The Influences of Knowledge Management Capability and Knowledge-oriented Leadership on Public Organizational Innovativeness: An Empirical Study from the Tax Administrative Organizations in Thailand

Panissara Naowakhoaksorn

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ปาณิสรา เนาวโคอักษร

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The examining committee has unanimously approved this Thesis, submitted by Miss Panissara Naowakhoaksorn , as a partial fulfillment of the requirements for the Doctor of Philosophy Management at Mahasarakham University

Examining Committee

.....Chairman
(Assoc. Prof. Asda Chintakananda , Ph.D.)

.....Advisor
(Assoc. Prof. Pornlapas Suwannarat , Ph.D.)

.....Co-advisor
(Assoc. Prof. Karun Pratoom , Ph.D.)

.....Co-advisor
(Asst. Prof. veeraya pataraarechachai , Ph.D.)

.....Committee
(Asst. Prof. Purit Pongpearchan , Ph.D.)

.....Committee
(Asst. Prof. Sutana Boonlua , Ph.D.)

.....Committee
(Asst. Prof. Sumittra Jirawuttinunt , Ph.D.)

Mahasarakham University has granted approval to accept this Thesis as a partial fulfillment of the requirements for the Doctor of Philosophy Management

.....
(Chonthicha Thammavinyu , Ph.D.)
Dean of Mahasarakham Business School

.....
(Assoc. Prof. Krit Chaimoon , Ph.D.)
Dean of Graduate School

TITLE The Influences of Knowledge Management Capability and Knowledge-oriented Leadership on Public Organizational Innovativeness: An Empirical Study from the Tax Administrative Organizations in Thailand

AUTHOR Panissara Naowakhoaksorn

ADVISORS Associate Professor Pornlapas Suwannarat , Ph.D.
Associate Professor Karun Pratoom , Ph.D.
Assistant Professor veeraya pataraarechachai , Ph.D.

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ABSTRACT

The objectives of this research are to verify the mediating role of knowledge management capability (KMC) (i.e., accumulation of knowledge stocks and regulation of knowledge flows) in the relationship between knowledge-oriented leadership and public organizational innovativeness. Additionally, the moderating effects of social capital in the relationship between knowledge-oriented leadership and the two components of KMC as well as the moderating effects of creative organizational climate in the relationship between KMC and organizational innovativeness are examined. The relationships among these constructs are examined in public organizations. To understand the phenomenon in the public organization context, 1,334 tax administrative organizations in Thailand were selected to gather data for this research. The data from 784 organizations were analyzed by structural equation modeling to assess the construct validity and reliability and test the posited hypotheses.

The results of the study are described as follows. First, the result found that knowledge-oriented leadership strongly and positively influences both two components of KMC. Furthermore, KMC in the regulation of knowledge flows positively affects public organizational innovativeness whilst the accumulation of knowledge stocks does not affect. Second, the findings show the regulation of knowledge flows positively mediates the relationship between knowledge-oriented leadership and organizational innovativeness while the accumulation of knowledge stocks does not. Finally, the results indicate that social capital plays a moderating role in the relationship between knowledge-oriented leadership and KMC. Furthermore, a creative organizational climate positively moderates the effect of the accumulation of knowledge stocks on organizational innovativeness. Incredibly, it significantly and negatively moderates the effect of regulation of knowledge flows on organizational innovativeness creative is significantly and negatively moderated by creative organizational climate.

Integrating several concepts from these empirical results can provide some recommendations for executives of tax administrative organizations should to determine effective KM activities and strategies to enhance their innovativeness and performance. As well, encouraging the relational social capital and supporting perceived creative organizational climate among their members are significant to consider together with a leadership role, KMC, and innovativeness in the public organizations.

Keyword : Knowledge-oriented leadership, Knowledge management capability, Social capital, Creative organizational climate, Organizational innovativeness

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CHAPTER I

INTRODUCTION

Overview

Over the past decades, the recognition of the value of knowledge as a strategic resource and the most important for sustainable competitive advantage (Omerzel & Gulev, 2011), the superior performance (Delbaere, Di Zhang, Bruning, & Siveramakrishnan, 2014) as well as innovation of the organization has steadily increased (Abubakar, Elrehail, Alatailat, & Elci, 2019; Schwaer, Biemann, & Voelpel, 2012). The appearance of knowledge as a strategic resource, obtaining the rules of competition and strategy (Pucciarelli & Kaplan, 2016), and results in organizations committed to developing and strengthening systems and knowledge management capabilities (Von Krogh, Nonaka, & Rechsteiner, 2012). Accordingly, managerial thinkers and practitioners today are facing the challenge of answering questions such as how to effectively manage knowledge and bring benefits to the organization. The improvement in the knowledge conversion process (Chen & Chon, 2016) knowledge flow) between tacit knowledge (individual expertise) and the organization's explicit knowledge (knowledge stock) should be strongly emphasized, in order to achieve knowledge management success.

Knowledge management capability (KMC) is recognized as an organization's ability to accumulate critical knowledge resources and manipulate the assimilation and exploitation across functional boundaries to create useful ideas for working and to improve the organizational performance (Liu & Deng, 2015). Furthermore, KMC is significantly mentioned as organizational intangible knowledge assets (Ozbag, Esen, & Esen, 2013) and activities considered to manage organization resources more efficiently to improve efficiency (Demchig, 2015). In literature, there is empirical evidence that shows KMC has affected competitive advantage (Mao, Liu, Zhang, & Deng, 2016), organizational effectiveness (Chiu & Chen, 2016), value creation (Miranda, Lee, & Lee, 2011), innovativeness (Ozbag & Esen, 2013), and performance (Wong & Wong, 2011). It is found that most KMC research relates to two components:

infrastructure capability (i.e., technology, structure, and culture) and process capability (i.e., knowledge acquisition, conversion, application, and protection) (Sandhawalia & Dalcher, 2011; Chinchang & Ussahawanitchakit, 2015). Additionally, there are various studies on KMC in terms of the effectiveness of knowledge management practices that include knowledge creation, application, storage, and transferring or sharing (Donate & de Pablo, 2015). Although in the past there are many research models of KMC, it is still a need to comprehend the components of knowledge stock accumulation and knowledge flow regulation (Mirand et al., 2011). As the accumulated knowledge stocks should be embodied from the multiple integrated sources such as human resources, technology infrastructure, and strategic templates. Then, when those knowledge stocks have been encouraged to flow (regulation of knowledge flows) efficiently through organizational processes for instance institutionalization and internal and external learning processes, therefore, the capability of knowledge management emerges. KMC has become one of the most important aspects of management practices and established as a fundamental resource for for-profits and non-profit organizations (Buckova, 2015). The concept of knowledge management in the past and present is understood and linked to the business sector. At present, together with the creation of a knowledge society, there is necessary to discuss more knowledge in public organizations. Because the public or non-profit sector is part of the economy, they cannot be excluded in the base economy and actively use knowledge. Furthermore, generating knowledge management capabilities in the public sector is more accepted that can enhance creativity and innovativeness leading to value creation and superior performance of the organization.

The literature shows efforts to rejuvenate organizations in the public sector to be a modern organization under the concept of New Public Management (Bryson, Crosby, & Bloomberg, 2014; Chandler, 2017; Osborne, 2018). Acheampong and Kandadi (2008) have mentioned that knowledge management principles and practices that are proven effective in private business organizations can provide opportunities to improve performance, service delivery, relations with clients, and the internal process of public administration. Accordingly, examples of best practice or any successful methods in the management (includes knowledge management) of the private sector are continually adapted to the public sector for generating organizations' competencies

and improving the quality of public services by innovation. Organizational innovativeness implies the characteristics that reflect the intention to exploit new opportunities in generating the capacity to innovate and to introduce effective innovations to the organization (Werlang & Rossetto, 2019). Innovativeness is aware of both the private and public sectors because innovation helps to facilitate organizational effectiveness (Hussein, Omar, Noordin, & Ishak, 2016). Although the literature appears on the possibility of innovativeness for private sector organizations, the information on why the innovativeness of each organization in the public sector is different, it is still questionable. However, some researches are investigated factors that concern public organizational innovativeness. The empirical evidence shows that important conditions, which is specific to public organizations influence the probability of innovativeness (Demircioglu & Audretsch, 2017), and intrinsic factors, as well as managerial practices, affect improving performance which is crucial for achieving innovation in the public sector context (Sahin, Wessel, & Christensen, 2013).

Innovation is extremely important to tax administration organizations to be implemented for improving and increasing the effectiveness of tax collection. Furthermore, innovation development enhances the operations' efficiency and public service quality of organizations. To succeed in sustainable development through innovation, the Ministry of Finance intends to motivate these organizations to generate and improve into six aspects of innovation: (1) creating or producing new products or services using new technology that has never been seen before (product and service innovation); (2) improving quality of internal processes to be more efficient (process innovation); (3) generating the new model, methods, and techniques of organizational management (organization or management innovation); (4) changing the concept of worldview and challenging paradigms (conceptual innovation); (5) formulating patterns and processes of administrative governance or management that can solve problems of society (governance innovation); and (6) changing the relations' fundamental between organizations, institutions, and stakeholders in the government sector (institutional innovation). There are many examples of innovative works initiated by tax administrative organizations such as tax information service through the e-government system (MOF Tax Clinic), E-Matching invoice deduction system, WHT

Chatbot, Tax Mapping System, Mobile Fuel Laboratory Unit, GFMIS-Interface, RD Smart Tax, Green Office Management System, Smart Office Service, and so forth.

However, it cannot be denied that the capability of knowledge management passed on innovativeness is due to the role of organizational leaders. Leadership is an important factor affecting the success of knowledge management in an organization (Schweitzer & Gudergan, 2010; Noruzy, Dalfard, Azhdari, Nazari-Shirkouhi, & Rezazadeh, 2013; Mas-Machuca, 2014; Aminbeidokgti, Nikabadi, & Hoseini, 2016). The leader plays a role in the formulation of strategic plans and activities within the organization concerned with managing organizational knowledge, developing human resources, supporting technological instruments, promoting cooperative culture, and motivating followers to learn and create new processes for work. The empirical research of Donate & de Pablo (2015) appears that the characteristics of knowledge-oriented leadership influence knowledge management practices (i.e., KM creation, application, storage, and transfer) and innovation performance for technology organizations. In literature, the characteristics of knowledge-oriented leadership are presented in the form of a combination of transactional and transformational leadership behaviors affecting the KMC of the organization (Naqshbandi & Jasimuddin, 2018; Sadeghi & Rad, 2018).

