RESEARCH ARTICLE

Effects of Audit Data Analytics Capability on Tax Performance: Evidence from Tax Departments in Thailand

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(Received: July 22, 2020; Revised: November 16, 2020; Accepted: December 1, 2020)

Abstract

This study aims at investigating the effects of audit data analytics capability on tax performance of tax departments in Thailand. The dynamic capability theory is used to explain the relationship of the variables. In this study, a mail survey questionnaire is used to collect quantitative data from the entire population of tax departments in Thailand 404 tax audit branches and received 255 usable returned questionnaires (63.28%). The ordinary least squares (OLS) regression analyses are processed to test all postulated hypotheses. The results indicate that audit data

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analytics capability including management capability, technology competence, and personnel expertise has a significant positive effect on tax performance.

In addition, this study empirically confirms that management capability, technology competence, and personnel expertise are the key dimensions of audit data analytics capability, which is consistent with the existing literature and adds benefit to the literature. This study sheds light on the boundary of dynamic capability theory in the context of tax departments in Thailand. In summary, executives should emphasize the importance of audit data analytics capability that plays a role in determining the success and sustainability of tax performance in current and future perspectives.

Keywords: Audit Data Analytics Capability, Management Capability, Technology Competence, Personnel Expertise, Tax Performance

บทความวิจัย

ผลกระทบของความสามารถในการวิเคราะห์ข้อมูลการตรวจสอบที่มีต่อผลการจัดเก็บภาษี: หลักฐานจากหน่วยงานจัดเก็บภาษีในประเทศไทย

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บทคัดย่อ

การวิจัยนี้มีวัตถุประสงค์เพื่อทดสอบผลกระทบของความสามารถในการวิเคราะห์ข้อมูลการตรวจสอบที่มีต่อผลการจัดเก็บภาษีของหน่วยงานจัดเก็บภาษีในประเทศไทย โดยใช้ทฤษฎีความสามารถเชิงพลวัตเพื่ออธิบายความสัมพันธ์ของตัวแปรในการวิจัย ในการวิจัยนี้เป็นการศึกษาเชิงสำรวจโดยใช้แบบสอบถามทางไปรษณีย์เป็นเครื่องมือในการเก็บรวบรวมข้อมูลจากประชากรทั้งหมด ซึ่งเป็นหน่วยงานจัดเก็บภาษีในประเทศไทย จำนวน 404 พื้นที่สาขา ได้รับแบบสอบถามตอบกลับมาที่สามารถนำไปใช้วิเคราะห์ข้อมูลต่อได้ จำนวน 255 พื้นที่สาขา (63.28%) และใช้การวิเคราะห์สมการถดถอยพหุคูณด้วยวิธีกำลังสองน้อยที่สุดในการทดสอบสมมติฐาน ผลการวิจัย พบว่า ความสามารถในการวิเคราะห์ข้อมูลการตรวจสอบ ประกอบด้วย ความสามารถด้านการ

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บริหารจัดการ ความสามารถด้านเทคโนโลยี และความเชี่ยวชาญของบุคลากร มีผลกระทบเชิงบวกอย่างมีสาระสำคัญต่อผลการจัดเก็บภาษี

นอกจากนี้ การวิจัยนี้ยังมีการยืนยันเชิงประจักษ์ว่า ความสามารถด้านการบริหารจัดการ ความสามารถด้านเทคโนโลยี และความเชี่ยวชาญของบุคลากร เป็นองค์ประกอบหลักของความสามารถในการวิเคราะห์ข้อมูลการตรวจสอบ ซึ่งสอดคล้องกับการวิจัยในอดีต และเพิ่มประโยชน์ต่อการวิจัยที่เกี่ยวข้อง การวิจัยนี้สะท้อนประโยชน์เชิงทฤษฎีที่แสดงให้เห็นถึงขอบเขตการประยุกต์ใช้ทฤษฎีความสามารถเชิงพลวัตในบริบทของหน่วยงานจัดเก็บภาษีในประเทศไทย ดังนั้น ผู้บริหารควรมุ่งเน้นความสำคัญของความสามารถในการวิเคราะห์ข้อมูลการตรวจสอบที่มีบทบาทในการกำหนดความสำเร็จและความยั่งยืนของผลการจัดเก็บภาษีทั้งในปัจจุบันและในอนาคต

