

## Guidelines for Professional Competency Development of Thai Accountants in the Digital Economy Era

Porntip Shoommuangpak\*

Faculty of Business Administration

King Mongkut's University of Technology North Bangkok

*Received: 28 January 2020*

*Revised: 7 October 2020*

*Accepted: 8 October 2020*

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### ABSTRACT

The purposes of this research are (1) to study the needs for development of Thai accountants' competency in the digital economy era; (2) to study the guidelines for developing Thai accountants' competency for working in the digital economy era; and (3) to assess the effects of different levels of development among three different operation characteristics of the national accounting firms in Thailand. This research applied both qualitative and quantitative research methods. In the qualitative research, the researcher conducted in-depth interviews with 9 senior managers of quality national accounting firms. In the quantitative research, the researcher used a questionnaire to collect data from 335 senior accountants from national accounting firms in Bangkok Metropolitan area, and then used the descriptive statistics in analyzing the quantitative data. The findings of this research indicate that the need and guidelines for professional competency development of Thai accountants in the digital economy era comprise 9 professional competency areas which are the adaptation for digital transformation, technical knowledge and ethics, professional skills, thinking outside the box, analysis of big data, communication skills, being a consultant, strategic planning and effective management, and continuing professional development. It will focus on professional competency development of Thai accountants for having communication skill regarding the overall of financial report and self-learning through online media. The hypothesis testing result shows that the effect of different level of development among three different operation characteristics of national accounting firms in Thailand are not significantly different.

**Keywords:** Thai accountant, Competency, Development, Digital economy

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\* Corresponding Author; Email: tiptip\_bkk@hotmail.com

## Introduction

In the twenty-first century, it is possible to see the footsteps of digitalization at almost every intersection of business. In order to be prepared to drive on Thailand to adjust its economic structure towards the digital economy, the increase of competitiveness and economic growth which the entrepreneur can choose the digital tool to ameliorate the innovation to create the competitive advantage such as create a handbook for operating the small hotel business in the digital economy era (Tubtimcharoon, 2018). Most enterprises, prioritize the use of digital technology as a tool in managing the organization for increasing its efficiency, including preserving the environment by reducing the use of paper. The enterprises used the digital technology in managing the accounting system tended to increase. From the year 2014–2018, there were 553,949 enterprises, 549,362 enterprises, 595,395 enterprises, 681,123 enterprises, and 751,270 enterprises respectively (National Statistical Office, 2019).

In addition, Thai government has pushed enterprises to take advantage of digital technology, especially in finance and accounting, including to modernize the e-commerce systems, and to increase their ability to compete internationally (Maesincee, 2016). The small and medium enterprises, whose proportion was more than 80% of the business sector filed the form of corporate income tax (Department of Business Development, 2019). These enterprises submitted the business operation documents to the national accounting firm to prepare financial report and filed the form of corporate income tax. Additionally, the digital technology has changed the traditional accounting to digital accounting. The accounting firm have many days to day processes that are digitalized to a high extent (Gustafsson, 2015). For example, using cloud base solutions for accounting practice, the instant access to corporate registration information via smartphone, the analysis of data from big data to help support the senior executives of organization to make a decision, the electronic tax filing via e-receipt and e-tax invoice, the filing of financial statements through the e-filing system, the payment via e-payment, the new payment method that does not pass through the bank system, the funding through crowdfunding, the use of blockchain in financial work, and the account recording using the digital currency. Hence, Thai accountants who work at the national accounting firm need to develop their professional competency in the digital economy era (Federation of Accounting Professions, 2019). Thai accountants should have knowledge about their profession, digital technology, innovation, including accounting profession ethics. They should also be analyze and present the accounting data, as well as being a consultant in making important financial decision for the organization (Department of Business Development, 2019).

With the digitalization, new requirements have arisen for national accounting firms to create new accounting practice. The national accounting firms are estimated to have a high probability of

becoming automated. Traditional accounting methods such as paper, receipts, registration, declaration, notification will eventually go, and all will be done by internet-based accounting system such as cloud system and blockchain technology. As stated above, professional competency of Thai accountants is also changing and developing as a result of digitalization. The workload of Thai accountants has been reduced; complicated and difficult accounting transactions made using traditional methods are made easily and quickly. Against this unabated rise of digitalization, Thai accountants ready for this revolution. However, there is no guidelines for how Thai accountants should position themselves with their professional competency development to simplify the choices of strategic positioning towards meeting digital economic era. It means that Thai accountants of national accounting firms need to meet this change and need to understand what it will require of national accounting firms for survival in digital economy era.

