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# Digital Accounting Implementation and Audit Performance: An Empirical Research of Tax Auditors in Thailand

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## Abstract

This study aims at investigating the effects of digital accounting implementation on audit performance of tax auditors in Thailand through audit competency and audit report as the consequence. In addition, it examines the effects of audit learning, digital culture, and stakeholder expectation on digital accounting implementation. The key informants were Thailand's tax auditors. The data was collected using a questionnaire that was distributed to 349 tax auditors throughout Thailand. The response rate was 20.53%. The Ordinary Least Squares (OLS) is applied to test the research relationships. The results of this study show that digital accounting implementation has an important effect on its consequence, namely audit competency, audit report, and audit performance. Similarly, audit competency and audit report affect audit performance. Testing the antecedents of the research relationships, namely audit learning, digital culture, and stakeholder expectation, the result reveals that only digital culture affects digital accounting implementation. Accordingly, digital accounting implementation plays a vital role to enhance audit competency, audit report, and ultimately lead to attaining audit performance. Furthermore, the results are beneficial for the auditing practitioners and regulators, allowing them to draw on these results to develop training programs to enhance professional audit efficiency.

**Keywords:** Digital Accounting Implementation, Audit Competency, Audit Report, Audit Performance

**JEL Classification Code:** M41, M42, M49

## 1. Introduction

Given the government's strategy to develop the country digitally by preparing the country's entry into Thailand 4.0 era, the transformation of Thailand's economic structure into a digital economy and digital society serves as an important mechanism that uses technology and communication to drive the reform of the production process of business operations, trade, and others. During the present revolution and the future development of Industry 4.0, computers will be connected and be able to communicate to make decisions independently without the need for human involvement.

Industry 4.0 is largely facilitated by the Internet of Things integrated with the Internet of Systems and cyber-physical systems. The power in such an industry rests on the network of interconnected smart machines which can produce, analyze and share information (Marr, 2018).

Simply speaking, Industry 4.0 mainly concerns the manner in which interconnected smart technologies will be incorporated into companies, assets, and people, and it is characterized by the development of analytics, artificial intelligence (AI), quantum computing, robotics, cognitive technologies, and the Internet of things. Among their many significant aspects, these emerging technologies will alter the manners in which data and information are employed and how they will enable companies to achieve greater efficiency (Cotteleer & Sniderman, 2017). Therefore, the digital revolution is influencing the area of accounting and auditing, so it points out that this subject applies to accounting and auditing professionals because they are equipped with knowledge or expertise which is necessary for building such sophisticated accounting information systems (Kruskopf et al., 2020). Accounting and audit professions are developing, and the digital revolution is being discussed

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among people. Although such changes will inevitably result in the vanishing of various jobs, they will provide new graduates with more opportunities. Hence, new skills play a vital role in this situation. Similar to other fields in business, accounting and audit will be most useful when digitalization is employed to manage, process, and appraise financial data, which will, in turn, contribute to increasing productivity and at the same time will help reduce cost and time (Fernandez & Aman, 2018).

In Thailand, the Department of Business Development recognizes the importance of transforming a traditional accounting firm into a digital accounting firm, also known as a Digital Accounting Firm, which uses information technology to provide customers with accounting services in relation to data collection, analysis, storage, and processing more rapidly and systemically. Furthermore, because the business environment has evolved and become more complicated and dynamic, accounting and finance leaders can no longer rely on traditional accounting to produce timely and accurate financial reporting to their organizations. The department has established strategies and guidelines for encouraging accounting firms to reach quality standards under the “Accounting Firm Quality Certification Program”; in the present, 143 quality accounting firms have passed the accreditation criteria. Moreover, the department also recognizes the importance of using technology and innovation to help manage accounting systems. To increase the efficiency of business management to be able to prepare accounts quickly, timely, reduce the use of paper, increase competitiveness and enhance good governance, the digital accounting firm concept is supported by the Department of Business Development (DBD, 2021).