คำสำคัญ: ความสามารถในการวิเคราะห์ข้อมูลการตรวจสอบ ความสามารถด้านการบริหารจัดการ ความสามารถด้านเทคโนโลยี ความเชี่ยวชาญของบุคลากร ผลการจัดเก็บภาษี

Introduction

Nowadays, digitization comes the increasing need for tax administrations around the world to collaborate with each country to administer its modern tax system (Colon & Swagerman, 2015). For that reason, taxation is a critical input to governance and is recognized as an important tool for national development. However, most developing countries face difficulties in generating tax revenue because weak tax administrations are not able to collect tax revenues efficiently and may suffer from tax avoidance (Modica, Laudage, & Harding, 2018). Hence, the dynamic tax systems are an important part of creating good tax administration. Also, the combination of process automation and data analytics capability are dramatically reshaping the way tax authorities (Klievink, Bharosa, & Tan, 2016).

Interestingly, the problems facing Thai tax departments to tax collection and tax audits are like those faced in other countries. Firstly, the main problem of the collection is tax evasion. Secondly, tax audit officers have insufficient auditing technical and knowledge. Finally, the Ministry of Finance still requires every tax department to increase its revenue target to achieve revenue goals (James, Svetalekth, & Wright, 2007). While in terms of Thailand's tax administration, tax departments attempt to follow the principle of tax administration as the Organization for Economic Cooperation and Development (OECD) suggested. Also, Thai tax departments have realized the importance of innovations in tax collections such as blockchain and big data analytics for increasing operational efficiency and promptness.

Audit data analytics capability (ADAC) refers to the capability of the organization to provide tax auditing insights using audit data analytics to transform information management capability, technology competence, and personnel expertise to gain superior tax performance. It is about techniques and technology that the organization can employ to analyze big data, report insight, and complex data for various applications intended to augment organizational performance (Kim, Shin, & Kwon, 2012). Here, this study views ADAC from the theoretical lens of sociomaterialism. It presents a balanced view of material and human perspectives by interlinking three information technology capability dimensions, including management, infrastructure, and personnel capabilities (Orlikowski, 2007).

Based on information technology and the sociomaterialism perspective, this study presents the conceptualization of three ADAC dimensions consisting of (1) management capability, (2) technology competence, and (3) personnel expertise because the role of ADAC can be seen as innovations in tax collections and a strategic resource that can achieve tax performance superiority. Therefore, the purpose of this study is to investigate the relationships between ADAC and tax performance in Thai tax departments. In terms of achieving this research objective, the following research question was investigated: What are the effects of ADAC on tax performance in Thai tax departments.

The Relationships between ADAC and Tax Performance

This study uses the dynamic capability theory to explain how ADAC enhances tax performance. This theory emphasizes

combinations of organizational, technological, and environmental (Teece, Pisano, & Shuen, 1997). This theory attempts to explain how the organization maintains a sustainable value in changing environments (Gutierrez-Gutierrez, Barrales-Molina, & Kaynak 2018). The conceptual model of the associations ADAC and tax performance is showed in Figure 1.

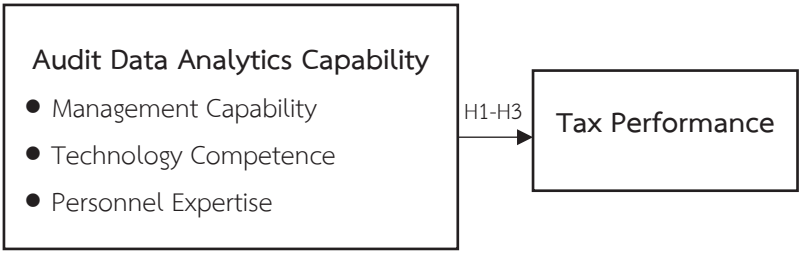

Figure 1. Conceptual model of the ADAC-tax performance relationships

1. Management Capability

Management capability refers to the ability of audit data analytics to planning, coordination, and control to manage information resources by organization needs. It is critical in gaining organizational performance. It requires the organization to build up its data management and analytics capability. It can affect organizational performance (Chen & Hsieh, 2014). Likewise, Akter, Wamba, Gunasekaran, Dubey, and Childe (2016); Wamba et al. (2017) found that data analytics management capability has the positive association with organizational performance. Thus, management capability focuses on enhancing the organizational decisions via linking data analytic with organizational strategies to create the organizational performance.