## Research Objectives

The purposes of this research are (1) to study the need for development of Thai accountants' competency in the digital economy era (2) to study the guidelines to develop Thai accountants' competency for working in the digital economy era, and (3) to assess the effect of different level of development among three different operation characteristics of the national accounting firm in Thailand.

## Expected Outcomes

The research will provide insight into the guidelines to develop Thai accountants professional competency in the digital economy era as follows: (1) the aspect of accounting profession, the results will be guidelines for increasing the professional competency of accountants (2) the aspect of organization related to accounting profession, the results will be guidelines to create courses and trainings to enhance knowledge deal with professional competency development of Thai accountants in the digital economy era, and (3) the aspect of education, it will be useful to establish and improve curriculum for teaching in both public and private education institutions in order to produce the accountants in response to the needs of entrepreneurs in the digital economy era.

## Literature Review

Innovation from the policy Thailand 4.0 and the digital economy affect the work of accountant. From the policy of public sector that prioritizes the enterprise using the benefit of technology as the important tools in the operation in order to develop the performance of organization and develop the economy of country. The almost enterprises face to these changes by

using the online financial and accounting management system in the organization. Moreover, the government has set the policy “Thailand 4.0” by focusing on Revenue Department to implement the entire electronic system by the year 2022. All types of enterprises among sole proprietorship, partnership, and company to enter the e-tax invoice system, the e-receipt system, and the e-filing system (Kornvittayasil, 2016).

In addition, most enterprises use the software program to analyze and synthesize the accounting data in order to communicate to stakeholders to make economic decisions (Padberg, 2015), including the use of electronic-based system instead of paper-based system (Leipzig et al, 2017). Moreover, online tax system of the Revenue Department, it stipulates that enterprises establish the tax systems and transaction documents, consists of e-withholding tax system, e-tax invoice and e-receipt system and e-filing system (Department of Business Development, 2019). Therefore, accountants need to adaptation for digital transformation by using online technology within accounting practice in this digitalization era (Tekbas, 2018; Pan and Seow, 2016).

Regarding the cloud accounting system, moving into the digital economy with the cloud accounting system is the use of accounting programs to increase accounting practice efficiency. The cloud-based accounting software system is to use the cloud system to record the accounts at every place and time through various technological devices. This helps the enterprises reduce cost well (Perdana, Robb and Birt, 2016). The optical character recognition (OCR) system work by scanning the financial documents and connect to the record of various accounts and automatically send information to financial report (Liu, Wu and Xu, 2019). The mobile accounting system is to use the mobile applications connecting via the online system in issuing receipts, bills and invoices (Tekbas, 2018). The accountants must adapt themselves and be prepared in operating the accounting work with the cloud accounting system, such as the artificial intelligence (AI) system which is the international accounting system. These accounting practice will be rapid, accurate and precise. The most of the stages of the flow accounting processing can move on cloud. Hence, accountants should be big data analytic and communicate by provide real time reports and consulting services on business profitability, cost analysis and support for decision making (Lonescu, Prichici and Tudoran, 2014).

Technical knowledge, ethics and professional skills are great in order to increase professional competency of accountants in the digital economy era. The accountants must have various technical knowledge, ethics and professional skills, such as retrieving data from large databases to be used in ethical decision making, communicating, being a leader, and setting the organization strategies. Technical knowledge, ethics and professional skills of accountants cannot be replaced by the technology (Riddell, 2016). Therefore, the accountants should develop the ability of accounting practice in order to add valuable to accounting firms, for example, changing the role from the expert

to be the consultant, changing from auditing to analyzing the comparative accounting data to persuade the stakeholders of organization (Pan and Seow, 2016).

In addition, it was found that many enterprises among type of national accounting firms that consists of sole proprietorship, partnership, company with different registered capital, and different average annual income need professional competency accountants in accounting practice (Kittiwutikrai and Chaisawaneeyakorn, 2017) in order to use that professional competency to develop the quality system of national accounting firms (Maneemai et al., 2016). Therefore, the adaptation of accountants by developing the technical knowledge and professional skills needed in accounting practice by attending modern technology training by self-learning through online media (Pan and Seow, 2016) learning about e-invoicing of each European country to access the digital and using the digital currency in operating the business and making the financial report (Prochazka, 2018) planning and effective management by analysis of data and making the financial report via online system (Liu, Wu and Xu, 2019).