Data and operational processes have become increasingly digitalized. However, new technology and processes complicate business transactions and result in the emergence of new modes of corruption and fraud (Kruskopf et al., 2020). Therefore, accounting professions, such as auditors and tax auditors, or concerned organizations are required to continue learning new skills and improving their abilities to stay abreast of the ever-changing business environment and the increasing complexity of business transactions. What's more, there has still been a dearth of prior research on digital accounting in the context of tax auditors in Thailand; thus, it led to two research questions in this study as follows: 1) “how does digital accounting implementation influence audit competency, audit report, and audit performance?”; and 2) “how do audit learning, digital culture, and stakeholder expectation affect digital accounting implementation?”. The objective of this study is to look into the effects of digital accounting implementation on audit competency, audit report quality, and audit performance. In addition, this study looks into the relationships between audit learning, digital culture, and stakeholder expectations for the implementation

of digital accounting. The results from this study could serve as a guideline for the accounting profession to enhance the implementation of digital accounting among tax auditors in Thailand for dealing with current digital economic conditions.

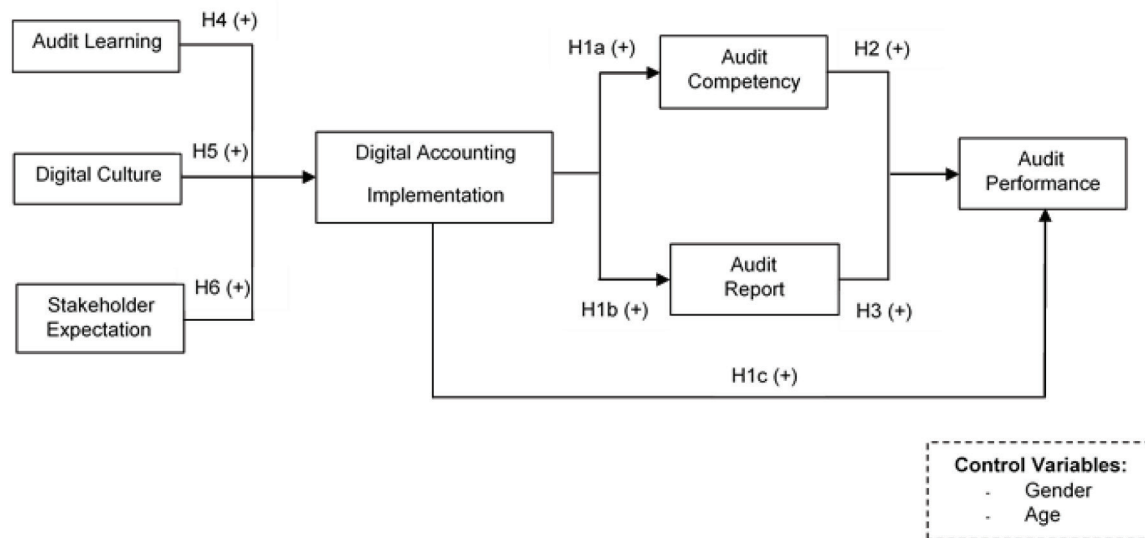
## 2. Literature Review

The present study investigated two issues as follows: 1) the influence of digital accounting implementation on audit competency, audit report, and audit performance; 2) the effect of antecedent variables, namely audit learning, digital culture, and stakeholder expectation, on digital accounting implementation. In this research, the independent variable was digital accounting implementation while the consequence variables included audit competency, audit report, and audit performance. The antecedent variables consisted of audit learning, digital culture, and stakeholder expectation. The relationships among independent variables, consequence variables, and antecedent variables are shown in Figure 1.

### 2.1. Digital Accounting Implementation (DAI)

Digital accounting implementation refers to the ability of accountants/auditors to improve the quality of accounting services by using digital technology to collect, store, analyze, and process information in a systematic and timely manner. With the integration of the Internet of Things, Internet of Systems, and cyber-physical systems, Industry 4.0 is made feasible. The power in this very industry is dependent on the network of interconnected smart machines which are capable of creating, analyzing, and sharing information (Marr, 2018). One of the significant aspects of these technologies involves shaping how data and information are utilized and how they will contribute to increasing companies' efficiency (Cotteleer & Sniderman, 2017). Furthermore, prior research illustrated the way to enhance the transparency of firms and the financial markets by disseminating company information through the Internet (Bonsón & Escobar, 2006).