The previous KMC researches have presented some gaps that need to be further investigated in this research. First, most KMC researches focus on the verify of the process dimension, but this research contributes to the KMC literature by responding to the call for research focus on examining the components of KMC that cover the accumulation of knowledge stocks and the regulation of knowledge flows according to the approach of Miranda et al (2011). Second, for the theoretical contribution of the study of Donate and de Pablo, this research has examined a specific characteristic of leadership (knowledge-oriented leadership) that affects KMC in a different dimension. Third, previous researches have mainly studied the effect of KMC on innovation in the firms' context, but for this research, it is linked with the organizational innovativeness of public organizations. Finally, this research has presented a different conceptual framework to contribute to the literature of the knowledge management field.

Therefore, as a theoretical contribution, this research aims to study the specific characteristic of leadership on how to influence KMC and organizational innovativeness. Furthermore, KMC has examined both the direct effect on organizational innovativeness and as a mediator between knowledge-oriented leadership and organizational innovativeness. Additionally, this research also extends to investigating the moderating role of social capital and creative organizational climate which strengthens the relationships among knowledge-oriented leadership, KMC, and organizational innovativeness. Social capital refers to a network of relationships or a connection among individuals in the organization through members' trust, norms of collaboration, reciprocity, and identification. These social relationships encourage creating, applying, and sharing knowledge among employees (Kim, Lee, Paek, & Lee, 2013). When an organization's employees have a high relationship, its' benefits will facilitate leaders to act better in arranging KM strategies, activities, and practices concerning the knowledge stocks and knowledge flows. In another, a creative organizational climate is determined to play the moderating role of the relationship between KMC and organizational innovativeness. Creative organizational climate is the organizational characteristics such as challenge/motivation, freedom, dynamism or liveliness, trust or openness, idea time, playfulness or humor, conflicts, debates, risk-taking, etc. When members perceive these supports, then it encourages them to generate new ideas (Samad, 2010) leading to innovation by stimulating creating knowledge and learning processes.

This research has emphasized to affirm that KMC and organizational leadership (knowledge-oriented leadership) are important conditions for developing and stimulating innovativeness objectives in public organizations related to tax administration in Thailand. These organizations have a responsibility in collecting taxes, such as income tax, value-added tax (VAT), excise tax, customs tax, etc., which are considered the main revenue of the country used to develop and drive domestic activities. The annual revenue report for the fiscal year 2019 of the Ministry of Finance showed the total gross revenue of 3,060,248 million baht or 3.8% increase when compared to the previous year and 0.7% higher than the revenue target, and the main source of revenue 88.33% derived from tax income. Since the major revenue comes from tax income, the organizations responsible for taxation have to improve and

develop the efficiency of the tax collection system to achieve financial goals. Besides, improving organizational management and service quality to satisfy customers is a non-financial goal which should be emphasized concurrently.

The bureaucratic reform in the concept of New Public Management and Good Governance to Digital 4.0 (known as Government 4.0) extremely challenges public sector organizations to leverage and adjust for rapid changes in the present. The issues of knowledge management and innovation including important internal factors (i.e., social capital and creative organizational climate) are recognized as the reflector of the success of public sector organizations' development. Moreover, the leader can play the role to lead the organization in the right and clear direction. However, there is still a question of what style of leadership will enhance the success of public sector development. Therefore, knowledge-oriented leadership is considered a special style that has been proven and recognized to influence knowledge management and innovation.

Public Management System Development and Tax Administrative Organizations in Thailand

Public Management System Development

Since the reform of the Thai bureaucratic system in 2002, public organizations have tried to support and push the reform of the bureaucratic system by applying the concept of good corporate governance based on the belief that if the country has good management will lead to the progress of the country and benefit the people, so important concepts such as principles of value, efficiency, effectiveness, quality, responsibility, participation, transparency, etc., applied to the operation of the public sector. Later, when driving the development of the bureaucratic system, the aforementioned concepts were used to set the rules and methods for performing government services (such the Royal Decree on Criteria and Procedures for Good Governance, B.E. 2546 (2003)) including the changing of new processes and bureaucratic systems to be more systematically applied by changing management methods that focus on more efficiency and effectiveness. The creation of a learning organization through the knowledge management process drives the strategic plan into action to achieve the organization's

goals. The organization can specify guidelines for stimulating the creation of learning organizations in four ways. The first way is the adjustment of the organization's infrastructure to support personnel for convenient exchange, such as locations, tools, and equipment. The next way is the improvement of work procedures to be faster and more concise to facilitate the exchange of knowledge to occur more quickly and conveniently. The third way is the development of people with capability, a system of praise and reward that is conducive to knowledge management and a culture of proactive work and the sharing and sharing of knowledge between personnel in the organization. The last way is the adjustment of regulations and laws that hinder the exchange of knowledge. The strategy supporting public organizations being learning organizations through the knowledge management process has been focused on until nowadays, and it is reflected by the twenty-year national strategy.

According to the twenty years national strategy framework (2017-2036), Thailand is aimed to be stable, wealthy, sustainable, as a developed country with development based on the philosophy of the sufficiency economy by defining six long-term development strategies consisting of creating stability, generating competitiveness, developing and empowering people, creating opportunities and social equality, to create growth on a quality of life that is environmentally friendly, and to balance and develop government management systems. Additionally, the 12th National Economic and Social Development Plan (NESDB, 2017) has identified a development strategy that is consistent with the national strategic plan to be a framework in economic and social development for five years. For this reason, all organizations in the public sector must align a strategic plan according to the national strategy to guide for developing the operations of organizations.

Tax Administrative Organizations in Thailand

Taxation plays the role in the economic development of East Asian economies which Thailand is included in, due to being related to tax's structural characteristics and reform (Tanzi & Shome, 1992). Thailand's taxation directly involves the government in policy determination and tax administrative organizations in collection management.

Tax administrative organizations are three agencies under the control of the Ministry of Finance, which are responsible for taxation, including the Revenue Department, the Customs Department, and the Excise Department. First, the Revenue Department is responsible for tax collection according to the Revenue Code and related laws. Therefore, relevant to the general public is divided into direct taxes, including personal income tax and corporate income tax. The indirect taxes consist of value added tax (VAT), specific business tax, petroleum tax, and stamp duty. Second, the Customs Department in charge of collecting customs duties from international trade such as import-export duties, this department can collect taxes on behalf of the Revenue Department, the Excise Department, and the Ministry of Interior. Finally, the Excise Department is chargeable for taxing certain products manufactured in Thailand as well as collecting taxes on certain goods imported from foreign countries such as liquor tax, tobacco tax, service tax, etc.

Regarding the fiscal situation in Thailand, in the next twenty years, the Ministry of Finance will have to face a serious fiscal situation due to the government's revenue collection which has expanded below the expansion of supplementary expenditure. Furthermore, the government will have fiscal burdens arising from government debt, outstanding social security fund obligations, specialized financial institutions (SFIs), and stimulus and various disputes. These burdens have resulted in the government being unable to balance budgets in a short time therefore the Ministry of Finance needs to formulate a twenty-year strategy to prepare meeting those challenges (Office of the Permanent Secretary, 2017). The Ministry of Finance has analyzed the organizational strengths and opportunities to deal with the upcoming fiscal situation. It appears that there are tax administrative organizations that are strong and efficient, and the government still has gaps to increase revenue in terms of system reform, tax structural administration, including the application of information technology systems to increase work efficiency (Office of the Permanent Secretary, 2019). Therefore, for long-term development guidelines, it is necessary to focus on the development and optimization of tax collection systems and processes, as well as internal operations of tax administrative concerned organizations (i.e., Revenue Department, Customs Department, and Excise Department).

The balancing and developing public management system is an essential strategy to increase the efficiency and effectiveness of public operations and one of the six major strategies in the national strategic framework. To formulate the organization's operational planning congruence with the national strategic plan, the Ministry of Finance has prepared a strategic plan to guide the organization's operations for 2017-2021, which are divided into four main points. First, creating the potential of the operations, organizations need to drive all operations to achieve the strategic goals and focus on enhancing innovation and change management. Second, increasing efficiencies of organizational management, there are included developing an organization's knowledge and learning. Third, encouraging and developing the quality of human resources, the organization must promote human resource management to be efficient and enhance employee to be well-being. Finally, managing the information technology and communication, public organizations have to develop digital technology to support organizational operations and improve database system linkage between departments. It is observed that issues of human resources, knowledge creation and management, learning, and organizational innovativeness are still important. Furthermore, it is necessary to formulate strategies to drive it to be practice and achieve objectives of the new management of the public organizations.

Purposes of the Research

The main purpose of this research is to examine the influence of KMC and a specific type of organizational leadership (knowledge-oriented leadership) on organizational innovativeness in tax administrative organizations in Thailand. Furthermore, specific research purposes are as follows:

1. To analyze the influence of knowledge-oriented leadership on KMC (i.e., accumulation of knowledge stocks and regulation of knowledge flows),

2. To verify the effect of KMC (i.e., accumulation of knowledge stocks and regulation of knowledge flows) on organizational innovativeness,

3. To investigate the influence of knowledge-oriented leadership on organizational innovativeness,

4. To explore the mediating role of KMC (i.e., accumulation of knowledge stocks and regulation of knowledge flows) on the relationship between knowledge-oriented leadership and organizational innovativeness,

5. To examine the moderating role of social capital on the relationship between knowledge-oriented leadership and KMC (i.e., accumulation of knowledge stocks and regulation of knowledge flows), and

6. To examine the moderating role of a creative organizational climate on the relationship between KMC (i.e., accumulation of knowledge stocks and regulation of knowledge flows) and organizational innovativeness.

Research Questions

The main research question is how KMC and knowledge-oriented leadership influence organizational innovativeness, which is moderated by social capital and creative organizational climate. Also, this research specifically aims to address the following research question:

1. How does knowledge-oriented leadership affect KMC (i.e., accumulation of knowledge stocks and regulation of knowledge flows)?

2. How does KMC (i.e., accumulation of knowledge stocks and regulation of knowledge flows) influence organizational innovativeness?

3. How does knowledge-oriented leadership influence organizational innovativeness?

4. How does knowledge-oriented leadership, when mediated by KMC (i.e., accumulation of knowledge stocks and regulation of knowledge flows), affect organizational innovativeness?

5. How does knowledge-oriented leadership, when moderated by social capital, affect KMC (i.e., accumulation of knowledge stocks and regulation of knowledge flows)?

