influence on forensic accounting competency. It also discovered that forensic accounting competency was a significant factor which droved auditing proficiency, including audit strategy and audit practice, thus leading to audit success. In addition, increasing various types of audit experience, technology competency, continuous learning, up-skilling, or re-skilling was a vital factor which could affect forensic accounting competency.

Keywords : Forensic Accounting Competency, Audit Strategy, Audit Practice, Audit Success

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1. Introduction

Corruption is a very important problem for businesses around the world. The renowned corporate accounting and financial scandals, such as Enron and WorldCom, have resulted in increased legal and regulatory requirements, for example the Sarbanes–Oxley Act of 2002 and the Emergency Economic Stabilization Act of 2008 (EESA). The recent scandal of the failure to investigate Wirecard's audit fraud is an example of the forensic accounting. As a result of its involvement in auditing such a company's accounting, Ernst & Young (EY) is experiencing increased legal pressure. Furthermore, as reported by German news magazine Der Spiegel, SoftBank intends to file a lawsuit against EY over that incident. Having detected 1.9 billion euros or 2.1 billion dollars absent from the firm's balance sheet, the accountancy declined to approve Wirecard's 2019 accounts. As a consequence, a complaint was filed against two current employees and one former employee of Wirecard's auditor (CNBC, 2020).

In light of this case, it shows that the traditional auditing' skill seems inadequate for the sophisticated fraud and collusive fraud, which involves multiple parties with a deliberate aim of deception. Therefore, auditors in the new era of digital economy should enhance their abilities in preventing and detecting fraud with accounting knowledge, which is referred to as forensic accounting. In today's reporting environment of digital-age, there has been considerable demand for forensic accountants due to their specialized accounting, auditing, legal and investigative skills. Hence, forensic accounting is an essential competency for tackling financial deception and accounting scandals (Bhasin, 2015). The inadequacy of statutory audit to prevent and minimize misappropriation of corporate fraud, along with growth of corporate crimes has urged professional accountants and legal practitioners to seek a more effective approach to uncovering fraud in business world (Emeh & Obi, 2013).

Furthermore, given the implementation of the national strategy in the 4.0 era which focuses on the importance of preventing and combating corruption, there is a tremendous risk for corporations to be used as a channel for a complex fraud which is commonly referred to as money laundering. In this form of fraud, accounting professionals, such as accountants, internal auditors, and certified public accountants including business owners and executives of corporate entities face a risk of being involved in money laundering without being aware of such a fraudulent activity. Moreover, the recent guidelines of the UN Convention and an international standard named as the Financial Action Task Force (FATF) specify accounting professionals as part of Designated Non-Financial Businesses and Professions (DNFBPs) are at risk of carrying out money laundering activities and concealing fraud through corporate entities. Forensic and investigative accounting entails using financial skills and investigative mentality to tackle unaddressed issues, conducted within the context of the rules of evidence. This particular field covers fraud knowledge, financial skills, and a thorough grasp of business reality and the operation of the legal system (Anyaduba & Modugu, 2013). Therefore, certified auditors equipped with the ability to prevent and detect money laundering or fraud using accounting knowledge as in forensic accounting play a vital role. Forensic accounting is a highly effective tool to detect fraud or money laundering activities. The ability to

detect fraud can help reduce economic crimes and create national security, along with investment opportunities.

Hence, the present study posed two research questions as follows: 1) “How does forensic accounting competency influence on audit strategy, audit practice, and audit success?”, and 2) “How do audit experience, technology competency, and environmental force effect on forensic accounting competency?” Here, the objective of this study is to investigate the relationship of forensic accounting competency with audit strategy, audit practice and audit success. In addition, this study investigates the relationships among audit experience, technology competency and environmental force on forensic accounting competency. The results from this study could serve as a guideline for accounting profession in improving the forensic competency of auditors in Thailand for dealing with current economic conditions.