Furthermore, the most of enterprises use the benefit from big data in analyzing and assessing the risk in investment or establishing the budgets for decision making and organizational development including that the enterprises connect the traditional financial system to the new system, for example, online payment or block chain or cloud funding (Perdana, Robb and Brit, 2016). Professional bodies are to continuously promote the principle of lifelong learning which helps in providing high professional competency of accountants. Additionally, the accountants should learn continually in order to deal with the complexities caused from the modern technology by continuing professional development through online media, as well as being able to adapt to the changing environment effectively (Dunbar, 2017). Federation of Accounting Professions (2019) believe that the reason for the development of learning lies in the growing of the relevance of skills acquired by accounting firms. However, the role of communication, being a consultant and strategic planning are perceived as important. The accountants interviewed consider that the most important skills are related to working with accounting firms, but attention is paid to the acquisition of these soft skills. (Leipzig et al., 2017). Moreover, Albu (2012) believes that accounting is not relationship only with numbers, but it also requires thinking outside box. Accounting firms requires creativity as a decision support (Riddell, 2016).

The above literature review summarized that Thai accountants must pay attention to develop professional competency in the digital economy era which consists of adaptation for digital transformation, technical knowledge and ethics, professional skills, thinking outside the box, analysis of big data, communication skills, being a consultant, strategic planning and effective management and continuing professional development. These accountants' competency and operation characteristics

of the national accounting firms such as type of firms, registered capital will bring many challenges and opportunities for successful in their national accounting firms.

## Research Hypotheses

The level of importance of operation characteristics of the national accounting firms regarding the guidelines for professional competency development of Thai accountants in the digital economy era is not different.

## Research Methodology

### Research Design

This research has used mixed methods approach in order to combine benefits of both qualitative and quantitative methods.

### Population and Sample

The unit of analysis of this research are gathered from database of Department of Business Development (2019). A total of 2,012 senior accountants from national accounting firms in Bangkok Metropolitan area are identified from this database. All unit of analysis are calculated by using the sample size determination formula in a finite population number, with the reliability value at 95% and the error at no more than 5% of Yamane (1973). The sample size from the calculation is 335 senior accountants from national accounting firms in Bangkok Metropolitan area.

### Research Instruments

This research is the mixed methods approach. Qualitative research is conducted by using the structured-interview form to collect the data. Data obtained from 9 senior managers from quality accounting office in Bangkok Metropolitan area. The structured-interview form deals with professional competency development of Thai accountants which consists of adaptation for digital transformation, technical knowledge and ethics, professional skills, thinking outside the box, analysis of big data, communication skills, being a consultant, strategic planning and effective management and continuing professional development respectively.

Additionally, Quantitative research is conducted by using the Likert scale, the average score of the answer to the question “in a scale of 1-5 (being 1 “not at all importance” and 5 “totally importance”) accordance to Krosnick et al. (2005) cited in Albarracin et al. The questionnaire which is divided into 3 parts, as follows; part 1: the operation characteristics of enterprise, includes 3 items (1) type of firms consists of sole proprietorship, partnership, and corporation (2) registered capital less than 10 million bath to more than 50 million bath, and (3) average annual income less than 5 million bath to more than 10 million bath, part 2: the guidelines to develop Thai accountants

professional competency in the digital economy era, relate to (1) adaptation for digital transformation (2) technical knowledge and ethics (3) professional skills (4) thinking outside the box (5) analysis of big data (6) communication skills (7) being a consultant (8) strategic planning and effective management, and (9) continuing professional development, and part 3: the open-ended for recommendations from respondent about guidelines to develop Thai accountants professional competency in the digital economy era.

The researcher checked the quality of research tool by evaluating its validity and reliability. The researcher found the validity by testing the quality of the questionnaire by 5 experts to find the index of item objective congruence (IOC). The question has an IOC value from 0.5-1.00. In case that any question got the score less than 0.5, that question will be excised (Ravinelli and Hambleton, 1977). In addition, the researcher found the reliability of the questionnaire by conducting the try-out with 30 national accounting firm in Bangkok Metropolitan area with the Alpha Coefficient method of Cronbach (1951) and retrieved the reliability value of the guidelines for professional competency development of Thai accountants in the digital economy era, which is 0.89. The reliability coefficient must exceed 0.80 (Vanitbancha, 2012). This means the questionnaire is reliable.