6. How do KMC (i.e., accumulation of knowledge stocks and regulation of knowledge flows), when moderated by creative organizational climate, affect organizational innovativeness?

Definition of Terms

Tax administrative organizations: the sub-organization of three main departments in the public sector (i.e., Revenue Department, Customs Department, and Excise Department) which are under the administration of the Ministry of Finance and are responsible for taxation namely income tax, VAT, customs tax, excise tax, etc.

The chiefs of the tax collection division: leaders of tax collection division in each tax administrative organization; responsible for formulating strategic plans and implementing them to develop the efficiency of tax collection.

Organizational innovativeness: the characteristics that reflect the intention to exploit new opportunities in generating the capacity to innovate and to introduce effective innovations to the organization.

Knowledge management capability (KMC): an organization's ability to accumulate critical knowledge resources and manipulate the assimilation and exploitation across functional boundaries to create useful ideas for working and to improve organizational performance.

Accumulation of knowledge stocks: accumulating resources that are a source of knowledge in the organization (i.e., human resources, technology infrastructure, and strategic templates) available for reuse, which often transfers from one unit to another.

Regulation of knowledge flows: regulating or the rules that govern general information management and the process of acquiring, adjusting, and applying the stocks of knowledge, which is determined the speed of the accumulated resources are used in the organization (i.e., institutionalization, internal learning processes, and external learning processes).

Knowledge-oriented leadership: a specific leadership style that is defined as the attitude and actions of a leader that stimulates the creating (knowledge stock), and sharing or using (knowledge flow) new knowledge for enhancing the thinking and overall organizational outcomes.

Social capital: the sum of both the actual and potential resources that are embedded within, available through, and obtained from the network of relationships or the connection among individuals in the organization.

Creative organizational climate: a characteristic as perceived organizational support by its members and it encourages people to generate new ideas and helps the organization to grow and increase its efficiency.

Scope of the Research

The main objective of this research is to study the influence of knowledge management capability and knowledge-oriented leadership on organizational innovativeness in tax administrative organizations in Thailand. For theories to explain the occurrence of phenomena, the knowledge-based view and contingency theory are the key theories to comprehend knowledge management capability in the overview. Knowledge is regarded as an important and valuable organizational resource. When the leader has formulated strategies based on knowledge (as strategic knowledge) to develop knowledge management capability (concerning accumulation of knowledge stocks and regulation of knowledge flows), organizational capability and innovation outcomes are initiated in the organization.

The scope of this research consists of five main parts, based on the examination of the relationships between various variables. First, knowledge-oriented leadership is determined to be a factor that influences KMC. To understand the knowledge management capability more clearly for this investigation, thus KMC is referred to as an organization's ability to mobilize and deploy important knowledge resources and manage integration and utilization of knowledge which is composed of the accumulation of knowledge stocks as an organization’s asset and the regulation of knowledge flows as increasing the speed or effectiveness of knowledge flows. Second, the accumulation of knowledge stocks and the regulation of knowledge flow as the compositions of KMC, they have verified the impact on organizational innovativeness. Third, knowledge-oriented leadership is examined that whether directly affects organizational innovativeness. Fourth, the mediating role of KMC, accumulation of knowledge stocks, and regulation of knowledge are presented as the mediators among knowledge-oriented leaders, and organizational innovativeness. Finally, this research has proved the moderating role of social capital on the relationship between knowledge-oriented leadership and KMC and the moderating role of creative organization climate on the relationship between KMC and organizational innovation.

Significance of the Research

For theoretical significance, the findings of the research are expected to manifest the relationships of all proposed variables which are explained by the presented theories above. This research theoretically contributes and extends the stream of literature involving knowledge management capability, knowledge-oriented leadership, social capital, creative organizational climate support, and organizational innovativeness. Other significance, this research will obtain two practical contributions to a top manager. First, the investigation of the positive relationship between knowledge-oriented leadership and organizational innovativeness through knowledge management capability, the manager will be able to focus on defining activities for effective knowledge management to enhance the organizational innovativeness. This research integrates these concepts and offers some recommendations for executives to determinate them together to enhance their organization's innovativeness and performance. Second, the manager will be able to formulate strategies to support social capital and creative organizational climate to encourage knowledge management capability and organizational innovativeness.

Organization of the Dissertation

This research is arranged into five chapters:

Chapter 1 describes the introduction of this research. It consists of an overview, public management system development and tax administrative organizations in Thailand, purposes of the research, research questions, definition of terms, scope of the research, and significance of the research.

Chapter 2 provides the literature review and conceptual framework, which is divided into three sections: (1) theoretical foundation; (2) relevant literature review and research hypotheses; and (3) summary.

Chapter 3 presents the details of the five main parts as research methods: (1) research methodology (i.e., population and sample, selection data collection procedure, instrument, and the test of non-response bias); (2) measurements (i.e., constructs in terms of the dependent, independent, consequential, moderating, and control variables);

(3) methods (i.e., validity, reliability, and common method variance); (4) statistical techniques (i.e., structural equation model (SEM)); and (5) summary.

Chapter 4 illustrates the details of six parts as research results: (1) the respondent characteristics; (2) descriptive statistics of constructs; (3) testing the assumptions of structural equation model (4) structural equation modeling analysis (SEM); (5) hypotheses testing and results; and (6) the summary of the hypothesis testing.

Finally, Chapter 5 discusses and concludes the crucial findings of this research which is divided into four parts as follow: (1) discussion; (2) theoretical and managerial implications; (3) limitations and future research directions; and (4) conclusion.

CHAPTER II

LITERATURE REVIEW AND CONCEPTUAL FRAMEWORK

The previous chapter provides an overview of knowledge management capability that involves the research purposes, research question, variables' definition, scope, and significance of the research. Furthermore, this chapter endeavors to presents the theoretical foundation supporting the conceptual framework in this research. The previous literature indicated that the applied theories help to explain a realistic way, empirical validity, and non-tautological. Consequently, the authors have proposed the hypotheses to expect the answer in research purposes and questions. This chapter has three main sections, which are mentioned in chapter 1. The first section is related to the theories which are demonstrated and applied for the conceptual model. The next section provides a comprehensive literature review of all constructs and previous research relevant to knowledge management capability in several contexts. Finally, the relationships of the overall construct are represented in the conceptual framework and hypothesized for investigation.

Theoretical Foundation

This research endeavors to posit theoretical perspectives to support how leadership and knowledge management capability affect organizational innovativeness. Knowledge-based view (KBV) of the organization and contingency theory are applied to explain the conceptual framework to understand the variables' relationship. The KBV describes how knowledge-based resources (which are accumulated as knowledge stocks) and knowledge management (which regulates the knowledge flows) enhance organizational capability and innovativeness. Whereas, the contingency theory illustrates how leadership (knowledge-oriented leadership) presents the leader's characteristics that can achieve goals for knowledge management and innovativeness of public organization. Furthermore, the contingency theory also displays important internal factors of the public organization such as social capital and creative organizational climate to moderate the relationship among knowledge-oriented leadership, KMC, and organizational innovativeness. Consequently, each theoretical framework is described as follows:

Knowledge-Based View

The knowledge-based view (KBV) emerges after the observation of Alchian & Demsetz (1972) that efficient production with heterogeneous resources is not due to having better resources, but by knowing precisely the relative production performance of those resources. This view has received more attention due to the rapid movement towards a knowledge-based economy. The KBV is an expansion of resource-based view (RBV), which suggests only that knowledge as intangible resources possessed by an organization may be a source of sustainable competitive advantage when they are valuable, rare, inimitable, and non-substitutable by other resources (VRIN) (Barney, 1991; Suwannarat, 2016a, 2016b). However, the RBV focuses on knowledge as the basic resource for competition, while the KBV points out the knowledge to be the most strategically important resource of an organization and it is also a significant resource for setting an organization's strategy, which leads to results in the organizational competency (Felin & Hesterly, 2007). The fundamental of the organization's KBV is the assumption that knowledge is the precious input in production and the preliminary source of value (Grant, 1996). Therefore, this implies that the ability to value creation is based upon a set of intangible knowledge-based capabilities (Theriou, Aggelidia, & Theriou, 2009).

In previous researches, the concept of KBV is identified into two large subgroups (Acedo, Barroso, & Galan, 2006). The first subgroup is closer to the RBV, which affirms that knowledge is the most essential strategic resource for an organization. Although the RBV accepts the significance and role of knowledge in accomplishing the competitive advantage of an organization (Werberfelt, 1984; Barney, 1991), knowledge-based theorists argue that the RBV does not go so far, especially RBV treats knowledge as a common resource rather than having special attributes. Besides, it subsequently does not distinguish between diverse types of knowledge-based capabilities (Kaplan, Beric, & Barry, 2001). The other subgroup poses on the concept of Spender (1992) on the importance of collective knowledge (i.e., tacit knowledge and social knowledge). This group demonstrates insight into the difference of behaviors, innate limitations of individuals that are restricted by the bounded rationality, and the development of organizations' knowledge-based activities and routines (March & Simon, 1958). Although the KBV are different approaches, the

most accepted way of building distinctive capabilities within organizations and core competency is through experience accumulation, knowledge articulation, and codification (Macher & Mowery, 2006; Theriou et al., 2009). These imply the knowledge management processes that are related to the arrangement of an organization's knowledge stocks and flows. The streams of knowledge research are also indicated that they have been combined by focusing on strategic and managerial aspects of knowledge within organizations (Baden-Fuller, 1995). Absolutely, organizational management based on the concept of knowledge and strategic knowledge management is necessary for organizations to be aware of creating value and efficiency for the organization.

The highlight of KBV is able to explicate the knowledge-based resource strategies (Baskerville & Dulipovici, 2006) and organizational behaviors (Aranda & Molina-Fernandez, 2002). The KBV of an organization has intimately involved the literature of knowledge management and provided frameworks for a variety of disciplines including human resources, organizational behavior, information system management, and innovation (Curado & Bontis, 2006).

According to the KBV approach, Irwin et al. (2018) have mentioned that organization is a site for the development, use of and dissemination of knowledge, and other forms of intellectual resources (human capital) that are related to human resources. Human capital is central to knowledge creation, which is the most strategically significant resource of the firm, whereas human capital is assumed to be able to reserve, assimilate, aggregate, and transform knowledge to produce organizational outcomes (Eisenhardt & Santos, 2002). The following are examples of using the KBV to describe the framework for human resources. Kong & Thomson (2009) has shown that human capital existing in human resources in the form of cumulative tacit knowledge and skills affects HRM functions. Additionally, Budiarti (2017) has considered KBV to design strategic human resource management to attain sustained innovation and competitive advantages.