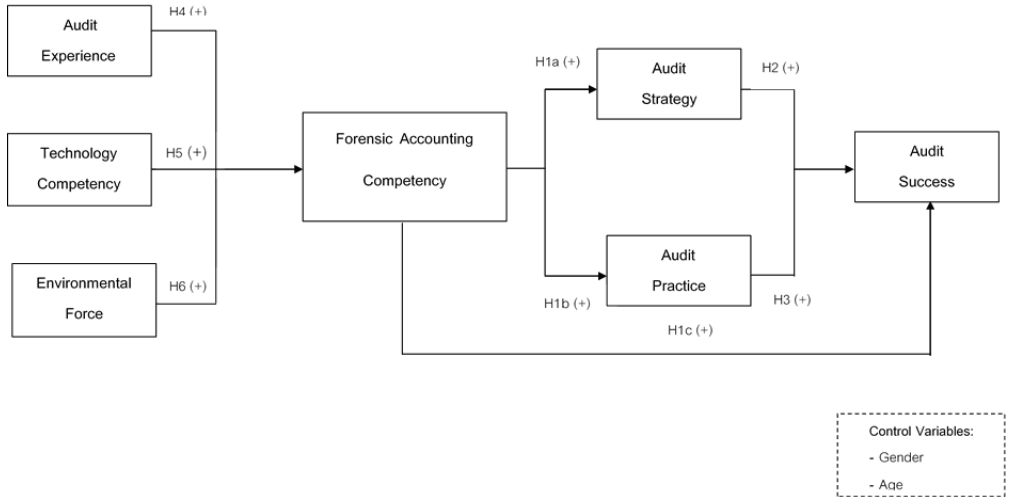
The remainder of this study is as follows. Relevant literature review of forensic accounting competency, its antecedents and consequences are critically examined. Next, research methods, including sample selection procedure and data collection, measures, instrument tests, and statistical techniques are described. In addition, research results and discussions with empirical supports and reasonable explanations are presented. Lastly, contributions and conclusion of the study are mentioned.

2. Review literature and hypotheses development

This research applies dynamic capability theory, which posits that an organization needs to be able to adaptively reconfigure its internal and external competencies to address rapidly changing business environments (Teece, Pisano, & Shuen, 1997). Based on the concept of dynamic capabilities that each auditors should improve and integrate of new knowledge orientations, such as up-skills of competencies, including knowledge, understanding, ability/skill, and experience, which ultimately lead to enhance competitive advantage under the rapidly change circumstances. Hence, the research model of this research is illustrated in Figure 1. The research model presents the relationships between forensic accounting competency and it consequences, including audit strategy, audit practice, and audit success. In addition, there are three antecedents, namely audit experience, technology competency, and environmental force.

Figure 1

Conceptual Model of Forensic Accounting Competency and its Antecedents and Consequences



2.1. Forensic Accounting Competency (FAC): The classic and famous corporate accounting and financial scandals, such Enron and WorldCom, have resulted in increased legal and regulatory requirements, for example the Sarbanes–Oxley Act of 2002 and the Emergency Economic Stabilization Act of 2008 (EESA). Furthermore, there has been the recent scandal of failure to fraud of Wirecard, a German payments company, with 19 billion euros found missing from the account. With such a case, it highlights the limitations of auditing through computerized accounting systems, especially in case of very complex transactions (CNBC, 2020). Given the rapid change in technology and economic environment, the traditional auditing skills have become fairly inadequate. Thus, auditors in these era must retain the best practice of traditional skills and simultaneously develop newly skills, known as upskilling and reskilling, to attain the audit tasks and achieve the superior performance. Particularly, forensic knowledge and specialized forensic knowledge are the CPA core skills, for example fraud prevention, detection and response, computer forensic analysis, valuation, and financial statement misrepresentation. In reference to AICPA, forensic accounting can be referred to as the application of accounting principles, theoretical concepts, and discipline to facts or hypotheses in question in a legal dispute, and it covers every domain of accounting knowledge (AICPA 2010). Kreuter (2017) states that forensic accountants take on the role of a detective by gathering evidence to justify or prove the occurrence of crimes. Therefore, certified auditors possessing the ability to prevent and detect money laundering or fraud using accounting knowledge called forensic accounting play a vital role.

Forensic accounting is a highly effective tool to detect fraud or money laundering. Furthermore, the recent finding indicates that forensic audit services will be significantly beneficial for detection, prevention and reduction of incidences of fraud in businesses (Enofe, Omagbon, & Ehigiator 2015). Therefore, forensic accounting techniques should be incorporated into auditors' set of skills in order to raise the likelihood of fraud detection (Siewkornburee, 2020). Furthermore, the related finding indicated

that forensic competency such as strategic internal audit excellence have a positive impact on best internal audit practice, internal audit efficiency, and internal audit achievement (Wimoonard, Ussahawanitchakit, & Janjarasjit, 2017). In addition, forensic accounting technique play a vital role in eradication of corruption through fraud prevention, bribery prevention and embezzlement prevention (Dada, 2014). Furthermore, fraud investigation practices are very important for the prevention of fraud in manufacturing companies (Okoye, & Ndah, 2019). For the aforementioned instances, forensic accounting competency plays a crucial role to enhance quality of audit strategy and practice that lead to superior of audit performance. Based on the definition given by AICPA, forensic accounting competency in this research refers to the ability to inspect to prove or discover evidence of fraud by identifying, recording, reporting and verifying past financial data or other accounting activities to identify faults with the specialized knowledge and investigative skills. Thus, the following are related hypotheses formulated in this study

Hypothesis 1: Forensic accounting competency has a positive effect on, a) audit strategy, b) audit practice, and c) audit success.