The advancement of technology allows various accounting operations to be performed through machines, for example, expense management, accounts receivable and payable processing, artificial intelligence-powered invoice management, and supplier onboarding. As a consequence, there will be significant changes in jobs; irrespective of that, bookkeepers and auditors will continue to play an essential role. Many problems are fiercely debated, including how computers can perform a variety of activities more efficiently and quickly than humans, such as systematic problem solving and daily tasks, despite a lack of spontaneity and imagination skills



**Figure 1:** Conceptual Model of the Digital Accounting Implementation and its Antecedents and Consequences

(Hoffman, 2017). Furthermore, proactive audit learning and audit knowledge integration have influences on audit report quality, best audit practice, audit information value, and audit survival, so tax auditors well-equipped with greater audit competencies are likely to reap considerable benefits from the stated relationships (Intamas et al., 2014). Moreover, professional accounting competence in the area of technology implementation ultimately leads to enhanced job performance efficiency (Janjaturapath, 2020). Furthermore, digital accounting plays a crucial role in enhancing the quality of financial reporting, accounting information usefulness, and strategic decision effectiveness (Phornlaphatrachakorn & Na Kalasindhu, 2021).

**H1:** Digital accounting implementation has a positive effect on, a) audit competency, b) audit report, and c) audit performance.

## 2.2. Audit Competency (AUC)

Audit competency can be referred to as auditors' abilities, as in knowledge and skills, to execute tasks and professional responsibilities required of a professional accountant in compliance with the standards (Kruskopf et al., 2020). While the transformations in accounting and audit professions are taking place, the digital revolution is being discussed among people. Even if an array of occupations will vanish due to such changes, those changes will open abundant new opportunities for people who are eager to develop new skills. It is undeniable that information technology has become an integral part of every organization, so those failing to

keep abreast of the emerging technologies will in turn become obsolete. The auditors' professional competence plays a crucial role in enhancing the quality of auditing. Hiring those possessing high experiences will help increase the audit quality by enhancing the auditors' professional competence, thus allowing auditors to develop in-depth knowledge and better judgment to achieve audit quality (Zahmatkesh & Rezazadeh, 2017). Furthermore, results from the related research indicate that the professional accounting competence orientation ultimately leads to improving performance effectiveness (Janjaturapath, 2020).

**H2:** Audit competency has a positive influence on audit performance.

## 2.3. Audit Report (AUR)

An audit report is defined as the expression of the correct opinion on a client's financial statements in accordance with generally accepted accounting standards and at an appropriate level of audit risk. The punctuality or timeliness of audit reports is also regarded as a sign that the audit reports released are of exceptional quality, which will benefit investors and stakeholders (Habib & Muhammadi, 2018). The digitalization of accounting, financial reporting, and auditing would be facilitated by cutting-edge digital technology, and recent research has revealed key trends in the development of financial reporting and auditing, including integration into the digital environment, a description of big data working methods, and the transition to online reporting and its continuous auditing (Ageeva et al., 2021).

Prior research showed the benefit of audit reports in that they play a vital role in enhancing effectiveness in decisions making (Gómez-Guillamón, 2003).

*H3: Audit report has a positive influence on audit performance.*

## 2.4. Audit Performance (AUP)

Audit performance refers to the outcomes of auditors' work performance. The outcomes include efficiency and effectiveness. Specifically, the former term – efficiency – is associated with the auditors' ability to identify errors in audit working papers and make reasonable decisions with respect to the presence of management fraud. On the other hand, the latter – effectiveness – concerns their ability to reduce the resource expenditures and complete the audit task in a shorter period of time. As a result of the ongoing digital revolution, it is undoubted that there will be changes in the accounting and auditing professions. With the execution of time-consuming tasks through machines, professionals are allowed to concentrate on providing more value to their customers, decreasing costs and time invested in certain tasks (Fernandez & Aman, 2018). Simply put, thanks to the automated regular accounting processes, accountants and auditors are allowed to give more attention to particular duties since an array of tasks will be operated by computers. Auditing processes will be automated, so sophisticated tools to identify risk and fraud will be available. Rather than spending countless hours gathering information from financial statements, future auditors, thus, will be allowed to concentrate on analyzing the outputs (Forbes, 2018). Furthermore, Information Communication Technology (ICT) competency will increase audit performance in that it can assure clients' accurate financial statements, and timeliness of audit tasks (Thottoli, 2021). Moreover, digital accounting implementation would ease process documentation, reduce error rates, provide more precise measurement of process performance, and improve report quality and effectiveness in decision making (Appelbaum et al., 2017; Kokina & Blanchette, 2019; Zakaria, 2021).