The KBV explains knowledge management on organizational behavior, for instance, Yang & Lai (2011) have presented the relationship between organizational knowledge capabilities and knowledge sharing behavior. The knowledge-based perspective of the organization is drawn to verify the knowledge-seeking behaviors of

individual workers in exploitation and exploration modes that are relevant to tasks and performance (Kim & Benbasat, 2012) has clarified knowledge incentive mechanisms on individual knowledge creation behavior by the KBV concept. Likewise, Rashid, & Ahmad (2016) have investigated the KBV theory to show the effect of organizational factors (organizational culture, organizational trust, and incentives) on knowledge sharing behavior in the textile industry.

The KBV illustrates the information system management by focusing on information technology (IT) for information storage, access, and retrieval to use. Andreeva & Kianto (2012) have indicated that information communication technology (ICT) practices for knowledge management are strongly correlated and influence on performance and competitiveness. Ahmed (2017) has investigated the impact of information and communications technology (ICT) on productivity for achieving sustainable knowledge-based economies in Southeast Asia.

The knowledge management framework for innovation is clarified by the KBV. Hsu & Sabherwal (2011) have presented the intellectual capital (i.e., social capital, human capital, and organizational capital) on innovation and firm performance mediating by knowledge management capabilities (i.e., knowledge enhancement and knowledge utilization). The study of Abdi & Senin (2014) has demonstrated the effects of organizational culture on innovation directly and through organizational learning. Xie et al. (2018) have presented the significant positive effect of inter-organizational knowledge acquisition on radical innovation.

The contribution of KBV in this research is being applied to describe a public organization's knowledge as a valuable and specific resource for enhancing organizational capability, innovative behavior, and better outcomes for the organization. Also, the KBV illustrates the relationship between capability in knowledge management and innovativeness basing on the assumption that innovativeness occurs when an organization creates and manages knowledge effectively (Costello & Donnellan, 2011). Public organizations can achieve knowledge management capability in two areas: (1) increasing the ability to accumulate their knowledge stocks through human resource development as knowledge workers, technology infrastructure for knowledge storage as well as knowledge strategic template; and (2) encouraging competence to regulate knowledge flows to transfer

among members via institutionalization (e.g., collaboration, shared value, organizational culture) and the processes of internal and external learning. Although, KBV is employed to describe the conceptual frameworks of knowledge management linking human resources, organizational behavior, information system management, and innovation, however, there are several challenges and limitations to the KBV of the organization's strategy. First, the concept of knowledge is the critical weaknesses of the existing KBV involving the definitional ambiguity of the knowledge's main construct (Kaplan et al., 2001). There is dissimilarity about the level of analysis at which knowledge is a valid concept. For example, Grant (1996) assumes that knowledge entirely exists in individuals. However, March & Simon (1958) including Levitt & Marc (1988) confirm that organizations accumulate knowledge not only embodying in individuals but also compiling through organizational learning. Accordingly, in the strategic knowledge-based view of the organization, knowledge should be covered as a multi-level concept. Second, there are diverse types of knowledge that are defined in the latter. Even though all researchers seem to consent that there are two types of knowledge (explicit and tacit), they have also developed their own typologies in conjunction with the specific theories (e.g., internal vs. external knowledge, know-how vs. know-what) that allows future researchers to generate operationalized models of the organization and its performance. Third, in explanation of the phenomenon, KBV may be needed in conjunction with other theories. An individual's learning processes are recognized that affected by the sense of self as well as organizational context. Therefore, KBV could be strengthened by developing closer ties to organizational learning and social identity theory. Forth, it is also questionable whether knowledge can genuinely be a firm's most strategic resource without considering whether the knowledge is actually used or just retained within individuals. Finally, in a highly dynamic environment at present, the organizations' capability to manage and adjust them following changed situations may be an even more important resource than knowledge (Eisenhardt & Santos, 2020).

Contingency Theory

In the era of information dissemination and rapid change, it is recognized that both private and public organizations need to adapt to the environment and the situation. The leader has an important role in managing, strategic setting, and decision making in changed situations. It is believed that the situation is a key determinant, which influences organizational management. Therefore, the contingency theory is applied to describe the phenomena of organization flexibility in the environmental context.

The contingency theory was presented in the 1950s. Fiedler (1964) has proposed the concept of Woodward (1965) contingency theory stating in a class of behavior theory, which is claimed that there is no one best way that is effective in some situations, maybe not successful in others. The contingency theory depends on the situation and then considers choosing the best practices that are suitable for each situation. Thus, leaders should be careful in analyzing alternatives because each option or method has advantages and limitations (Vroom & Yetton, 1973). Drazin & Van de Van (1985) have indicated the contingency theory as an operational congruence by applying contingent conditions such as an environment, culture, society for the best organizational performance. In other words, the contingency theory for an organization is to identify and assess the conditions under everything likely to occur, which results in the best practice and any approach for an organization's operational performance (Gerdin & Greve, 2008).

Luthans & Stewart (1977) have demonstrated the diverse contingency applications including organization design, leadership and behavior, and quantitative applications. For organization design, the contingency theory links the contingent relationships between environmental factor (technology), management factor (organization's structure or strategy), and performance (Chandler, 1962; Woodward, 1965; Lawrence & Lorsh, 1967). On the other, the contingency theory is applied to leadership and behavior, which is widely accepted for Fiedler's model that presented a contingent relationship between environmental factors, leadership style, and effectiveness.

For leadership, the contingency theory suggests that there is no leadership style to be accurate as a stand-alone, however, the leadership style in an organization depends upon various environmental variables (Nawaz & Khan, 2016). Likewise, this theory

claims that there is no single right way to lead because the internal and external elements of the environment require adjusting to a particular situation. Amabile et al. (2004) have also referred to the contingency that is related to situations, contexts, culture, work environment, new laws and regulations, information overload, complexities of organization, and psycho-socio development significantly impact on the leadership concept, consequently the leader is necessary to adapt appropriately to the changing organizational dynamics.

In consequence, this research applies the contingency concept to describe the relevance of leadership (i.e., knowledge-oriented leadership) and contingent variables (i.e., social capital and organizational creative climate) affecting KMC and organizational innovativeness. Leadership extremely influences the knowledge management capability and innovativeness of public organizations. Accordingly, characteristics of leadership should modify to be appropriate for changing situations. Knowledge-oriented leadership combining transformational and transactional leadership style focuses on applying knowledge to generate value creation to the organization by motivating and rewarding the members. Additionally, highlighting and stimulating critical internal factors such as social capital and a creative organizational climate can lead to attaining knowledge management and innovativeness goals.

Even if some good ideas to management thought are proposed by contingency theory, it is still to be criticism (Wood, 1979). There are some limitations to the contingency theory that scholars have mentioned. First, the leaders should be aware of contingency theory since this theory does not follow the concept of the ‘universality of principles' which often uses in specific situations of management (Amanchukwu et al., 2015). Second, it is argued that what contingency theory asserts was affirmed that flexibility of management principles (Johnson, 2018).Consequently, the theory has expanded nothing new to the management thought (Horner, 1997). Third, as there is no definite solution to a problem, managers think of alternatives to arrive at the right choice (Williams & O'Reilly, 1998). This leads to time and money costs (Hofer, 1975). Moreover, it does not posit a theoretical foundation upon what management principles will be based on (Zeithaml, Berry, & Parasuraman, 1988). Finally, it is difficult for managers to impose all factors that are relevant to the decision-making situation (Olum,

2004) because they can neither gather absolute information about the environment nor totally analyze it (Tripon & Dodu, 2005).

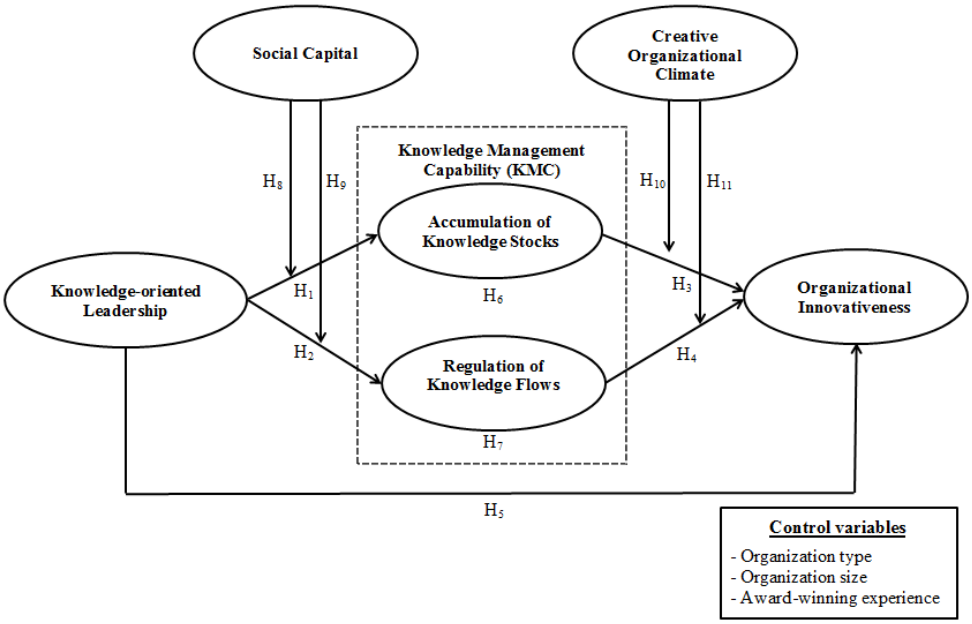


Figure 1 Conceptual Model of KMC and Knowledge-oriented Leadership on Organizational Innovativeness of the Tax Administrative Organizations in Thailand

The full conceptual model which indicates the relationships of variables is shown in Figure 1. The next section mentions the literature review and hypotheses development

Relevant Literature Review and Research Hypotheses

The conceptual framework which is demonstrated in Figure 1 is developed from the literature review of relevant variables. This framework provides significant constructs, namely, KMC, which consists of two dimensions including accumulation of knowledge stocks and regulation of knowledge flows. These influence the consequences of KMC, which is organizational innovativeness. This research focuses on KMC measurements because the two dimensions cover the processes that lead to knowledge management success, including they are regardless of the size of the organization. However, in previous researches, investigators have used the KMC constructs in both private and public organizations. The authors are interested in the

context of the public sector especially the tax administrative organizations, which a few previous studies focus on this issue.