### **Data Collection**

The researcher collected the data from the questionnaires that are sent to the senior accountants from national accounting firms in Bangkok Metropolitan area, with a blank envelope attached with a postal stamp for returning the questionnaires and requesting the reply within 15 days after receiving the questionnaire. The researcher received 313 questionnaires back. According to the concept of Dillman (1978), the duration to follow-up questionnaire was determined at after 2 weeks; thereby, the researcher followed up by sending the questionnaires to the same sample group who has not replied yet and received 124 questionnaires back. For the rest, the researchers sent the questionnaires via email and received 46 questionnaires back. The total number is 483 questionnaires. The total period of data collection is 3 months from October - December 2019. Then, the researcher calculated the response rate by examining the correctness and completeness of all 483 questionnaires, and found that 335 questionnaires were complete, representing the response rate at 24% of the sample. It is considered at an acceptable level according to theory of Aaker, Kumar and Day (2001) defined the minimum response rate at 20% of the sample. Thus, the response rate of this study is considered acceptable. Moreover, this study concerns to detect a possible problem with non-response errors, the assessment and investigation of non-response-bias is tested with the first wave and second wave data recommended by Armstrong and Overton (1977). The means of demographic variable of two waves are tested by t-test whether the means is different. The procedure showed no significant differences.

### Data Analysis

Regarding qualitative research, analyzes the data from in-depth interview the need to professional competency development of Thai accountants in the digital economy era. The processes are (1) group the data to verify their accuracy and completeness, including considering the data adequacy in line with research objectives (2) compile data by prioritizing the content (3) analyze the data from in-depth interview forms by using saturated data, and analyze with the descriptive statistics, synthesized the direction of guidelines for professional competency development of Thai accountants in the digital economy era by applying the collected data with relevant concepts, theories and research (4) link the data to meet the research objectives, and (5) summarize the data analysis from the in-depth interview form. For quantitative research, analyzes the data from questionnaire with these processes: (1) verify the accuracy and completeness of the data from questionnaire, and (2) analyze the data from questionnaire with the descriptive statistics by using computer program. For part 1 of the questionnaire, the researcher brought the data about operation characteristics of enterprise to analyze the comparing differences of the mean of level of importance regarding the operation characteristics of national accounting firms. For part 2 of the questionnaire, the researcher brought data the guidelines for professional competency development of Thai accountants in the digital economy era to analyze the mean and standard deviation. For part 3 of the questionnaire, the researcher brought the recommendations of respondent in addition to part 2 to analyze the frequency.

### Findings

The analysis results of both qualitative and quantitative data can be concluded as follows; with regard to qualitative research, the data from in-depth interview show that senior managers of national accounting firm needed Thai accountants in the digital age with 9 professional competency areas consist of adaptation for digital transformation, technical knowledge and ethics, professional skills, thinking outside the box, analysis of big data, communication skills, being a consultant, strategic planning and effective management and continuing professional development. In part of quantitative research, the data from the questionnaire show that 76% of senior accountants of national accounting firms are female; 40% aged 36-45 years; 80% graduated the Master Degree. The descriptive statistics of this question are presented in the table 1 and 2.

The results from table 1 indicate that guidelines for professional competency development of Thai accountants in the digital economy era in total had the mean score at 4.31, which means its importance is at high level. In particular, communication skills have the highest mean score at 4.52, followed by continuing professional development, with the mean score at 4.51 respectively.



**Table 1** Descriptive statistics results of the level of importance of the guidelines for professional competency development of Thai accountants in the digital economy era with 9 professional competency areas

Guidelines for Professional Competency Development of Thai Accountants in The Digital Economy Era	$\bar{X}$	S.D.	Level of Importance
Total	4.31	0.65	High
Adaptation for digital transformation	4.25	0.73	High
Technical knowledge and ethics	4.31	0.65	High
Professional skills	4.30	0.66	High
Thinking outside the box	4.23	0.75	High
Analysis of big data	4.13	0.78	High
Communication skills	4.52	0.51	Highest
Being a consultant	4.40	0.58	High
Strategic planning and effective management	4.27	0.67	High
Continuing professional development	4.51	0.53	Highest

The results from table 2 show that accountants professional competency that senior managers of national accounting firm needed most were communicate the overall of financial report, with the mean score at 4.56 and self-learning through online media, with the mean score at 4.52 respectively.