## 2.5. Audit Learning (AUL)

Audit learning can refer to the growth of behavioral skills through training and adherence to relevant laws, as well as news, new technologies, and communication or engagement with the external environment. The auditors should have continuous professional development to obtain an understanding of the new accounting standards, auditing standards, and practices that relate to the audit process and auditing judgment, which is important for audit success (Promtong & Ussahawanitchakit, 2016). In addition, the

auditors with more experience can offer higher quality audit services than those with less experience (Cahan & Sun, 2015). The rapid technological development is still disrupting traditional practices in all disciplines, not excluding the accounting profession; as a result, such disruption will cause tremendous changes in traditional tasks in accounting firms. Keeping this in mind, it will be of great importance for accountants to develop new skills (Zhang et al., 2018). In the upcoming future, accountants and auditors' jobs will entail employing advanced information systems and artificial intelligence to execute certain tasks, examples, analysis, reporting, and development of wanted outputs. Therefore, accounting and audit fundamentals are always of importance. Hence, to overcome rapid technological advancement, continuous learning skills are required (Daugherty & Wilson, 2018). Auditors' learning about novel technology such as using information technology plays a vital role in enhancing the success of the e-audit system implementation (Supriadi et al., 2019).

*H4: Audit learning has a positive influence on digital accounting implementation.*

## 2.6. Digital Culture (DCL)

Digital culture can be defined as a form of a new culture that is formed with digitalization which affects attitudes, behavior, and habits relating to digital audit technology, especially in terms of the application of the latest digital technology. Traditional accounting procedures will be replaced with computers. Auditing processes will be automated, so more sophisticated instruments to detect risk and fraud will be available. Instead of devoting many hours to gathering information from financial statements, future auditors will be allowed to devote attention to output analysis (Forbes, 2018). Moreover, in the future, accountants and auditors' jobs will involve utilizing advanced information systems and artificial intelligence to perform tasks such as analyzing, reporting, and developing intended outputs. Hence, it can be stated that the tasks which pertain to management accounting and financial accounting are influenced by or evolve as a result of this very revolution (Kruskopf et al., 2020). The advancement of technology allows various businesses operations to be performed through machines such as banking, accounting, and service business. For example, the banking industry is applying more advanced technologies in providing financial products and services such as the digital banking service, which harvests the benefits of the Internet of things and artificial intelligence. For the aforementioned example, the growth of the digital technology climate helps banks provide innovative products, which ultimately leads to enhancing customer experience (Tran, 2021). In the field of human resources, the



use of novel technology namely e-recruitment is employed and this procedure has shifted away from traditional hiring and selection processes (Meah & Sarwar, 2021). For the aforementioned, it seems digital culture influence positively impacts intention to use technology in supporting their work.

*H5: Digital culture has a positive influence on digital accounting implementation.*

## 2.7. Stakeholder Expectation (STE)

Stakeholder expectation refers to the perception of direct and indirect needs that come from stakeholders in the form of regulatory compliance, together with continuous improvement of auditing knowledge and techniques to achieve better efficiency in performing audit work under a dynamic circumstance. Given the imminent substantial changes in the accounting profession, professional organizations, their membership, and educational institutions ought to be responsive to three main changes, including evolving smart and digital technology, continued globalization of reporting/disclosure standards, and new forms of regulation, all of which pose challenges for this very career. As the environmental change inevitably will force various professions to adapt to the new environment, accountants will comply with such a change and employ more sophisticated and smart technologies. Furthermore, increased regulation and the relevant disclosure rules will produce the most significant effect on the accounting profession (Islam, 2017). In addition, due to increased public demands and stakeholder expectations, social and environmental issues are attracting attention at the present, in addition to economic issues (Haque & Islam, 2015). Tax auditors who are concerned about stakeholders will attempt to create value for these stakeholders by satisfying users' expectations. The level of stakeholder pressure will force the tax auditors to develop knowledge and skills (Ussahawanitchakit, 2012).