Additionally, this research determines a social capital that moderates the relationship between knowledge-oriented leadership and KMC, and creative organizational climate as moderator to moderate the relationship between KMC and organizational innovativeness. Therefore, the full conceptual model of KMC affects the tax administrative organizations' innovativeness as illustrated in Figure 1.

Knowledge Management Capability (KMC)

The Characteristics of Knowledge

Knowledge is someone or something's familiarity, awareness, or understanding such as facts, information, descriptions, or skills derived from experience or education by perceiving, discovering, or learning. An organization’s knowledge is the main production resource in terms of encouraging value addition and strategic significance. The organization is defined as in essence, a body of knowledge about the organization's circumstances, resources, causal mechanisms, objectives, attitudes, policies, and so forth (Spender, 1989). Organizational knowledge is a combination of input and output that can be achieved with all possible mixes and levels of activity known to organizations (Nelson & Winter, 1982).

Generally, knowledge consists of two main components: explicit and tacit knowledge. Explicit knowledge is formalized and codified and is sometimes referred to as know-what (Brown & Duguid, 1998). Thus, it is fairly easy to identify, store, retrieve, and facilitate the modification of documents and texts (Wellman, 2009). While tacit knowledge is generally defined, and sometimes it refers to as know-how and to intuitive, hard to define the knowledge that is largely experience-based (Polanyi, 1966). Tacit knowledge is often context-dependent and personal, and hard to communicate, and deeply rooted in action, commitment, and involvement (Nonaka, 1994). Furthermore, tacit knowledge is also aware of being the most valuable source of knowledge, and the most likely to lead to an advance in the organization (Wellman, 2009). For an organization, tacit knowledge is valuable because it means personal expertise or skills that can be transferred into explicit knowledge and can be shared in an organization. Additionally, tacit knowledge directly enhances the increasing

capacity for innovation and sustained competitiveness (Gamble & Blackwell, 2001). Although tacit knowledge is perceived as being valuable for the organization, however, explicit knowledge is still important and related to knowledge conversion together with tacit knowledge. Thus, organizations need to consider each characteristic of knowledge and apply it to be the best benefit of the organization. Notably, tacit and explicit knowledge has different characteristics which comparison is illustrated in Table 1.

Table 1 Comparison of Properties of Tacit and Explicit Knowledge

Tacit Knowledge	**Explicit Knowledge**
Ability to adapt and deal with new and exceptional situations	Ability to disseminate, reproduce, access, and reapply throughout the organization
Expertise, know-how, know-why, and care-why	Ability to teach and train
Ability to collaborate, share a vision, and transmit a culture	Ability to organize, systematize, and translate a vision into a mission statement and operational guidelines
Coaching and mentoring to transfer experiential knowledge on a one-to-one or face-to-face basis	Transfer of knowledge via products, services, and documented processes

(Source: Dalkir, 2013)

Although tacit knowledge and explicit knowledge are different, they demonstrate the specialized property of valuable organizational resources. Therefore, organizations need to manage their knowledge systematically and effectively to retrieve it to implement for employees' work.

Knowledge Management

Knowledge management (KM) is the process of creating, sharing, using, and managing knowledge and an organization’s information (Girard & Girard, 2015). Knowledge management also refers to the systematic coordination of people, technology,

processes, and organizational structures to increase value through coordination initiatives by creating, exchanging, and applying knowledge (Dalkir, 2005).Furthermore, it is mentioned to as a multidisciplinary approach to effort typically focus on achieving organizational objectives (such as improved performance, competitive advantage, innovation, the sharing of lessons learned, integration, and continuous improvement of the organization) by using the best knowledge (Gupta & Sharma, 2004). Focusing on KM began in 1991, by assigning courses in many fields, many large companies, public institutions, and non-profit organizations have resources dedicated to internal knowledge management that are often part of business strategy, information technology, human resource management department, and many consulting organizations provide advice about knowledge management to these organizations (Addicott, McGivern, & Ferlie, 2006). Previous researches for knowledge management have been aimed at the infrastructure and process (Gold et al., 2001; Sandhawalia & Dalcher, 2001; Chinchang & Ussahawanitchakit, 2015). Thus, knowledge management is always presented as a process or cycle of integrated knowledge management that includes knowledge capture or creation, sharing and dissemination, and acquisition and application (Dalkir, 2005). Additionally, Nonaka & Takeuchi (1995) presented a KM model called "Knowledge Spiral Model" describing the relationship between tacit and explicit knowledge as the organizational knowledge which consists of socialization, externalization, combination, and internationalization as shown in Figure 2.

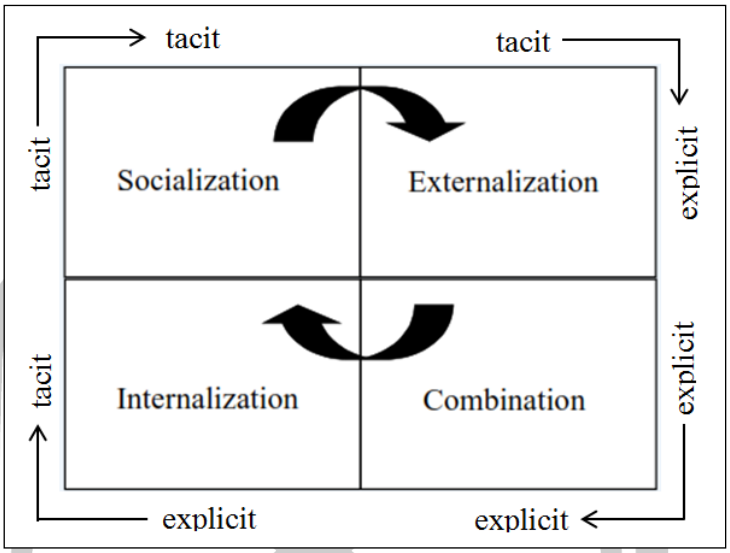


Figure 2 The Nonaka and Takeuchi models of knowledge conversion
(Source: Nonaka & Takeuchi, 1995)

First, socialization refers to the exchange of experiences, opinions, beliefs, methods, etc., which is a deep exchange of knowledge that is in person between individuals who are interested in the one-on-one. Second, externalization defines the exchange of deep-tacit knowledge in an individual into an explicit knowledge that others can access, which may be achieved by a group discussion to find new ideas, as a group exchange. Third, combination alludes applying a lot of explicit knowledge to collect, record, group, categorize into explicit knowledge that increases knowledge at this stage will be in a form that is widely published, may be synthesized in the form of reports of trend analysis, executive summary or new database. Finally, internalization mentions the application of explicit knowledge to be applied as a product, process, new method, or improvement of existing products to create value in the process itself, which will result in the learning of tacit knowledge that is elevated in individuals. The four characteristics of the knowledge conversion process are the foundation of knowledge management within an organization.

Knowledge Management in Public Sector Organizations

There are considerable researches on information and knowledge management which are conducted in the context of large, commercial organizations to function more effectively and to promote competitive advantage (Seba & Rowley, 2010). Knowledge management is one of the most essential areas in management practices and is established as a basic resource for both profit and non-profit organizations and economies (Buckova, 2015). Furthermore, knowledge management of an organization benefits individuals through learning and accumulating skills by transferring knowledge with others and acquiring experiences from learning in the organization. In the public sector, organizations are more aware of the importance of knowledge management for addressing policy issues to increase organizational efficiency and performance (Yang & Maxwell, 2011).

Knowledge management in the public sector has arisen in the 1980s from a new management philosophy (New Public Management: NPM) which purposes to modernize the public organizations to reaches the key elements such as competition, performance standards, monitoring, measurement, flexibility, emphasis on results, customer focus, and social control (De Angelis, 2013). As a result, public organizations try to adjust the organization structure and internal management (including knowledge management) according to the private sector's approach by adopting the successful operation to apply for the organizations' activities and practices formulation. Likewise, Aykac & Metin (2012) have mentioned that there are some general acceptances about the nature of the changes in public organizations emerging in literature. According to these acceptances, the partnership between public and private sectors will be improved and the principles of the successful private sector will be applied in the public sector.

In literature, the researchers have attempted to present the challenge of knowledge management development in the public sector through their researches by comparing the results between the private and public sectors. For example, Chawka & Joshi (2010) have investigated several dimensions of knowledge management in private and public organizations and identified that knowledge management in the public sector is behind the private sector in knowledge management practices. Consequently, this becomes an important issue to develop a conceptual framework of knowledge management in the public sector. Furthermore, Chawla and Joshi have also suggested

the model for successful knowledge management by emphasizing the trust-building in knowledge sharing, setting up reward and recognition systems, leadership development, and issues involving processes and technology.

The previous research of knowledge management in the public sector organizations can be classified into three main categories: descriptive, prescriptive, and attributive studies (Mc Evoy, Arisha, & Ragab, 2015). First, descriptive studies offer illustrative narrative accounts of knowledge management in the public sector but do not necessarily provide conclusive recommendations. Second, prescriptive studies, on the other hand, propose frameworks that are tailored to enhance knowledge management within the public sector and often attempt to overcome its sector-specific obstacles. Finally, attributive studies examine the effect of specific public sector organizational characteristics on the success or failure of knowledge management incentives or initiatives. Similarly, the study of McEvoy et al. (2017) has presented knowledge management researches in the public sector that can be categorized into five distinct types: descriptive, prescriptive modeling, knowledge sharing, technology, and success factors. It also shows that most of the knowledge management researches in the public sector focus to study the samples such as governmental department, educational institution, healthcare, and police and military. Additionally, the structured literature review of Massaro et al. (2015) has indicated the interesting themes of knowledge management in the public sector as the following: knowledge management process, strategy, information technology, knowledge innovation, personal and organizational learning, and organizational culture. Analyzing the evolution over time, the results provide an increasing trend for focusing on the knowledge management process. The samples of knowledge management research in the public sector are demonstrated in Table 2.

Table 2 Summary of KM Research in the Public Sector Organizations

Authors (Year)	**KM Focus**	**Results**
Girard & McIntyre (2010)	KM implementation	The research has proposed five elements (i.e., technology, leadership, culture, measurement, and process) that affect the success in knowledge management implementation of Canadian public organizations.
Seba & Rowley (2010)	KM strategies and knowledge sharing	The finding shows that result of culture, size of the forces, and recognition of the knowledge management value encourage knowledge sharing in the public sector (police forces).
Chong et al. (2011)	KM enablers and knowledge sharing process	The empirical research has demonstrated the effect of KM enablers (ICT know-how and skill, job training, job rotation, feedback on performance evaluation, learning opportunities, information-sourcing opportunities, leadership support, knowledge sharing culture, ICT infrastructure and software, and KM technologies) and knowledge sharing process on organizational performance of a public accounting organization.