According to the dynamic capability theory, It focuses on how organizations renew and develop their capabilities to respond to environmental changes (Teece et al., 1997). This theory is a proficient way to explain how organizations achieve organizational performance, profits, and business returns (Drnevich & Kriauciunas, 2011). It evolves a micro-evolution through upgrading the management capability of the organization. Also, this theory seems to be gaining momentum in empirical studies since it is feasible to manage a set of operating routines that jointly constitute organization-level dynamic capability (Pavlou & El Sawy, 2011).

This theory suggests the use of management strategies to renew competency according to changes in the organizational environment (Shamim, Zeng, Shariq, & Khan, 2019). Moreover, It must be well-targeted and deployed to achieve strategic goals (Helfat & Peteraf, 2014). Then, the tax audit officers adopt the management capability based on the ADAC to reach the objectives of tax performance.

In terms of tax administration, data analytics management capability can identify the necessary tax input, assess the efficiency of the tax process, and improve the tax administration outcome for achieving tax performance (Gurama & Mansor, 2018). It is used compliance risk management in the tax administration to develop a series of risk indicators for a more efficient tax collection. Thus, management capability can lead to tax performance. Therefore,

H1: management capability has a positive relationship on tax performance.

2. Technology Competence

Technology competence refers to the ability of connectivity and compatibility on the audit data analytics platform to enabling tax audit officers to support and deploy the organizational resources. Since information technology is acknowledged as a critical component of data analytics capability, Wang, Liang, Zhong, Xue, and Xiao (2012) confirmed that the combination of information technology capabilities and information technology assets positively affect organizational performance.

Likewise, Oh, Yang, and Kim (2014); Zhang, Edgar, Geare, and O'Kane (2016) found that the information technology competence has positive significant influence on organizational performance. Similarly, Akter et al. (2016) found that technology competence enhances the organizational performance of the data analytics platform in terms of connectivity, compatibility, and modularity. In addition, Gunasekaran et al. (2017) confirmed that connectivity and compatibility under technology competence, which is positively related to big data and data analytics capability and organizational performance.

In the context of developing the dynamic capability theory, the technology competence infused in data analytics capability can help organizations configure their existing mode of operation (Mikalef, Pateli, & Van De Wetering, 2016). Meanwhile, Tanriverdi (2005) found that information technology, if suitably leveraged, could facilitate the development of dynamic capability such as firm agility. Moreover, Wamba et al. (2017) suggest that reconfiguration of capability in dynamic capability theory is required to maintain evolutionary to enhance organizational performance.

In terms of tax administration, Stankevicius and Leonas (2015) found that the usefulness of big data processing ability and technology competence in identifying tax evaders can enhance tax performance. It is likely to encourage tax authorities to achieve tax performance. Hence, technology competence becomes the second component of ADAC to maximize tax performance. Therefore,

H2: technology competence has a positive relationship on tax performance.

3. Personnel Expertise

Personnel expertise is defined as the ability of analytics professionals to perform assigned tasks in the tax audit environment through technical skill, relational knowledge, and technological management knowledge. Meanwhile, information technology skills, supported by analytical and communication skills are very important (Dubey & Gunasekaran, 2015). Rao (2014) suggest that hard skills such as technical skills were equally important, while soft skills represent individuals' attitudes and communication skills, leadership ability, and passion for excellence for successful performance.

Likewise, Bonface, Malenya, and Musiega (2015) found that the statistically significant positive relationship between managerial expertise and organizational performance. Similarly, Gupta and George (2016) confirmed that managerial data skills and technical data skills have positive significant relationships between data analytics capability and organizational performance.