*H6: Stakeholder expectation has a positive influence on digital accounting implementation.*

## 3. Research Methods

### 3.1. Sample Selection and Data Collection Procedure

The population of this research was tax auditors in Thailand. The key informants were tax auditors in Thailand, and data of tax auditors was accessed from the database of the Revenue Department of Thailand. On June 29, 2021, there were 2,934 tax auditors who had complete contact details and were ready to share them, and who were also authorized to sign the financial report (<https://rdtaxaudit.rd.go.th>).

As suggested by Krejcie and Morgan (1970), a confidence level of 95% was determined. Following their method, the appropriate sample size for this analysis was 340 cases. However, Aaker et al. (2001) suggested that the 20% response rate for the questionnaires distributed via mail was sufficient, and then 1,700 cases were calculated based on 20% of the response rate. The content validity and face validity of the questionnaires were assessed by an academic expert. Consequently, a total of 349 surveys were returned, so the response rate to surveys was 20.53%.

### 3.2. Measurement

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

Digital accounting implementation was measured by employing novel or suitable technology, which includes new techniques to enhance audit efficiency.

Audit competency was assessed through the adaption and integration of technology with auditing standards, auditing processes, auditing techniques, and auditing evaluations in the context of technological advancement.

The audit report emphasized the importance and credibility of the auditors' opinion, ensuring that the financial statements do not contain material misstatements and that the audit report is timely and clear for decision-making.

Audit performance laid its emphasis on the satisfaction and accomplishment of goals as well as expectations from the audit fieldwork and was assessed by reducing the risk and defects of the customers' business.

Audit learning aimed to help auditors advance in their careers by providing training-related news, such as accounting, auditing standard announcements and professional rules, and new techniques.

The digital culture was assessed with a four-item scale; it involved the rapid advancement of technology related to every branch of accounting knowledge. As a result, it is of great importance for auditors to stay abreast of novel or sophisticated technology to enhance their multidisciplinary expertise and competency.

Stakeholder expectation gave precedence to delivering accounting information in response to the needs among concerned parties, including shareholders, customers, creditors, and society stakeholders, to acquire precise information concerning the impact of equality policies and account practices.

### Control Variables

There were two control variables in this study including gender and age, which are inclined to have effects on the relationships between variables specified in the conceptual model. Gender tends to exert influences on audit planning competency; in the present study, this variable is denoted by dummy variables: 0 for males and 1 for females (Chung & Monroe, 2011). Similarly, age can influence audit planning competency; it is denoted by dummy variables: 0 for those aged 40 years and below and 1 for those aged over 40 years.

### 3.3. Test of Non-Response Bias

All 349 completed questionnaires were divided into two groups in this study. The 175 early responses were in the first group, while the 174 late respondents were in the second. The *t*-test was used to compare early and late responses in the non-response bias test. Status, education, pay, and the number of times respondents participated in training courses held by the Federation of Accounting Professions were used to compare early and late responses. The results revealed that there existed no significant differences between the early and late responses. Besides, the non-response bias problem did not occur (Armstrong & Overton, 1977).

### 3.4. Validity and Reliability

Factor analysis and Cronbach's Alpha were employed to verify the validity and reliability of the measures. Table 1 illustrates the factor loading value and the Cronbach Alpha coefficients.

The results show that the factor loading values of each construct range from 0.761 to 0.917, which is greater than the cut-off value of 0.40. (Nunnally & Berstein, 1994). The Cronbach's alpha should be greater than 0.70 to ensure the internal consistency of each construct (Hair et al., 2010). Cronbach's alpha coefficients range from 0.847–0.913. That is, for all constructs, the internal consistency of the measures used in this study is good. Thus, all measures

seemed to give internally consistent results. It signifies that the validity and reliability of these measures have been accepted for further analysis.