Table 2 Summary of KM Research in the Public Sector Organizations (Continued)

Authors (Year)	KM Focus	Results
Sandhu et al. (2011)	KM Barriers (organizational and individual) and knowledge sharing	The results of investigation knowledge sharing of public sector organizations in Malaysia shows that lacking in IT systems, rewards, and recognition are organizational barriers. The main individual barriers are lacking time, interaction, interpersonal.
Oluikpe (2012)	KM strategy	The author has explored the development of a knowledge management strategy at the Central Bank of Nigeria by using practice communities and a functional portal to increase the organization's value and knowledge flows across a distributed work environment.
Mafabi et al. (2012)	KM process	The results present that knowledge management in public sector organizations directly affects organizational innovation as well as knowledge management indirectly impact organizational resilience through innovation.
Seba et al. (2012)	Knowledge sharing	The finding indicates that the importance of organizational structure, leadership, time allocation, and trust that they promote a knowledge culture and encourage knowledge sharing in the public sector.

Table 2 Summary of KM Research in the Public Sector Organizations (Continued)

Authors (Year)	KM Focus	Results
Amayah (2013)	KM enablers, motivators, barriers, and knowledge sharing	The research results demonstrate the factors including enablers (social capital and organizational climate), motivators (community-related consideration, normative, and personal benefits), and barriers (courage and empathy) affect knowledge sharing in public academic institutions in the Midwest.
Hannay et al. (2013)	KM practices	This research presents the role of senior leadership as knowledge leaders managing a district in Canada towards becoming a learning organization through the organic process that promote knowledge flow.
Jain & Jeppesen (2013)	KM practices	The results show that the cognitive styles of leaders (radical, innovative-collaborator, and adaptor) on knowledge management practices (KM process, KM leadership, KM culture, KM technology, and KM measurement) in public section organizations in India.
Salleh et al. (2013)	Tacit knowledge sharing	The finding shows that learning factors such as training and learning opportunities strongly impact tacit knowledge sharing among public sector accountants, while feedback on performance evaluation and ICT know-how and skills moderately impact. On the other hand, job rotation does not impact on tacit knowledge sharing.

Table 2 Summary of KM Research in the Public Sector Organizations (Continued)

Authors (Year)	KM Focus	Results
Ahrend et al. (2014)	KM strategy and knowledge sharing	The researchers have investigated the circumstances, drivers, and inhibitors of process knowledge sharing in public organizations in Germany by using Grounded Theory.
Bučková (2015)	Knowledge sharing	The result shows that the most significant factors (technology infrastructure, organizational structure, and organizational culture) influence knowledge management in the specific field of public administration.
Chiu & Chen (2016)	Knowledge management capability	The results of empirical research display the effect of knowledge management capability (knowledge infrastructure capability and knowledge process capability) on organizational effectiveness in Taiwanese public utility.
Biswas et al. (2017)	KM strategy and implementation	The findings show measuring of adopting KM in the current by assessing the future chance, evaluating the perceived benefits of adopting KM among public service administrators, and recognizing the perceived barriers of implementing KM in the public sector departments of Bangladesh.
Abu-Shanab & Shehabat (2018)	KM practices	The results indicate IT infrastructure and administrative issues as significant predictors of e-government projects' success, where the relationship is mediated by KM practices.

Table 2: Summary of KM Research in the Public Sector Organizations (Continued)

Authors (Year)	KM Focus	Results
Najmi et al. (2018)	KM process	The study examines and assesses the effect of knowledge management and strategic leadership on the performance of public hospitals through the mediating effect of dynamic capability.

The distribution of research themes in Table 2 shows that topics are spread, and there is not high concentrate within one single theme. The prior literature shows that researchers are trying to integrate various variables or factors in the knowledge management context to understand the phenomena and develop knowledge management in the public sector. Although knowledge is leveraged to the higher levels of the public organization (towards a networking model that transfers and creates knowledge without limits), mainly knowledge management is without accurate (Massaro et al., 2015). However, knowledge management in the public sector organization is interesting and challenging (Esposito, De Nito, Iacono, & Silvestri, 2013). Thus, it is necessary to be further investigated.

Knowledge Management Capability (KMC)

The definition of knowledge management capability (KMC) has been discussed by several researchers as shown in Table 3. Chuang (2004) has defined knowledge management capability as an organization's ability to mobilize and deploy KM-based resources in combination with other resources and capabilities. Knowledge management capability is explained by a resource-based perspective in creating a competitive advantage (Mao, Liu, Zhang, & Deng, 2016) and organizational performance (Pee & Kankanhalli, 2009). Besides, KMC is also referred to as an act of individual learning in the organization continues to produce the desired results with new ideas that are supported by the organization and the inspiration of the group will be free to offer useful ideas for an organization to improve performance (Pebrianto &

Djamhur, 2013). Therefore, the definition of KMC of this research is an ability of an organization to accumulate critical knowledge resources and manages their assimilation and exploitation (Miranda et al., 2011) across functional boundaries to create useful ideas for working and to improve organizational performance (Liu & Deng, 2015).

Table 3 Summary of Definitions of KMC

Authors (Year)	**Definitions**
Chuang (2004)	As its ability to mobilize and deploy KM-based resources in combination with other resources and capabilities
Liu, Chen, & Tsai (2004)	The requisite technology and expertise for product design, assembly, and manufacturing during the product manufacturing process
Freeze & Kulkarni (2007)	The organizational intangible knowledge assets
Ma, Peng, & Shi (2009)	Identifying and leveraging the collective knowledge in an organization to help the organization compete
Pee & Kankanhalli (2009)	The capability in capturing, sharing, applying, and creating knowledge in an organization
Wong, & Wong (2011)	A kind of absorptive capacity, which is an ability to use prior knowledge to recognize the value of new information, assimilate it and apply it to create new knowledge and capability
Ozbag et al. (2013)	To congregate, classify, store, and spread all knowledge that is required to make the organization both grow and flourish

Table 3 Summary of Definitions of KMC (Continued)

Authors (Year)	Definitions
Pebrianto & Djamhur (2013)	An act of individual learning in organizations continuously, to create the desired results, with a new mindset supported by the organization and aspirations of the group are given the freedom to provide useful ideas for the organization to improve performance
Liu, Song, & Cai (2014)	Firms' ability to mobilize and deploy critical knowledge resources and manage their assimilation and exploitation across functional boundaries
Demchig (2015)	Deliberate activities are taken to handle an organization's resources more efficiently to improve its performance
Mao et al. (2016)	The process-based ability of the organization to mobilize and deploy knowledge-based resources to gain a competitive advantage
Zhang, Liu, Tan, Jiang, & Zhu (2018)	The capability to create, transfer, integrate, and apply knowledge

In the literature, the stream of KMC research has been linked with both its' antecedents and consequences. The antecedents of KMC is mentioned to leadership (Donate & de Pablo, 2015; Naqshbandi & Jasimuddin, 2018), HRM capability (Ozbag et al., 2013), IT relatedness (Tanriverdi, 2005), IT capability (Ma et al., 2009; Pebrianto & Djamhur, 2013), technology support and non-IT investment as physical KM resources (Pee & Kankanhalli, 2009), and organizational learning (Pebrianto & Djamhur, 2013).

Leadership is accepted as one of the important antecedent factors to success for knowledge management (Donate & de Pablo, 2015). Singh (2008) has also emphasized that the role of an organization's leaders is set as examples for others. Therefore, it is assumed that leaders directly impact on how the organizations should reach and deal with knowledge management processes as well as practices. Further, it

is true that if an organization's leaders focus knowledge seriously, the rest of the organization will follow automatically. When an organization's knowledge management success depends on the leader and leading behaviors, therefore this research aims to investigate the leadership role that how to affect knowledge management capability.

In addition to antecedent factors, the consequences of KMC is empirically verified such as organizational effectiveness (Gold et al., 2001; Gunsel et al., 2011), competitive advantage (Chang, 2004; Liu et al., 2004; Rahimli, 2012; Mao, Liu, Zhang & Deng, 2016), goal achievement (Chinchang & Ussahawanitchakit, 2015), innovation (Gunsel, Siachou & Acar, 2011; Donate & de Pablo, 2015; Martinez-Conesa, Soto-Acosta & Carayannis, 2017; Naqshbandi & Jasimudding, 2018), and performance (Chen et al., 2004; Freeze & Kulkarni, 2007). Additionally, the key research on KMC is summarized in Table 4.

An organization's knowledge is an initiative resource for organizational innovativeness. This means that if organizational knowledge is managed efficiently, it results in the capabilities and innovativeness of the organization. Besides, there is empirical evidence that asserts knowledge management processes affect innovation capability through internal and external learning. Recently, innovation has been extremely recognized by both private and public sector organizations (Gasco, 2017). Frequently, innovation is discussed in terms of organizational improvement such as products or services and process that is linked to organizational performance (Garcia-morales, Jimenez-Barrionuevo, & Gutierrez-Guterrez, 2012) and competitive advantage (Urbancova, 2013). Thus, this is a significant reason why this research focuses on the relationship between an organization's knowledge management capability and innovativeness.

Table 4 Summary of the Key Research on KMC

Authors (Year)	Title	Independent variables	Dependent variables	Results
Gold et al. (2001)	Knowledge management: An organizational capabilities perspective	KMC	Organizational effectiveness	The authors indicate the effects of knowledge infrastructure capability (technology, structure, and culture) and knowledge process capability (acquisition, conversion, application, and protection) on organizational effectiveness.
Chen et al. (2004)	Knowledge management capability and firm performance: An empirical investigation	KMC	Organizational performance	The results show the impact of the implementation of knowledge management systems (KMS) on performance from the financial organizations which describe the relationship by resource-based theory and transaction cost theory.
Chuang (2004)	A resource-based perspective on knowledge management capability and competitive advantage: an empirical investigation	KMC	Competitive advantage	The empirical research presents KM as an organizational capability associated with a competitive advantage through a resource-based view of the organization (social and technical KM resources).