The dynamic capability theory is a learned pattern of collective activity through which the organization systematically

generates and modifies its operating routines in pursuit of increased organizational performance (Zollo & Winter, 2002). This theory enunciates the role of routines and organizational learning (Barreto, 2010). Likewise, Gutierrez-Gutierrez et al. (2018) found that effective personnel expertise enhances the dynamic capability of the organization.

In terms of tax administration, the provision of education to tax audit officers such as audit data analytics would be a solution to the tax evasion problem (Al-moumany & Al Ebbini, 2013). Likewise, Brown-Liburd, Issa, and Lombardi (2015) suggest that audit data analytics provide tax audit officers with the potential to improve the efficiency and effectiveness of tax performance. Then, personnel expertise can promote tax performance. Therefore,

H3: personnel expertise has a positive relationship on tax performance.

4. Tax Performance

In Thailand public sector, the tax departments are classified as a non-profit organization because its focus on the objective of improving people's lives in a wider sense whereas indicators of private sector performance concentrated on revenue, profitability, market price (Al-Khouri, 2014; Nurcahyo, Wibowo, & Putra, 2015)**.** This study takes the position that tax performance is organizational performance. It refers to the ability of the organization to collect tax revenues to achieve the goals set or more effectively than the previous fiscal year, prides itself on receiving awards for performance according to standards or criteria for the development of public sector management quality award, innovations for tax

administration to convenient and efficient, as well as the transparent and fair administration for sustainable organizational development.

The use of the key performance indicators has been successful in measuring the tax departments and contributed to several improvements in its tax administration and services (Nurcahyo et al., 2015). Similarly, James et al. (2007) suggested that performance indicators of tax departments are divided into four dimensions including efficiency, quality of services, effectiveness, and organizational development. Therefore, this study uses the key performance indicators includes efficiency, quality of services, effectiveness, and organizational development dimensions for successful in measuring the tax performance.

Research Method

1. Sample and Data Collection

In this study, Thailand's tax department, including The Excise Department, The Revenue Department, and The Customs Department, under the Ministry of Finance in Thailand, is the appropriate population and sample of the study. The key informant who is appointed is the chief of area office of each tax audit branch, as they have the best knowledge and understanding of the format of tax audit information and tax administration.

This study implemented a mail questionnaire as the research tool. The mail questionnaires were sent to 404 tax audit branches in Thailand. A total of 276 questionnaires were returned, of which 255 were usable (165 questionnaires were received at the first distribution, and another 90 questionnaires were received after followed up via phone). The effective response rate was 63.28%. If

the response rate for the mail survey is greater than 60%, is considered a good level for analysis and reporting according to Groves (2006).

To prove potential non-response bias and to detect possible response bias problems with non-response errors, a comparison of answers received between early and late responses as suggested by Armstrong and Overton (1977) is considered. In this regard, non-response bias showed no statistically significant difference between early and late groups at a 95% confidence level as the number of employees ($t = -0.034$, $p > 0.05$) and average revenue of tax collection per year ($t = -0.584$, $p > 0.05$).

2. Measurement

Based on the conceptual model in Figure 1, three hypotheses were derived from the literature review. This study used data collected by the questionnaire for testing these hypotheses. The survey instrument comprises of five sections with each item related to the four constructs, i.e., management capability, technology competence, personnel expertise, and tax performance. All constructs were measured using a five-point Likert scale (1 = strongly disagree to 5 = strongly agree), except for tax performance (1 = never to 5 = always). Measurements of these constructs in the conceptual model are self-developed from existing literature through interpreting the definitions of the variables.

In furtherance to this, measurements of each dimension of ADAC and tax performance are empirically developed. Firstly, management capability is measured by the ability of audit data analytics to planning, coordination, and control to manage

information resources in accordance with organization needs, including the use of account information to determine the best practices and allocate resources efficiently that will help to achieve its goals and lead to long-term profitability. Four-item scale are used to measure management capability which adapts from Akter et al. (2016); Kim et al. (2012).