### 3.5. Statistical Techniques

The ordinary least squares (OLS) were employed in this study. Thus, all hypotheses formulated in this research were transformed into five equations. Each equation consisted of the main variables related to the hypothesis testing as described in the previous section. Moreover, two control variables, including gender and age, were included in all of those equations for hypothesis testing. To understand the relationship, the equations are provided as shown below.

$$\text{Equation 1: } AUC = \alpha_1 + \beta_1 DAI + \beta_2 GEN + \beta_3 AGE + \varepsilon$$

$$\text{Equation 2: } AUR = \alpha_2 + \beta_4 DAI + \beta_5 GEN + \beta_6 AGE + \varepsilon$$

$$\text{Equation 3: } AUP = \alpha_3 + \beta_7 DAI + \beta_8 GEN + \beta_9 AGE + \varepsilon$$

$$\text{Equation 4: } AUP = \alpha_4 + \beta_{10} AUC + \beta_{11} AUR + \beta_{12} GEN + \beta_{13} AGE + \varepsilon$$

$$\text{Equation 5: } DAI = \alpha_5 + \beta_{14} AUL + \beta_{15} DCL + \beta_{16} STE + \beta_{17} GEN + \beta_{18} AGE + \varepsilon$$

## 4. Results and Discussion

In terms of demographic characteristics, 39.00 percent and 61.00 percent of the 349 individuals that submitted questionnaires were males and females, respectively. A good share of the participants was aged between 41 and 50 years, and in terms of marital status, they were single. Concerning education levels, most of the participants held a master's degree. Moreover, 46.1% of them had working experience of more than 11 years. 45.3% of the participants earned an average monthly income above 70,000 baht. The annual number of audit reports was below 50 reports (73.6%). Finally, 59% of them had joined TFAC training 1–2 times.

According to Table 2, all correlations were below 0.80, and correlation coefficients of variables ranged from 0.455 to 0.780. Furthermore, variance inflation factors (VIF) were

**Table 1:** Result of Measure Validation

Variables	Factor Loading	Cronbach's Alpha
Digital accounting implementation (DAI)	0.791–0.890	0.872
Audit competency (AUC)	0.833–0.911	0.886
Audit Report (AUR)	0.865–0.917	0.913
Audit performance (AUP)	0.842–0.874	0.874
Audit learning (AUL)	0.827–0.892	0.894
Digital culture (DCL)	0.856–0.908	0.897
Stakeholder expectation (STE)	0.761–0.865	0.847

in the range of 1.002–3.034, which was below the cut-off value of 10 (Hair et al., 2010). Hence, multicollinearity problems were not present.

For the first three equations, digital accounting implementation was found to have a significant positive effect on audit competency ( $\beta_1 = 0.650, p < 0.01$ ), audit report ( $\beta_4 = 0.463, p < 0.01$ ), and audit performance ( $\beta_7 = 0.650, p < 0.01$ ) (Table 3). As indicated in prior research, continuous capacity-building training in digital accounting plays a vital role in enabling professionals and auditors to stay abreast of technological developments and to perform their duties effectively in the face of the ever-changing ICTs. Hence, digital accounting serves as an essential instrument to facilitate the audit process which requires appropriate skills and competencies to enhance the audit performance (Mosweu & Ngoepe, 2019). Furthermore, recent research has demonstrated the value of digital accounting implementations such as robotic process automation, which may help with

process documentation, error reduction, more precise measurement of process performance, and report quality improvement (Kokina & Blanchette, 2019). Furthermore, the recent study emphasized the need for employing digital strategies to supply regulators with the essential modifications required for audit standards and the achievement of superior audit performance (Manita et al., 2020). Furthermore, earlier research has shown that digital records created in ERPs, such as digital accounting implementation, remain authentic to facilitate financial auditing processes and accomplish audit performance (Mosweu & Ngoepe, 2021). In addition, the previous study found that AI, e.g., business Intelligence cloud computing, helped achieve a better quality of financial reports (Zakaria, 2021). Thus, Hypotheses 1a, 1b, and 1c are supported.