2.2. Audit Strategy (AST): Auditing environment changes at a rapid rate as a result of economy, authority, regulations, and society. It is a complex factor that prompts auditors to consider strategic orientation. The suitability of the strategy is an important component which is associated with the success of work. This also applies to auditing. In fact, a high correlation was detected within the audits with successful organizations; specifically, the findings revealed that a systematic and controlled change strategy plays a vital role in work achievement (Bhasin, 2012). With the change of business context, auditors are required to improve audit strategies to correspond with such a change. The strategies required are extremely important determinants of the auditing activities in respect of process efficiency and output effectiveness; integration of such components would contribute to supporting auditing functions in aligning their strategies to accomplish their organizational goals and objectives efficiently and effectively (Zakariya'u, Muzainah, & Muhammad, 2020). Thus, it can be concluded that an audit strategy refers to the formulation of suitable plans to support auditing operations in terms of assessment of clients' business risk as well as development of new or more sophisticated audit approaches to minimize costs and time, and full-scope audit procedures.

Hypothesis 2: Audit strategy has a positive influence on audit success.

2.3. Audit Practice (AUP): Because of the increasingly complex business environment, the suitability of the audit practice, which corresponds with the change of the business environment, is of great importance. Thus, it reflects the necessity of continually improving data collection and validation processes in order to enhance its credibility (Lonsdale & Stewart, 2017). The early finding illustrated that the forensic auditors must be capacitated materially and technically to improve their audit effectiveness (Njanike, Dube, & Mashayanye, 2009). Thus, the audit practice is related to the success of audit work. Furthermore, the recent research has found that the best audit practice contributes to audit success (Wutiphan, Ussahawanitichakit, & Janjarasjit, 2015). Based on the research discussed earlier, it can be implied that

success in auditing lies in the optimal audit practice. Thus, audit practice can be referred to the suitable audit procedures to attain audit objectives, such as gathering of adequate competent evidence in relation to audit planning, which indicates the risk response in order to fulfill the broad requirements of the audit standards.

Hypothesis 3: Audit practice has a positive influence on audit success.

2.4. Audit Success (AUS): There are many perspectives of audit success such as audit reputation, effectiveness and efficiency in decreasing and preventing fraud, effective internal audit, and enhancement fairness and transparency in reporting (Okoye & Obialor, 2020). Furthermore, the forensic accounting competency will lead to audit success in terms of decreasing fraudulent activities and installing the fraud proof internal control system in corporate organization. Moreover, the instance of audit success extends to the adoption of forensic accounting investigation techniques in corruption investigation and successful prevention of fraud and prosecution of corruption cases in Nigeria (Sorunke, 2018). The prior research found that fraud prevention in control activities had a positive effect on operational efficiency (Chinusorn, Rattanaphaphtham, & Tontiset, 2020). Thus, audit success refers to achievement of audit goals. The goals include efficiency and effectiveness; specifically, the former – efficiency – is associated auditors' ability to identify errors in the audit working paper and make reasonable decisions in respect of the presence of management fraud, whereas the other – effectiveness – pertains to their ability to reduce the resource expenditures and accomplish the audit task in less time.

2.5. Audit Experience (AUE): Audit experience is a key element of competency. Competency refers to an individual's ability to execute a task properly based on his/her education, professional experience and commitment to professional development. As a discipline, it covers an array of knowledge, including fraud knowledge, financial expertise, and a comprehensive grasp of business reality and the working of the legal system (Akintunde, 2019). Furthermore, the recent research has revealed that auditors' expertise as an antecedent variable could affect audit reliability, which would in turn affect audit satisfaction (Kim et al., 2017). The audit specialization derives from the superior audit experience. Thus, auditors who are equipped with such experience can draw on their experience to resolve problems in audit procedures and to increase the effectiveness and efficiency in auditing, thus leading to audit success in turn (Thongchai & Ussahawanitchakit, 2015). Moreover, in forensic accounting, accounting knowledge, skills, and various investigative skills, which can be acquired from audit experience, are necessary for detecting fraud, which would in turn help increase auditors' forensic competency (Tiwari & Debnath, 2017). Accordingly, knowledge development is positively related to the expertise, allowing for more precise audit opinions on audit reports with the superior benefit to stakeholders (Cahan & Sun, 2015; Guiral et al., 2015). In addition, the expert auditors are equipped with a general problem-solving ability which is acquired from their prior work experience with a sound foundation of knowledge (Wutiphan, Ussahawanitichakit, & Janjarasjit, 2015). Thus, audit experience refers to the skills acquired from audit tasks, for example relevant audit

standards and guidance, critical analysis, exhibition of professional skepticism, use of professional judgment, and the ability to cope with and resolve issues.