Table 4 Summary of the Key Research on KMC (Continued)

Authors (Year)	Title	Independent variables	Dependent variables	Results
Kulkarni & Freeze (2004)	Development and validation of a knowledge management capability assessment model	-	KMC assessment (KMCA)	The authors indicate the empirical results conducted to validate the ability of knowledge management assessment methodology to correctly ascertain capability levels within knowledge areas.
Liu et al. (2004)	An empirical study on the correlation between knowledge management capability and competitiveness in Taiwan's industries	KMC	Competitiveness	The empirical research demonstrates the impact of KMC and intensive learning on competitive abilities including the resulting rewards organizations acquired which was investigated from organizations in Taiwan's industries.
Freeze & Kulkarni (2005)	Knowledge management capability assessment: Validating a knowledge assets measurement instrument	KMC assessment (KMCA)	The success of KM initiatives	The authors provide a preliminary validation of KMC's assessment (KMCA) in four areas (i.e., expertise, lessons learned, knowledge document, and data) with empirical evidence from two business units of the microchip manufacturing company.

Table 4 Summary of the Key Research on KMC (Continued)

Authors (Year)	Title	Independent variables	Dependent variables	Results
Tanriverdi (2005)	Information technology relatedness, knowledge management capability, and performance of multibusiness firms.	IT relatedness	KMC	The empirical research indicates the relationships of IT relatedness or IT resources, knowledge capability (product, customer, and managerial), and performance of the financial companies.
Freeze & Kulkarni (2007)	Knowledge management capability: defining knowledge assets	KMC	Organizational performance	The research describes and clearly defined knowledge as organizational intangible assets (knowledge capability) by explaining in terms of the knowledge life cycle, tacit/explicit nature of knowledge, technology, and organizational process.

Table 4 Summary of the Key Research on KMC (Continued)

Authors (Year)	Title	Independent variables	Dependent variables	Results
Kandadi & Acheampong (2009)	Assessing the knowledge management capability of the Ghanaian public sector through the "BCPI Matrix": A case study of the value-added tax (VAT) service	-	KMC assessment	The results of the research indicate the public-sector organizations in Ghana exhibit tendencies that can be receptive to the implementation of knowledge management programs by displaying knowledge culture, improving through enhanced working conditions and infrastructure.
Ma et al. (2009)	The effect of information technology and knowledge management capability on R&D process performance	IT capability, KMC	KMC R&D process performance	The findings show an organization's knowledge capability depends on IT capabilities, and variation in business process performance is clarified by KMC.
Nilakanta, Miller, Peer, & Bojja (2009)	Contribution of knowledge and knowledge management capability on business processes among healthcare organizations	KMC	KM Goal BP performance	The authors present KMC and the organization's commitment and focusing on knowledge encourages business process performance in healthcare organizations.

Table 4 Summary of the Key Research on KMC (Continued)

Authors (Year)	Title	Independent variables	Dependent variables	Results
Pee & Kankanhalli (2009)	Knowledge management capability: a resource-based comparison of public and private organizations	Physical KM resources (technology support, non-IT investment), KMC	KMC, Organizational performance	The findings denote organizational centralization, formalization, and social capital are different in public and private organizations, and strengthen the effect of physical resources on KMC, including the effect of KMC on performance is stronger in dynamic environments.
Gunsel et al. (2011)	Knowledge management and learning capability to enhance organizational innovativeness	KM Process, Organizational learning capability	Organizational innovativeness	The research proposes that the knowledge management process and organizational learning capabilities are claimed to be the main driver of organizational innovativeness.
Miranda et al. (2011)	Stocks and flows underlying organizations' knowledge management capability: Synergistic versus contingent complementarities over time	KMC	Organizational performance (efficiency and value creation	KMC is considered in terms of the accumulation of knowledge stocks and the regulation of knowledge flows and synergistic and contingent complementarity affected performance.

Table 4 Summary of the Key Research on KMC (Continued)

Authors (Year)	Title	Independent variables	Dependent variables	Results
Rahman & Hassani (2011)	Knowledge management capabilities rubrics	-	KMC evaluation	The author presents a rubric matrix as an assessment tool with the ordered rank of the seven attributes (technology, organizational structure, culture, acquisition, conversion, application, and protection) that is evaluated by organizations.
Wong & Wong (2011)	Supply chain management, knowledge management capability, and their linkages towards firm performance	SCM practices, KMC	Organizational performance	This research shows the implementation of supply chain management (SCM) practices interact with KMC to affect organizational performance.
Candra (2012)	ERP implementation success and knowledge capability	KMC	Enterprise resource planning (ERP) implementation success	The research indicates the relationship between the key factor of knowledge capability (understanding, assimilating, and applying) and the success of ERP implementation.

Table 4 Summary of the Key Research on KMC (Continued)

Authors (Year)	Title	Independent variables	Dependent variables	Results
Gharakhani & Mousakhani (2012)	Knowledge management capabilities and SMEs' organizational performance	KMC	Organizational performance	The significant results indicate three factors of KMC (knowledge acquisition, sharing, and application) positively influence performance (SMEs' sales growth, quality improvement, and customer satisfaction).
Kammani, Date, & Hundewale (2013)	Organizational knowledge management capability: a multi-case study	KMC	Immediate benefits, outcome	The research is investigated by a multi-case study approach from six organizations in India to explore the KM components (explicit and tacit knowledge, knowledge work, knowledge worker, knowledge assets, and infrastructure) that influenced KM achievement.
Ozbag et al. (2013)	The impact of HRM capabilities on innovation mediated by knowledge management capability	HRM capability, KMC	KMC Innovation	The results demonstrate that HRM capability positively impacts to KMC and turn into innovation and presented the mediating role of KMC on the relationship between HRM capability and innovation.

Table 4 Summary of the Key Research on KMC (Continued)

Authors (Year)	Title	Independent variables	Dependent variables	Results
Pebrianto & Djamhur (2013)	The influence of information technology capability, organizational learning, and knowledge management capability on organizational performance (a study of banking branches company in southern Kalimantan province)	Information technology capability, Organizational learning, KMC	KMC, Organizational performance	The author examines the impact of information technology capability, organizational learning, and KMC on organizational performance from banking branch offices in Southern Kalimantan province of Indonesia.
Wahyuningsih, Astuti, & Musadieq (2013)	The effect of organizational learning on knowledge management, capability, and performance of the organization	KMC, organizational learning	Organizational capability, performance	The effect of organizational learning, directly and indirectly on organizational capability through the KM process, and directly affects organizational performance is the main research result.

Table 4 Summary of the Key Research on KMC (Continued)

Authors (Year)	Title	Independent variables	Dependent variables	Results
Liu et al. (2014)	Knowledge Management Capability and Firm Performance: The Mediating Role of Organizational Agility	KMC	Organizational performance	Based on the dynamic capabilities perspective, the empirical research shows that KMC (exploration and exploitation KMC) affects performance through the mediating role of operational adjustment agility and market capitalizing agility from firms in China.
Chinchang & Ussahawanitchakit (2015)	Knowledge management capability and goal achievement: An empirical investigation of ISO 9000 certified firms in Thailand	KMC	Goal achievement	The results are drawn on the resource-based view and contingency theory indicated that the relationships between KMC (i.e., infrastructure and process capability)impact on operational excellence, team efficiency, business outstanding, and goal achievement, as well as learning vision, absorptive capacity and environment uncertainty play a major role in KMC of an organization.

Table 4 Summary of the Key Research on KMC (Continued)

Authors (Year)	Title	Independent variables	Dependent variables	Results
Demchig (2015)	Knowledge management capability level assessment of the higher education institutions: Case study from Mongolia	-	KMC level assessment	The research confirms that organizational knowledge capability areas and the KMC assessment model suggested by Kulkarni and Freeze (2004) apply to the higher education context in Mongolia.
Donate & de Pablo (2015)	The role of knowledge-oriented leadership in knowledge management practices and innovation	Knowledge-oriented leadership, KM practices	KM practice, innovation performance	This research presents the empirical evidence of the mediating effect of KM practices in the relationship between knowledge-oriented leadership and innovation performance.
Fu (2015)	The role of relational resources in the knowledge management capability and innovation of professional service firms	Relational coordination, Relational routines, KMC	Innovation	The author provides empirical evidence of the importance of relational routines and relational coordination in contributing to KMC and innovation in the professional service organization in Ireland.

Table 4 Summary of the Key Research on KMC (Cotinued)

Authors (Year)	Title	Independent variables	Dependent variables	Results
Liu & Deng (2015)	Understanding knowledge management capability in business process outsourcing: A cluster analysis	KMC	BPO performance	Four dimensions of KMC (i.e., knowledge acquisition, conversion, application, and protection) positively affect the performance of business process outsourcing (BPO) firms, and the organization's size, age, industry, and outsourcing age also differently impacted on each dimension of KMC.
Mao et al. (2016)	Information technology resource, knowledge management capability, and competitive advantage: The moderating role of resource commitment	IT resources, KMC	KMC, competitive advantage	The results indicate that three types of IT resources (i.e., IT infrastructure, IT human, and IT relationship) positively affect knowledge management capability (KMC), which is positively related to the competitive advantage of organizations in China.

Table 4 Summary of the Key Research on KMC (Continued)

Authors (Year)	Title	Independent variables	Dependent variables	Results
Martinez-Conesa et al. (2017)	On the path towards open innovation: Assessing the role of knowledge management capability and environmental dynamism in SMEs	ITC-supported operation, Interdepartmental connectedness, Commitment based HR, KMC	Open innovation	The results verify that information technology-support operations and commitment-based human resource practices positively and significantly affect KMC, the relationship of interdepartmental connectedness on KMC is not supported, and both KMC and environmental dynamism directly impact on open innovation.
Naqshbandi & Jasimuddin (2018)	Knowledge-oriented leadership and open innovation: Role of knowledge management capability in France-based multinationals	Knowledge-oriented leadership, KMC	KMC, Inbound/ outbound open innovation	The authors indicate that higher levels of knowledge-oriented leadership lead to encouraged KMC and improved open innovation, including asserted the mediating role of KMC.

Table 4 Summary of the Key Research on KMC (Continued)

Authors (Year)	Title	Independent variables	Dependent variables	Results
Zhang et al. (2018)	Effects of risks on the performance of business process outsourcing projects: The moderating roles of knowledge management capabilities	BPO risks, KMC (as moderator variable)	BPO project satisfaction	The empirical research shows the social system, technological system, and project management risks harm BPO project satisfaction, and also revealed that KMC weakens from the negative risk effects of the social system, technological system, and project management.