For the fourth equation, audit competency also had a significant positive effect on audit performance ( $\beta_{10} = 0.206, p < 0.01$ ). Thus, tax auditors must enhance their audit

**Table 2:** Descriptive Statistics and Correlation Matrix

Variables	DAI	AUC	AUR	AUP	AUL	DCL	STE
Mean	4.05	3.96	4.14	3.91	4.47	4.31	4.19
S.D.	0.72	0.67	0.66	0.69	0.52	0.61	0.60
DAI	1.00						
AUC	0.654***	1.00					
AUR	0.455***	0.645***	1.00				
AUP	0.450***	0.625***	0.780***	1.00			
AUL	0.457***	0.556***	0.574***	0.499***	1.00		
DCL	0.570***	0.601***	0.568***	0.547***	0.728***	1.00	
STE	0.492***	0.549***	0.531***	0.573***	0.669***	0.763***	1.00

\*\* $p < 0.05$ , \*\*\* $p < 0.01$ .

**Table 3:** Results of OLS Regression Analysis

Independent Variables	Dependent Variables			
	AUC (1)	AUR (2)	AUP (3)	AUP (4)
DAI	0.650*** (0.041)	0.463*** (0.048)	0.453*** (0.049)	
AUC				0.206*** (0.043)
AUR				0.659*** (0.043)
GEN	−0.152 (0.083)	−0.255*** (0.097)	−0.008 (0.099)	0.192*** (0.067)
AGE	−0.066 (0.084)	0.121 (0.099)	0.045 (0.100)	−0.025 (0.067)
Adjusted $R^2$	0.429	0.220	0.196	0.638
MaximumVIF	1.022	1.022	1.022	1.754

\*\* $p < 0.05$ , \*\*\* $p < 0.01$ , Beta coefficient with standard errors in parenthesis.

competency to keep pace with technological and business context changes. Digitalization will help improve audit relevance by enabling audit companies to extend their offers by presenting new services, and it will raise the audit quality as well. Therefore, given the effects of digitalization on audit business and the growing interest in digitalization, auditors are urged to improve their competencies to achieve better audit performance (Manita et al., 2020). Furthermore, recent research showed the importance of auditors' competency; specifically, Information Communication Technology (ICT) would enhance the audit performance in that it can assure clients' accurate financial statements, and timeliness of audit tasks (Thottoli, 2021). Now that the client system has been integrated with the cloud, the Internet of Things, and external data sources, digital accounting competency becomes a key component to cope with the technology advancement; hence, the auditors with greater competencies will be able to utilize advanced analytics to achieve the superior performance (Appelbaum et al., 2017). Thus, Hypothesis 2 is supported. Much in the same way, the audit report was found to significantly affect audit performance ( $\beta_{11} = 0.659, p < 0.01$ ). It is necessary for auditors to verify the accuracy of the financial statements, assuring users that the information risk is low. Simply speaking, one of the primary goals of achieving audit performance lies in lessening the risk of incorrect information in reporting (Canning et al., 2018). In addition, relevant research found a negative association between a firm's ERP implementation and audit report lag, which infers that ERP implementation helped reduce audit report lag and enhance the performance (Kim et al., 2013). Thus, Hypothesis 3 is supported.

As regards the fifth equation, it was discovered that digital culture had a significant positive influence on digital accounting implementation ( $\beta_{15} = 0.424, p < 0.01$ ) (Table 4). Prior research revealed that the arrival of cloud

computing, eXtensible Business Reporting Language, and business analytics, has altered the manner in which companies' financial performance is reported and business decisions are made. Consequently, that has resulted in a growing need for accounting professionals well-equipped with sophisticated IT skills (Pan & Seow, 2016). In addition, given the occurrence of digital transformation across various industries, such advancement has influenced IT auditing practices, e.g., the growing need for IT audit as well as the new opportunities for IT audit to meaningfully contribute to the growth of businesses and organizations (Aditya et al., 2018). Thus, Hypothesis 5 is supported. Meanwhile, audit learning ( $\beta_{14} = 0.664, p > 0.10$ ), and stakeholder expectation ( $\beta_{16} = 0.119, p > 0.10$ ), did not have any influence on digital accounting implementation. In the context of tax auditors, training provided by related organizations is still insufficient.