Hypothesis 4: Audit experience has a positive influence on forensic accounting competency.

2.6. Technology Competency (TEC): Since that the accounting profession will undergo imminent major changes, professional organizations, their membership, and educational institutions are urged to respond to such upcoming changes. One of the key driving factor of change and future skills, which is likely to occur over the next year, concerns the use of sophisticated and smart technologies. That is, accountants will employ sophisticated and smart technologies to improve their traditional methods of work, and these technologies are likely to replace such traditional methods (Islam, 2017). The auditors' technology competency is critical since it contributes to successful technology implementation. For instance, auditors' competency to utilize information technology has a significant positive effect on the success of the e-Audit system, which would in turn contribute to increasing the audit quality (Janjaturapath, 2020; Supriadi et al., 2019). Furthermore, implementation of smart software systems, such as cloud computing, will be beneficial to the audit work. It is necessary for forensic accountants to possess adequate expertise in tracking and analyzing digitalized financial information in order to detect any fraudulent activities (Lakshmi & Menon, 2016). In addition, technology competency, such as IT audit activities, can provide additional value beyond the primary objective of assurance. Moreover, the ability to utilize IT tools is required for detection of cybercrimes, so auditors technological competency play a vital role in enhancing the ability to prevent fraud (Tiwari & Debnath, 2017). Furthermore, there are an array of specialized forensic knowledge to which forensic accountants can have access, and one key component is a computer forensic skill (Davis, Farrell, & Ogilby, 2010). Therefore, it can be concluded that technology competency refers to auditors' talent to employ or implement sophisticated programs/ tools/techniques as computer-assisted audit techniques that use the computer as an audit tool and can automate the audit process.

Hypothesis 5: Technology competency has a positive influence on forensic accounting competency.

2.7. Environmental Force (ENF): The rapidly changing environment has an effect on auditors' operation by causing increasingly difficult and complex operational audits. Therefore, auditor should be aware of enhancing and acquiring audit flexibility management competency in compliance with environmental changes so as to achieve auditor professionalism in the dynamic circumstance (Thongchai, Phornlaphatrachakorn, & Phankasem, 2018). The key driving factor, which will pose huge changes for the accounting profession, is increased regulation, and the associated disclosure rules, which will most strongly affect the profession in the near future (Islam, 2017). In the internal audit perspective, third parties are becoming increasingly important to succeeding in today's complex business environment (Arnold & Purt, 2017). Additionally, considering the growing public pressure and stakeholder expectations, social and environmental issues are given more attention, apart from economic issues (Haque & Islam, 2015). Thus, environmental force

can be referred to laws, and regulations which are enforced on auditors, thus placing emphasis on social responsibilities, namely, audit performance, prevention of litigations, maintenance of audit success, and retention of reputation.

Hypothesis 6: Environmental force has a positive influence on forensic accounting competency.

3. Research Methodology

3.1. Sample and Data Collection Procedure

The population of this research was auditors (certified public accountants) in Thailand. The number of auditors in Thailand was 1,870. The data of certified public accountants (CPAs) were accessed from the database of Federation of Accounting Professions. There are 1,870 certified public accountants, who were willing to disclose their contact to the Federation of Accounting Professions (http://www.tfac.or.th). As suggested by Krejcie and Morgan's method (1970), a confidence level of 95% was determined. Based on their method, the appropriate sample size for this analysis was 319 cases. However, as suggested by Aaker, Kumar, and Day (2001), the 20% response rate for the questionnaires distributed via mail was sufficient, so 1,595 cases were calculated by 20% of the response rate. As a result, 1,595 auditors were the optimal number of surveys distributed via mail. The questionnaire was assessed for its content validity and face validity by an academic expert. In this study, auditors in Thailand were chosen as key informants, and the data were obtained from the database of Federation of Accounting Professions (http://www.tfac.or.th). Data were collected from 346 auditors in Thailand as key informants using mail-distributed questionnaires. In this study, the response rate was 21.69%.

3.2. Test of Non-Response Bias

To identify potential response bias problems between respondents and non-respondents, a t-test was conducted to compare the demographics between early and late respondents in compliance with the test for non-response bias proposed by Armstrong and Overton (1977). In this research, all 346 returned questionnaires were equally divided into two groups. Particularly, the 173 early respondents were in the first group while the 173 late respondents were in the second group. To test the non-response bias, the demographics of both groups of respondents were compared. Moreover, status, salary, and the number of audit reports were drawn on to make comparison between early and late responses using t-test. The results revealed that there were no significant differences between early and late responses. Additionally, non-response bias problems were undetected (Armstrong & Overton, 1977).