**Table 2** Descriptive statistics results of the level of importance of the guidelines for professional competency development of Thai accountants in the digital economy era classified by 9 professional competency areas

Guidelines for Professional Competency Development of Thai Accountants in The Digital Economy Era	$\bar{X}$	S.D.	Level of Importance
Adaptation for digital transformation			
Accept the emerging technology practices	4.42	0.79	High
Technical knowledge and ethics			
Solve the complex accounting problems	4.33	0.80	High
Professional skills			
Apply the accounting data for adding value to the business	4.45	0.73	High
Thinking outside the box			
Initiate to develop the online accounting systems.	4.26	0.79	High

**Table 2 (cons.)**

Guidelines for Professional Competency Development of Thai Accountants in The Digital Economy Era	$\bar{X}$	S.D.	Level of Importance
Analysis of big data			
Use the appropriate information to improve the accounting performance	4.32	0.65	High
Communication skills			
Communicate the overall of financial report	4.56	0.70	Highest
Being a consultant			
Answer in-depth accounting questions to clients	4.24	0.79	High
Strategic planning and effective management			
Plan for the risk of accounting practice	4.23	0.75	High
Continuing professional development			
Self-learning through online media	4.52	0.72	Highest

The results from table 3 indicate that level of importance of the operation characteristics of national accounting firm are type of enterprise, registered capital and average annual income regarding guidelines for professional competency development of Thai accountants in the digital economy era is not statistically significant differences at the .05 level, which is relevant to the set hypothesis.

**Table 3** Statistical values for comparing differences of the mean of level of importance regarding the operation characteristics of national accounting firms

Operation Characteristics of National Accounting Firms	t-Value	P-Value
Type of firms (sole proprietorship, partnership, corporation)	1.01	0.32
Registered capital (less than 10 million baths to more than 50 million bath)	1.14	0.27
Average annual income (less than 5 million baths to more than 10 million bath)	1.25	0.16

## Discussion

The national accounting firm, established in the type of firms include sole proprietorship, partnership, corporation, with different registered capital, and different average annual income from operation, needs professional competency development of Thai accountants to perform accounting practice consistent with Kittiwutikrai and Chaisawaneeyakorn (2017) in order to bring the professional

competency to develop the quality system of national accounting firms coincide with Maneemai et al. (2016).

Specially, information communication skills in the financial report is important because the stakeholders can use this information in making the economic decision, for example, the investor decides to purchase the shares, or the financial institution decides to grant credit lines consistent with Padberg (2015) and Ionescu, Prichici and Tudoran (2014). Therefore, Thai accountants need to continually professional development to increase communication skills by self-learning through online media which is aligned with Tekbas (2018), Dunbar (2017) and Pan and Seow (2016), the possibility for Thai accountants to directly communicate with stakeholders for example, e-invoice of other countries similar to Tekbas (2018). digital currency in making the financial report accordance with Prochazka (2018), online financial report by Liu, Wu and Xu (2019) and online payment by Perdana, Robb and Brit (2016). The reason is to communicate the financial information to the stakeholders of enterprise accurately; which affects the efficiency of the national accounting firms and develop the national economy efficiency. Thai accountants should communicate by presenting the financial report to stakeholders. These will put pressure on the accounting practice to fit present need for professional competency development similar to Pan and Seow (2016) and Padberg (2015).

Beside communication skill, Thai accountants need to develop their professional competency by continuing professional development which is now the digital age, Thai accountants can bring modernity, convenience, and speed of online media as a source of learning accordance with Tekbas (2018) and Pan and Seow (2016). Because of the senior manages of national accounting firms need Thai accountants who have professional competency in adaptation for digital transformation, have the technical knowledge and ethics, have professional skills, think outside the box, analyze the data from big data, communicate skill, be a consultant, set the strategic planning and effective management, and continuing professional development consistent with Dunbar (2017). As mentioned above, accountants' competency is heavily used in accounting practice. Hence, it is important for Thai accountants to receive proper professional competency development in digital era.

## Suggestions

### 1. Suggestions for Research Utilization

1.1 The national accounting firms should focus on communicating the important information from the financial report of accountants because the effective communication of accountant will affect the correct and timely decisions of all stakeholders, especially the investment decisions. This will also enhance the efficiency of The Stock Exchange of Thailand, including

encouraging the accountants to have the opportunity to continually improve their knowledge to keep up with technological advancements.

1.2 Federation of Accounting Professions should organize the trainings for accountants to have knowledge and understanding of professional competency development in the digital economy era to effectively prevent or cope with the cyber risks.

1.3 The education institutions should develop the curriculum accounting to support professional competency of accountants in the digital era, with the emphasis on practical training to increase the skills and techniques in accounting in accordance with the needs of the enterprise in the digital era.

## 2. Suggestions for Future Research

2.1 The research should be conducted with other samples, such as the accounting managers of auditing or taxation. Moreover, should be compare technology using in each sample.

2.2 The further research should be conducted from results of this research deal with factors or impact the professional competency development of Thai accountants such as motivative, benefit, job success, firm performance. Additionally, should be in depth study about types of technology such as blockchain, cloud, and data analytic tools.

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