Secondly, technology competence is measured by the ability of analytics infrastructure to connectivity and compatibility the flexibility of the audit data analytics platform in relation to enabling tax audit officers to quickly develop and support the organizational resources. Four-item scale are used to measure technology competence which adapts from Akter et al. (2016); Kim et al. (2012).

Thirdly, personnel expertise is measured by the ability of analytics professionals to perform assigned tasks in the tax audit environment through technical skill, relational knowledge, and technological management knowledge. Four-item scale are used to measure personnel expertise which adapts from Akter et al. (2016); Kim et al. (2012).

Lastly, tax performance is measured by the ability of organization to collect tax revenues to achieve the goals set or more effectively than the previous fiscal year, prides itself on receiving awards for performance according to standards or criteria for the development of public sector management quality award, innovations for tax administration to convenient and efficient, as well as the transparent and fair administration for sustainable organization development. Four-item scale was utilized to gauge how organizations have gained an outcome of effectiveness, quality

of services, efficiency, and organizational development, which adapts from James et al. (2007).

3. Test of Research Instrument

Here, five academic experts, a confirmatory factor analysis (CFA), item-total correlation, and the Cronbach's alpha coefficient are utilized to verify the validity and reliability of this study. Firstly, the questionnaire in this study was improved by confirming the content validity. It was sent to five professionals in academic research to review and revise the questionnaire in order that the respondents could understand it correctly and clearly. Secondly, the confirmatory factor analysis was implemented to determine the construct validity of the survey item. Therefore, all factor loadings as range values of 0.60 - 0.92 are greater than the 0.40 cut-off and are statistically significant (Nunnally & Bernstein, 1994).

Thirdly, item-total correlation is the approach gauges the consistency between multi-item measurements in the same construct. Thus, Item-total correlations as range values of 0.47 - 0.87 are greater than 0.30 (Thoumrungroje, 2013). Lastly, the Cronbach's alpha coefficient is used as the measure of the internal consistency or reliability of constructs. In the reliability, the Cronbach's alpha coefficient as range values of 0.81 - 0.89 are greater than 0.70 (Hair, Black, Babin, & Anderson, 2014; Nunnally & Bernstein, 1994). As shown in Table 1, the scales of all measures demonstrate an acceptable validity and reliability in this study.

Table 1
Results of Validity and Reliability Testing

Variables	Factor Loadings	Item total correlation	Cronbach's Alpha
MC	0.77 - 0.88	0.65 - 0.75	0.85
TC	0.64 - 0.83	0.54 - 0.70	0.81
PE	0.60 - 0.90	0.57 - 0.87	0.89
TP	0.64 - 0.92	0.47 - 0.83	0.82

4. Statistical Technique

This study applies the multiple regression analysis to test the hypotheses by the ordinary least squares method (OLS). It is appropriate for investigating the relationships among the dependent variable and independent variables using data qualified as interval scales (Hair et al., 2014). To avoid error in the result of regression analysis, the basic assumptions are employed to verify, such as multicollinearity, normality, heteroscedasticity, linearity, and outlier. The equation is presented as follow:

Equation 1: $TP = \alpha_{01} + \beta_1 MC + \beta_2 TC + \beta_3 PE + \varepsilon$

Above equation shows TP shows tax performance as a dependent variable and "α" is constant with variables, β_1 shows management capability, β_2 shows technology competence, β_3 shows personnel expertise and ε shows error term.

Results

Table 2 shows the descriptive statistics and correlation analysis for all variables. The results indicated that management capability, technology competence, and personnel expertise have the positive significant correlation with tax performance ($r = 0.44$, $p < 0.01$; $r = 0.30$, $p < 0.01$, $r = 0.40$, $p < 0.01$, respectively). The problem of multicollinearity might occur when the intercorrelation matrix in each explanatory variable is more than 0.80, which is a high relationship (Hair et al., 2014).