3.3. Measurement of Constructs

The instrument was developed based on a review of literature on forensic accounting competency. All variables, including dependent variables, independent variables, and control variables, were measured through five-point Likert scale which ranges from 1 "strongly disagree" to 5 "strongly agree" Likert (1932). All constructs were developed as a four-item scale, based on the definition and the literature review, while forensic accounting competency adopted a five-item scale, as explained in the following section.

Forensic accounting competency was measured by focusing on auditors who combine knowledge of diverse monitoring techniques devised through the integration of knowledge, expertise and abilities in auditing to assess the significant risks or fraud signals from both internal and external information and evidence (AICPA, 2010).

Audit strategy was assessed through an auditor's ability to establish the nature of business, timing, and scope of audit evidence and management of audit resources in a suitable manner. This construct is measured using a four-item scale adapted from Petchjul and Ussahawanitchakit (2013)

Audit practice refers to the efficient execution of the audit by the collection of audit evidence to articulate a view on financial statements which are complete, credible, and responsive as well as fulfill customer satisfaction. This construct is measured using a four-item scale adapted from Hannimitkulchai and Ussahawanitchakit (2016).

Audit success was assessed by placing emphasis on the satisfaction and fulfillment of goals and expectations from audit field work, as well as assessed on a basis of client acceptance and satisfaction. This construct is measured using a four-item scale adapted from Thongchai and Ussahawanitchakit (2015).

Audit experience was measured by auditors' individual learning from their achievements and failures on a basis of their past experiences. This construct is measured using a four-item scale adapted from Phornlaphatrachakorn and Na Kalasindhu (2020).

Technology competency was measured by understanding and using novel technology, such as new techniques, in order to enhance audit efficiency. This construct is measured using a four-item scale, developed as a new scale, based on its definition.

Environmental force was grounded on auditors' abilities to be aware of environmental changes and to assess current and future trends or changes in the environment so as to continually adapt to audit success. This construct is measured using a four-item scale, developed as a new scale, based on its definition.

Control Variables

There were two control variables in this study including gender and age, both of which could influence the relationships between variables in the conceptual model. Gender tends to have an influence audit task (Dalton, Hill, & Ramsay, 1997). Male auditors trend to have more reasoning to solve problem more than female auditors. In this study, this variable is substituted by dummy variables as in 0 for male and 1 for female) (Chung & Monroe, 2011). In much the same way, age could have an effect on such competency, audit practice and performance; this variable is denoted by dummy variables as well: 0 for those aged 40 years and below and 1 for those aged above 40 years (Petchjul and Ussahawanitchakit, 2013).

3.4. Validity and Reliability

Validity can be basically described that each assessed item should represent or refer to only one construct. Therefore, confirmatory factor analysis was employed to assess the construct validity of the data in the questionnaire. In addition, to assure the construct validity, of the factor-loading should be above the 0.40 cut-off value and be statistically significant (Nunnally & Berstein, 1994). On the other hand, Cronbach's alpha was used to verify the reliability of a measurement. To assure the internal consistency of each construct, the Cronbach's alpha should be above 0.70 (Nunnally & Bernstein 1994; Hair et al., 2010).

Table 1 Results of Validity and Reliability Testing

Variables	Factor Loadings	Cronbach's Alpha
Forensic accounting competency (FAC)	0.606-0.806	0.813
Audit strategy (AST)	0.676-0.885	0.809
Audit practice (AUP)	0.799-0.836	0.825
Audit success (AUS)	0.736-0.845	0.813
Audit experience (AUE)	0.760-0.886	0.863
Technology competency (TEC)	0.733-0.907	0.884
Environmental force (ENF)	0.821-0.863	0.868

As shown in Table 1, the factor loading of each construct was above 0.40, which is a cut-off value by recommended Nunnally and Berstein (1994). The factor loading was in the range of 0.606 – 0.907; forensic accounting competency had the lowest factor loading, whereas technology competency achieved the highest factor loading. Therefore, the construct validity of the present study was tapped by items in the measure as theorized. Based on the results displayed in Table 1, Cronbach's alpha coefficients ranged from 0.809 to 0.884. Evidently, audit strategy had the lowest coefficient, while technology competency achieved the highest coefficient. Consequently, it can be stated that internal consistency of all measures in the present study was regarded as good for all constructs.