In line with prior research, audit learning in the area of digital forensic is needed to authenticate digital records; such skills are lacking (Mosweu & Ngoepe, 2019). The reason for this may be associated with the costs and benefits of their operation, together with the characteristics of their clients who are not well equipped with sophisticated IT skills or lack confidence in their technological competence (Hannimitkulchai & Ussahawanitchakit, 2016). In Thailand, tax auditors' clients are merely partnership businesses with simpler IT and smaller audit fees. As a result, in this scenario, the adoption of technology is deemed impractical or fruitless. In addition, tax auditors usually verify enterprises' statements with a small number of transactions and little or no complexity (Musig & Ussahawanitchakit, 2011). Compliant with previous research, the pressure from a stakeholder does not force tax auditors to use audit technology, so long as paper-based work still helps to complete the audit work as scheduled (Promtong et al., 2018). Thus, Hypotheses 4 and 6 are not supported.

**Table 4:** Result of Regression Analysis for the Antecedent Variables

Independent Variables	Dependent Variables
	DAI (5)
AUL	0.064 (0.067)
DCL	0.424*** (0.076)
STE	0.119 (0.070)
GEN	0.006 (0.091)
AGE	-0.156 (0.091)
Adjusted $R^2$	0.330
MaximumVIF	3.034

\*\* $p < 0.05$ , \*\*\* $p < 0.01$ , Beta coefficients with standard errors in parenthesis.

## 5. Contributions and Directions for Future Research

### 5.1. Contributions

Our research shows the importance of digital accounting implementation on audit performance and that of the factors influencing digital accounting implementation in the context of tax auditors in Thailand. First, the results indicate that digital accounting implementation serves as a significant factor that promotes tax auditors' professional audit proficiency. Second, the results will enable auditing practitioners and regulators to develop training programs that are associated with digital transformation or the advancement of digital technology in accounting that can enhance professional



audit efficiency. Finally, this research also is beneficial for tax auditors; particularly, it sheds some light on valuable resources which encourage the improvement of tax auditors' knowledge and skills, thereby increasing their efficiency in performing the audit tasks.

## 5.2. Future Research Direction

In accordance with the results of this study, some hypotheses are not statistically significant; in particular, audit learning and stakeholder expectation do not affect digital accounting implementation. Firstly, only tax auditors were examined in this research; thus, future research might place emphasis on other types of auditors, for example, co-operative auditors and CPAs in Thailand, to extend the generalizability of the results. Finally, further studies may investigate the readiness to cope with technological changes of small businesses in Thailand in the digital economy era.

## 6. Conclusion

The aims of the present study were: 1) to investigate the effects of digital accounting implementation on its consequences, including audit competency, audit report, and audit performance, and 2) to investigate the effects of antecedents, including audit learning, digital culture, and stakeholder expectation, on digital accounting implementation. The results revealed that digital accounting implementation had a significant positive effect on all consequences, and that audit competency and audit report had a significant positive impact on audit performance. Besides, in terms of the effects of antecedents, only digital culture significantly and positively affected digital accounting implementation. In the context of Thailand, tax auditors are aware of the importance of digital technology which can enhance the efficiency of their work; despite that, they use it infrequently. The reason for this phenomenon may lie in the fact that their clients are mere partnership enterprises with less complicated IT and smaller audit fees, so learning about novel digital technology in accounting may be considered a fruitless attempt. In addition, in partnerships businesses owners' viewpoint, preparing a financial report, which will be submitted to the Revenue Department, is merely one of the duties that need to be done. It seems that the business owners do not recognize the benefit of using such financial reports. Simply speaking, the need for tax auditors to verify the accuracy of the financial statements is solely to meet the legal requirements. Therefore, business owners should pay more attention to financial reporting rather than focusing on meeting legal requirements because the better quality of financial reports will enhance the efficiency of decision-making.

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