Table 2

Descriptive Statistics and Correlation Matrix of all Constructs

Variables	MC	TC	PE	TP
Mean	4.46	4.56	4.40	4.39
Standard deviation	0.51	0.47	0.58	0.56
Management capability	1.00			
Technology competence	0.59***	1.00		
Personnel expertise	0.50***	0.44***	1.00	
Tax performance	0.44***	0.30***	0.40***	1.00

Remark: *** Correlation is significant at the 0.01 level (2-tailed test)

In this study, Table 3 presents the empirical evidence on the relationship between management capability and tax performance, the regression analysis reveals the significance of hypothesis 1 that management capability has positively and significantly affect tax performance in Thailand ($\beta_1 = 0.34$, $p < 0.01$). The finding demonstrates that higher management capability helps the organization to gain greater tax performance. It can provide necessary information for

improving the quality of data analytics planning, coordination, and control to achieving organizational performance. Consistent with previous research, Akter et al. (2016); Wamba et al. (2017) confirm the positive relationship between data analytics management capability and organizational performance.

According to dynamic capability theory, the finding confirms that this theory is one of the most influential in management capability to explain how organizations achieve in organizational performance (Drnevich & Kriauciunas, 2011). Equally, the finding is consistent with Helfat and Peteraf (2014) suggest that management capability is also critical for the development of dynamic capability view suited to cope with changing environments. It is essential in gaining organizational performance (Shamim et al., 2019). Thus, management capability can thus be regarded as achieving the organizational objectives for tax performance. *Therefore, Hypothesis 1 is supported.*

Secondly, the finding indicates that the relationship between technology competence and tax performance has shown the significant positive relationship ($\beta_2 = 0.17$, $p < 0.01$). The result implies that technology competence has the potential to help organization gain greater tax performance. It has proven that organizations with superior technology competence generally achieve superior organizational performance (Zhang et al., 2016).

Consistent with prior, technology competence is the method combined into enhancing organizational performance (Oh et al., 2014; Wang et al., 2012). Likewise, Akter et al. (2016) confirmed the positive relationship between data analytics technology competence and organizational performance. Similarly, Gunasekaran

et al. (2017) found that connectivity and compatibility under technology competence, which is positively related to organizational performance.

According to dynamic capability theory, technology competence could facilitate the development of dynamic capability such as firm agility (Tanriverdi, 2005). Meanwhile, Wamba et al. (2017) found that reconfiguration of dynamic capability is required to maintain evolutionary to enhance organizational performance. Moreover, Stankevicius and Leonas (2015) suggest that the usefulness of big data processing ability and technology competence in identifying tax evaders can enhance tax performance. Hence, technology competence is likely to encourage tax departments to achieve tax performance. *Therefore, Hypothesis 2 is supported.*

Finally, the finding indicates that personnel expertise has an important positive effect on tax performance ($\beta_3 = 0.33$, $p < 0.01$). Personnel expertise, supported by data analytics capability is very important (Dubey & Gunasekaran, 2015; Rao, 2014). Congruence with prior studies, Bonface et al. (2015) confirmed the positive relationship between managerial expertise and organizational performance. Likewise, Akter et al. (2016); Gupta and George (2016) found that technical and managerial data skills based on data analytics capability have positive significance on organizational performance.

According to dynamic capability view, Gutierrez-Gutierrez et al. (2018) suggest that effective personnel expertise enhances the dynamic capability of the organization. Thus, personnel expertise can promote tax performance. *Therefore, Hypothesis 3 is supported.*

Table 3

Result of OLS Regression Analysis

Audit Data Analytics Capability	Dependent Variables: Tax Performance				
	Unstandardized Coefficients		Standardized Coefficients	t-stat	p-value
	B	Std. Error	Beta		
(Constant)	0.14	0.07		1.97	.05
MC (H1)	0.33	0.05	0.34	6.19	.00***
TC (H2)	0.17	0.05	0.17	3.17	.00***
PE (H3)	0.31	0.05	0.33	6.09	.00***
Adj. R^2 = 0.24, F-test = 28.17, Prob. = 0.00, Maximum VIF = 1.00					

Remark: *** $p < 0.01$, ** $p < 0.05$ (2-tailed test)

Discussion

Following the sociomaterialism perspective related to information technology capability, this study used the initial work conducted by Akter et al. (2016); Kim et al. (2012) to develop the construct of ADAC: having management capability, technology competence, and personnel expertise, respectively. Literature suggests that the agility management capability in data analytics capability provides superior organizational performance (Akter et al., 2016; Chen & Hsieh, 2014; Wamba et al., 2017).