3.5. Statistical Techniques

In data analysis, a multiple regression analysis was employed to test all of the hypotheses in this study based on following the conceptual model. The ordinary least squares (OLS) regression was appropriate for examining the relationships between dependent variables and independent variables because both of the variables in this research were categorical and interval data (Hair et al., 2010). Thus, all of the hypotheses formulated were broken into five equations, each of which consisted of the main variables pertaining to the hypotheses being tested as described in the prior section. Moreover, two

control variables, namely gender and age, were incorporated into all of those equations for hypothesis testing.

The mathematical formulation for investigating the relationships between forensic accounting competency and the consequences, namely audit strategy, audit practice and audit success, is presented in Equations 1 - 4 as shown below.

$$Equation\ 1:\ AST = \alpha_1 + \beta_1 FAC + \beta_2 GEN + \beta_3 AGE + \varepsilon$$

$$Equation\ 2:\ AUP = \alpha_2 + \beta_4 FAC + \beta_5 GEN + \beta_6 AGE + \varepsilon$$

$$Equation\ 3:\ AUS = \alpha_3 + \beta_7 FAC + \beta_8 GEN + \beta_9 AGE + \varepsilon$$

$$Equation\ 4:\ AUS = \alpha_4 + \beta_{10} AST + \beta_{11} AUP + \beta_{12} GEN + \beta_{13} AGE + \varepsilon$$

The mathematical formulation for examining the relationships among three antecedents, including audit experience, technology competency, and environmental force and forensic accounting competency, is displayed in Equation 5 as given below.

$$Equation\ 5:\ FAC = \alpha_5 + \beta_{14} AUE + \beta_{15} TEC + \beta_{16} ENF + \beta_{17} GEN + \beta_{18} AGE + \varepsilon$$

4. Results and Discussion

Concerning the demographic characteristics of the 346 participants with returned questionnaires, 46.20% and 53.80% of them were male and female respectively. A considerable share of participants were aged between 41 and 50 years; with respect to marital status, they were single. In terms of education, the majority of the participants obtained a master's degree. Apart from that, 68.8% of the participants had working experience of more than 11 years. 55.5% of them had the average monthly income above 90,000 baht. The number of audit reports per year was more than 50 reports (50.9%). Finally, 41.6% of the participants had participated in TFAC's training for 3-4 times per year.

Table 2 shows descriptive statistics and correlation matrix for all variables. Correlation coefficients of variables ranged from 0.453-0.726. Furthermore, variance inflation factors (VIF) in the present study were in the range of 1.005-2.021, which was below the 10 cut-off value (Hair et al., 2010). Hence, this indicated that multicollinearity problems were not present.

Table 2 Descriptive Statistics and Correlation Matrix

Variables	FAC	AST	AUP	AUS	AUE	TEC	ENF
Mean	4.32	4.11	4.09	3.84	4.12	4.02	4.21
S.D.	0.50	0.60	0.56	0.66	0.64	0.69	0.63
FAC	1						
AST	.719***	1					
AUP	.626***	.694***	1				
AUS	.625***	.670***	.726***	1			
AUE	.533***	.592***	.509***	.563***	1		
TEC	.573***	.660***	.605***	.611***	.604***	1	
ENF	.504***	.453***	.525***	.532***	.470***	.520***	1

**p<.05, ***p<.01,

Table 3 Results of the OLS Regression Analysis for the First Four Equations [a]

Independent Variables	Dependent Variables			
	AST (1)	AUP (2)	AUS (3)	AUS (4)
FAC	.695***	.616***	.610***	
	(.037)	(.043)	(.043)	
AST				.312***
				(.050)
AUP				.505***
				(.049)
GEN	-.068	-.107	-.095	-.027
	(.074)	(.084)	(.084)	(.071)
AGE	-.286***	-.098	-.162	-.054
	(.079)	(.090)	(.090)	(.077)
Adjusted R^2	.532	.391	.393	.576
MaximumVIF	1.035	1.035	1.035	2.021

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

For the first three equations, forensic accounting competency had a significant positive influence on audit strategy ($\beta 1 = 0.695$, $p < 0.01$), audit practice ($\beta 4 = 0.616$, $p < 0.01$), and audit success ($\beta 7 = 0.610$, $p < 0.01$). According to prior research, a strategy map of forensic accounting serves as a vital indicator's priorities to accomplish satisfactory strategy planning and to practice forensic accounting development (Yang & Lee, 2020). Additionally, the recent research indicated the relationship of early involvement of forensic specialists in the engagement with improved teamwork and risk responsiveness (Asare & Wright, 2018). Considering that forensic accounting is a specialty practice area of accounting,

the traditional audit practice seems inadequate. Hence, fraud examination in forensic accounting is unlike that of traditional accounting since forensic accountants are intuitively capable of analyzing fraud. The prior study also indicated that auditor competency had a significant positive effect on effectiveness of internal audit, which ultimately led to audit success (Baharud-din, Shokiyah, & Ibrahim, 2014). As indicated in the prior research, there was a significant positive association between the use of techniques of forensic accounting investigation for corruption investigation and successful prosecution of corruption (Sorunke, 2018). As discussed, it can be implied that forensic accounting competency had an influence on audit strategy, audit practice and audit success. **Thus, Hypotheses 1a, 1b and 1c are supported.** Surprisingly, age had a significant negative effect on audit strategy. According to demographic experts generally divided each generations by birth periods. The distinction of each generational has been shaped by unique historical, social, and cultural events; as a result, each has distinct preferences work styles, and professional goals. Hence, it can imply the different of generation will respond to different sets of motivators and rewards and seek to derive varying experiences and benefits from their jobs (Mcdonald, 2008). Apart from that, prior research points out that CEO age is negatively associated with financial reporting quality (Huang, Rose-Green, & Lee, 2012). Nowadays, either accounting profession or all sectors confront with the new challenges of technology disruption, such as audit analytics, robotics, next-generation cloud computing, cybersecurity, and performance optimization (Bone, 2018). Therefore, the man who has the more readiness to deal with the rapidly change circumstance, will overcome in this phenomena. Consistence with the recently research indicated that new generation such Gen Z had a more learning' ability in the area of novel technology or new learning (Dadvari, & Do, 2019). In the context of Thailand, it seems that new generation' auditors earn the beneficial of technology and integrate the suitable of technology in fraud detection, which generate the optimal audit strategy, and ultimately lead to attain audit task upon the complexity of business environmental.

For the fourth equation, audit strategy had a significant positive effect on audit success (β_{10} = 0.312, $p < 0.01$). The prior research revealed that auditors should possess forensic auditing techniques in order to gather admissible evidence appropriate for litigation purposes, thus in turn contributing to promotion of fairness and transparency in reporting (Okoye & Obialor, 2020). Apart from that, prior research points out that choosing an appropriate method to accomplish the audit work plan serves as an essential auditing strategy, thereby enhancing auditing efficiency and effectiveness in tax administration in turn (Zakariya'u, Muzainah, & Muhammad, 2020). Moreover, as suggested by another previous research, proactive internal audit strategy serves as a powerful instrument which fits environmental changes, thus driving organizations to achieve goals sustainably (Chatiwong, Ussahawanitichakit, & Janjarasjit, 2016). Hence, based on the discussion, it indicates that the suitable audit strategy which is compatible with all circumstances had an influence on audit success. **Thus, Hypothesis 2 is supported**. Furthermore, audit practice significantly affected audit success (β_{11} = 0.505, $p < 0.01$). According to the prior research, the appropriate audit

practice and audit processes are essential means to decrease the risk of technology and lead to audit success (Chou, 2015). As shown in the prior research, the audit practice was found to affect audit quality and audit report efficiency (Phosrichan, Boonlua, & Janjarasjit, 2016). Considering the findings discussed, it can be implied that the suitable practice will help achieve the success of work. In addition, as indicated by prior research, audit practice is critical to the effectiveness of internal audit, together with the survival and success of businesses (Karagiorgos, Drogalas, & Giovanis, 2011). Moreover, the finding of prior research showed that the best audit practice had an influence on the audit success, such as enhancing internal audit quality (Pararit, Ussahawanitchakit, & Boonlua, 2017). Therefore, it can be stated that the appropriate audit practice contributed to audit success. **Thus Hypothesis 3 is supported.**

Table 5 Results of the OLS Regression Analysis for the Fifth Equation [a]

Independent Variables	Dependent Variables
	FAC (5)
AUE	.212***
	(.054)
TEC	.311***
	(.055)
ENF	.293***
	(.050)
GEN	-.035
	(.083)
AGE	-.212**
	(.088)
Adjusted R^2	0.422
MaximumVIF	1.800

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

For the fifth equation, audit experience (β14 = 0.212, p < 0.01), technology competency (β15 = 0.311, p < 0.01), and environmental force (β16 = 0.293, p < 0.01), had a significant positive influence on forensic accounting competency. As pointed out by the prior research, there was a relationship among audit experience and audit learning capability, audit method integration, audit skepticism orientation, audit technology implementation, and audit ethics focus (Promtong, Phornlaphatrachakorn, & Raksong, 2018). With a variety of knowledge and skills developed through various experiences, auditors are able to identify the right red flag, the proper approaches, and the relevant data which will facilitate audit performance (Badara & Saidin, 2013). Therefore, various audit experiences improve auditors' forensic competency. In addition, another study indicates that auditors are urged to join training and development programs constantly to stay abreast of and acquire relevant knowledge and skills for effective forensic auditing