This study investigated how dynamic capability view can be affected by each dimension of ADAC, in the context of tax performance. The effective management of resources is important to create value from the capabilities and resources (Teece et al., 1997). Moreover, this theory suggests that data management

capability can help organizations to recognize the core resources (Shamim et al., 2019).

Congruence with prior studies, the connectivity and the compatibility under technology competence, which is positively related to organizational performance and create sustainable value advantage (Akter et al., 2016; Gunasekaran et al., 2017; Oh et al., 2014; Wang et al., 2012; Zhang et al., 2016). In addition, the dynamic capability view suggests that technology competence infused in organizational capabilities can help organizations reconfigure or renew their existing mode of organizational operating (Wamba et al., 2017).

In the empirical literature, personnel expertise such as managerial skills, technical skills, relational knowledge, and technological management knowledge, which is positively related to organizational performance (Akter et al., 2016; Bonface et al., 2015; Dubey & Gunasekaran, 2015; Gupta & George, 2016; Rao, 2014). Likewise, the dynamic capability approach also requires resources, capabilities, and personnel attention for the enhance organizational performance (Gutierrez-Gutierrez et al., 2018).

Consequently, our results support the assumption that the construct of ADAC including management capability, technology competence, and personnel expertise are positively associated with tax performance. This finding is consistent with existing literature and with the dynamic capability theory. Even though, this study collected data from Thailand’s tax departments, however, the findings can be used in other contexts as well.

Theoretical Contributions and Managerial Implications

This study empirically confirms that management capability, technology competence, and personnel expertise are the key dimensions of ADAC, which is consistent with the existing literature and dynamic capability theory. Also, this study provides an essential contribution to value creation from audit data analytics in the tax administration.

From a managerial implication, this study has provided some interesting insights. Moreover, the support for the positive relationship between ADAC and tax performance could be the relevant finding for executives involved in data analytics-related achieve capability. The results of this study implicate that although data analytics technology, calls for substantial investment in implementation, tax departments are aware of audit data analytics' potential value in terms of operational value. Hence, executives of tax departments would benefit from investing time and resources in creating such the data analytics capability. In addition, the ADAC might contribute to organizational ability to find the right balance between exploring new opportunities and exploiting existing resources, to eventually achieve enhanced organizational performance.

Limitations and Future Research Directions

The limitations of this study suggest avenues for future research. Firstly, because of its quantitative research design, this study did not explore the phenomenon in-depth; therefore, future research could explore the given context in more detail through a qualitative mode of inquiry to determine how ADAC challenges

enhance organizational performance. Finally, as data was collected at one point in time rather than longitudinally. The cross-sectional research design limits the extent to which inferences can be made about the causal ordering of variables. Hence, this study could not account for time-lag effects of changes in ADAC on tax performance, because changes to these factors may not directly affect the organizational performance after the change took place. Therefore, further research similar studies could adopt the longitudinal case studies to complement this research finding.

Conclusions

The main objective of this study is to investigate the effects of ADAC on tax performance of tax departments in Thailand. The relationships among ADAC of three major dimensions including management capability, technology competence, and personnel expertise and tax performance are examined. The conceptual framework of this study was supported by the dynamic capability theory. This theory is used to describe the phenomena of relationship of ADAC dimensions which affects tax performance.

The population of this investigation was selected from the database of the Department of Excise, Revenue, and Customs under the Ministry of Finance in Thailand. Data were collected from 255 chiefs of the area office of each tax audit branch as the key informant. Approximately, the mail survey resulted in 63.28% response rate. The OLS regression analysis and specific correlation analysis was used to test the hypotheses developed in this study. The results of this study revealed that ADAC has a strong positive impact on tax performance.

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