(Akenbor & Ironkwe, 2014). Moreover, as shown by the prior research, the auditor experience can have an effect on auditor competency (Kim et al., 2017). The previous study also suggests that a variety of investigative skills and expertise are necessary for forensic accounting (Tiwari & Debnath, 2017). **Thus, Hypothesis 4 is supported.**

According to prior research, forensic accounting in detection of fraud in the digital environment can be performed using computer forensic, so the competency to use novel technology is essential (Tjeng & Nopianti, 2020). Another prior research illustrated that digital platforms, for example data analytics systems, which are supported by machine learning can be employed to help detect anomalies and that drones could be used to facilitate inventory counts, compliance, and the fulfillment of operational goals. Hence, prior study placed emphasis on the important role of these digital technologies, along with auditors' technology competency, in improving internal controls and easing fraud prevention and detection (Fotoh & Lorentzon, 2020). Therefore, given the growth of technology development, auditors are urged to acquire the ability to employ novel technologies as well as audit specializations for certain tasks (Ernst & Young, 2015). Recent research suggested that technology competency, such Big data techniques, serves as a crucial skill in forensic accounting practices, so students should be provided with this particular skill prior to working in real settings (Kılıç, 2020; Rezaee, & Wang, 2019). Furthermore, the prior research indicated that forensic accounting is multi-disciplinary, which covers auditing, accounting, statistics, information technology (IT), legal rules and human skills (Tiwari & Debnath, 2017). As shown by another previous study, auditors' ability to use information technology had a significant positive effect on the success of the e-Audit system implementation (Supriadi et al., 2019). In addition, the prior research pointed out that the application of sophisticated technology significantly affected competency in fraud prevention (Chatiwong, Ussahawanitichakit, & Janjarasjit, 2016). **Thus, Hypothesis 5 is supported.**

Furthermore, the prior research showed that environmental force, such as stakeholder pressure, produced a significant positive influence on audit learning capability, audit method integration, audit skepticism orientation, and audit ethics focus (Promtong, Phornlaphatrachakorn, & Raksong, 2018). Moreover, regulatory force was found to have an effect on auditors' judgment such as moral reasoning, as evidenced in relevant research (Tangsakul & Ussahawanitchakit, 2015). Considering the above discussion, it can be stated that environmental force, including changes in societal and economic force, stakeholder pressure, regulatory force, and professional regulation, play a crucial role in promoting auditors' competency, as in forensic competency, to cope with the business complexity (Westermann, Bedard, & Earley, 2015). The other prior study also illustrated that given a growing need among the public honesty, fairness and transparency in reporting the accounting profession should give precedence to forensic accounting techniques (Oyedokun, 2015). As discussed above, it can be concluded that environmental force is a vital variable to enhance forensic accounting competency. **Thus, Hypothesis 6 is supported.**

5. Conclusion and Contribution

The present study consisted of two purposes as follows: 1) to investigate the effect of forensic accounting competency on its consequences, including audit strategy, audit practice, and audit success; and 2) to investigate the effect of antecedents, including audit experience, technology competency, and environmental force on forensic accounting competency. The results revealed that forensic accounting competency had a significant positive effect on all consequences; meanwhile, audit strategy and audit report had a significant positive influence on audit success. Regarding the effect of antecedents on forensic account competency, the results demonstrated that audit experience, technology competency and environmental force had a significant positive effect on forensic accounting competency.

Based on the results, forensic accounting competency is a significant factor which promotes auditing proficiency, including audit strategy and audit practice, and contributes to audit success. This study has significant implications for auditors and regulators. Firstly, professional regulators can draw on results to develop training programs which involve enhancing the quality of forensic accounting skills and the application of novel technology in fraud detection, all of which are regarded as an essential skill for new businesses with greater complexities. Secondly, given the change of the business environment, the audit criteria need to be improved. In addition, new auditing standards and accounting standards have been revised. Hence, professional regulators should always educate all accounting professions about and keep them abreast of new laws and regulations. Thirdly, the results provide external auditors with insights into significant factors which might promote their audit proficiency. Especially, increasing audit experience and technology competency serves as a crucial factor, which affects forensic accounting competency. Lastly, the results would be beneficial for auditors since audit experience, continuous learning, up-skilling, and re-skilling are essential components, which contribute to enhancing the forensic competency, to cope with the change of the business environment. In terms of the limitation, the present study examined only CPAs; consequently, further studies should focus on other types of auditors, for example co-operative auditors and tax auditors in Thailand, to extend the generalization of the findings.

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