Table 5 Summary of Dimensions of KMC

Authors (Year)	Dimensions of KMC
Gold et al. (2001)	Seven dimensions in two main components: 1. KM infrastructure capability (i.e., technology, structure, and culture) 2. KM process capability (i.e., acquisition, conversion, application, and protection processes)
Chuang (2004)	Two dimensions: 1. Technical KM resource 2. Social KM resource
Liu et al. (2004)	Four dimensions: 1. Knowledge obtaining 2. Knowledge refining 3. Knowledge storing 4. Knowledge sharing
Freeze & Kulkarni (2005)	Four dimensions: 1. Lessons learned 2. Data 3. Expertise 4. Knowledge document
Freeze & Kulkarni (2007)	Five dimensions: 1. Expertise 2. Knowledge documents 3. Lesson learned 4. Data 5. Policies and procedures
Fan, Feng, Sun, & Ou (2009)	Two dimensions, seven attributes 1. Infrastructure cap (technology, structure, culture) 2. Process cap (acquisition, conversion, application, security)
Kandadi & Acheampong (2009)	Four dimensions: 1. Business focus 2. Culture 3. Process 4. Infrastructure
Moreira (2009)	Three dimensions: 1. Absorptive capability 2. Transmissive capability 3. Interaction-oriented capability

Table 5 Summary of Dimensions of KMC (Continued)

Authors (Year)	Dimensions of KMC
Miranda et al. (2011)	Six dimensions in two categories: 1. Accumulation of knowledge stocks (human resource, technology infrastructure, strategic templates) 2. Regulation of knowledge flows (institutionalization, internal learning processes, external learning processes)
Rahman & Hassani (2011)	Seven attributes: 1. Technology 2. Organizational structure 3. Culture 4. Acquisition 5. Conversation 6. Application 7. Protection
Sandhawalia & Dalcher (2011); Chinchang & Ussahawanitchakit (2015)	Two dimensions: 1. KM infrastructure capability 2. KM process capability
Gharakhani &Mousakhani (2012)	Three dimensions: 1. Knowledge acquisition 2. Knowledge sharing 3. Knowledge application
Pebrianto & Djamhur (2013)	Four dimensions: 1. Structural knowledge resource 2. Cultural knowledge resource 3. Human knowledge resource 4. Technical knowledge resource
Wahyuningsih et al. (2013)	Three dimensions: 1. Accumulation knowledge 2. Knowledge sharing 3. Using knowledge

Table 5 Summary of Dimensions of KMC (Continued)

Authors (Year)	Dimensions of KMC
Kammani et al. (2013); Mao et al. (2016)	Four dimensions: 1. Knowledge asset 2. Knowledge work 3. Knowledge worker 4. Knowledge infrastructure
Ozbag et al. (2013)	Three dimensions: 1. Knowledge development 2. Knowledge dissemination 3. Knowledge application.
Liu et al. (2014)	Two dimensions: 1. Exploration KM capability 2. Exploitation KM capability
Liu & Deng (2015)	Four dimensions: 1. Knowledge acquisition 2. Knowledge conversion 3. Knowledge application 4. Knowledge protection
Naqshbandi & Jasimuddin (2018)	Two dimensions: 1. Knowledge process capability 2. Application and sharing capability

In the prior research, the researchers have identified dimensions of KMC which are shown in Table 5. Gola et al. (2001) have indicated seven dimensions in two main components of KMC: KM infrastructure capability (i.e., technology, structure, and culture); and KM process capability (i.e., acquisition, conversion, application, and protection processes). Chuang (2004) has separated KMC into technical and social KM resources according to the resource-based view. KMC is also organized into three categories: product, customer, and managerial KMC (Tanriverdi, 2005). Each such category has also four sub-dimensions as create, transfer, integrate, and leverage. Liu et al (2004) have indicated KMC consists of four dimensions include knowledge obtaining, refining, storing, and sharing. Furthermore, the expertise, knowledge documents, lessons learned, data, policies, and procedures dimensions are combined in

the study of Freeze & Kulkarni (2007). Additionally, Liu et al. (2014) have studies KMC into exploration and exploitation dimensions that affect organizations' performance in China. In the latter, the researchers were interested to study KMC by emphasizing the KM process capability (Gharakhani & Mousakhani, 2012; Wahyuningsih et al., 2013; Liu & Deng, 2015; Naqshbandi & Jasimuddin, 2018).

However, this research applies two compositions of KMC according to the study of Miranda et al. (2011). First, the organization's knowledge management capability derives from the ability to accumulate knowledge stocks in human resources, technology infrastructure, and strategic templates. Second, besides the accumulation of the organization's knowledge stocks, regulation of knowledge flows via institutionalization, internal learning processes, and external learning processes facilitate knowledge management success. The KMC study in the public sector organizations might have to be comprehensively investigated from the perspective of knowledge stocks and flows. Furthermore, knowledge stocks and flows can explain more clearly to the relationships between KMC and organizational innovativeness.

Accumulation of Knowledge Stocks

A stock is a strategic asset that increases efficiency and affects the ability of an organization to accumulate augmentative stocks. Thus, the stock of knowledge is considered to be an organizational asset as a source of knowledge available for reuse, which often brings knowledge transferred from one unit to another (Miranda et al., 2011). Knowledge stocks are knowledge-based resources which are valuable for organization and difficult to imitate by the competitor. Accumulated stocks of organizational knowledge such as products or services in the pipeline, citations, and patents of the organization contribute to superior performance (DeCarolis & Deeds, 1999) and it also promotes new knowledge production (Foray, 2004) that can be used in organizations. The essential sources of the organization's knowledge stocks include human resources, technology infrastructure, and strategic templates.

Human resources are the primary resource by which an organization can influence and adjust the skills, attitudes, and behavior of individuals to do the work and thus achieve organizational goals (Chen & Huang, 2009). Knowledge is related to the ability to perceive in humans, therefore obtaining knowledge involves complex

cognitive processes comprising of perception, communication, and reasoning (Stanley, 2002). Organizational memory is stored both codified and tacit knowledge of individuals by using their brains, causal maps, assumptions, va lues, and beliefs. Essential elements of an organization's knowledge are often related to individuals within the organization and transferring knowledge is important to effective organizational functioning. The transfer of organizational knowledge may be the result of cross-functional teams, sharing knowledge stored in electronic form of organization's repositories, or lending staff members of an organization to one another unit to help them solve a problem. Ducharme (1998) has focused on the importance of human resources as a participant in the acquisition and transformation of knowledge. How to supply organizational knowledge workers through human resource management systems significantly facilitates the development and exploitation of organizational knowledge (Shih & Chiang, 2005). Therefore, the accumulation of knowledge stocks in the area of human resources is indicated to the effectiveness of individual management processes such as selecting, staffing, maintaining, training, and appraising knowledge workers.

Technology infrastructure is a technical element that addresses the technology-enabled ties that are used for creating, transferring, and storing new knowledge within the organization (Teece, 1998). For this element, it may be proposed as an information technology (IT) infrastructure (Tanriverdi, 2005; Roberts & Grover, 2012). Information and knowledge can be integrated through the linkage of information and communication systems, including the shareable technical platforms and databases (Weill, Broadbent, & Butler, 1996; Chuang, 2004; Costelha & Neves, 2018) in an organization. The technological element is a part of effective knowledge management includes management intelligence, collaboration, distributed learning, knowledge discovery, knowledge mapping, opportunity generation, and security (Grant, 1996; Gold et al., 2001). Technology infrastructure is also an important tool for sharing knowledge through electronic forums and knowledge repositories, for example, the database interface and data entry screens and reports provide knowledge about how operations are performed in an organization.

Strategic templates are an assortment of organizational goals and specifications of how to attain, including a determination of operational routines and roles of designating job descriptions and behavioral patterns between individuals in an organization. Strategic templates are significant stocks or assets that act according to guiding principles by advantage of the knowledge embedded in them (Choi & Jong, 2010). For knowledge management of an organization, strategic templates demonstrate to degree of vision, goals, and guidelines directed to the effectiveness of knowledge management activities. Knowledge management has a strategic attribute, i.e., it is a set of organizational preparation that aims to achieve specific organizational objectives. Furthermore, it is related to organizational strategy (Shih & Chiang, 2005). The operations in the knowledge management of an organization have different administrative methods according to different strategic missions (Zack, 1999).

Regulation of Knowledge Flows

In addition to the accumulation of knowledge stocks, regulation of knowledge flows is equally significant for creating value for the organization. Regulation of knowledge flows is a process for knowledge acquisition, transfer, and utilization (Schulz, 2003). Therefore, the knowledge flow regulation is related to the rules that govern general knowledge management and the process of acquiring, adjusting, and applying the knowledge stocks. The regulation of knowledge flows is in terms of the speed with which the accumulated resources are used in an organization such as institutionalization, internal learning processes, and external learning processes.

The accumulated knowledge stocks concern not only human resources and information technology infrastructure but also includes consistent organizational arrangements such as culture and people (Meso & Smith, 2000), which is included as institutionalization. In terms of knowledge management, institutionalization is an organizational culture that capacitates knowledge management activities (knowledge flow) within the organization, such as the support of top management, employees' commitment, effective communication and collaboration among employees, etc. The institute can provide a knowledge management environment for new employees to enter society quickly through informal socialization by colleagues including formal activities that occurred from the institute's management.

Spender (1996) has identified the importance of organizational shared knowledge (tacit knowledge and social knowledge) and offers insights about different types of behavior, individual limitations, and activity and routine developments that use organizational knowledge as a basis. As a consequence of individual limitations, all knowledge of an organization cannot be discovered in someone's head, thus it is disseminated among members (Theriou et al., 2009). Moreover, obtained personal knowledge (tacit knowledge) is transformed into collective knowledge (explicit knowledge) through organizational activities, internal environment, and learning. The process of organizational learning is a set of actions related to organizational learning (i.e., acquiring knowledge, distributing information, interpreting data, and organizational memory), it intently and inadvertently impacts on changes in the organization (Templeton, Lewis, & Snyder, 2002). Organizational learning also refers to a collective capability based on the process of experience and cognition and relating to knowledge acquisition, sharing, and utilization (Zollo & Winter, 2002). Furthermore, organizational learning is currently being described in the context of strategic management and is considered as a key factor of competitiveness (Liao, Fei, & Liu, 2008).

The external learning process is significant to the organization when the organization needs to adapt to a current situation or environment. The external knowledge sources provide more varied and dynamic knowledge than internal sources, and they occur through external relationships and networks which involve public organizations' operations. For instance, the study of Willem & Buelens (2007) has revealed the importance of coordination mechanism, members' social identification, and trust that is remarkably beneficial for knowledge sharing between departments of public organizations. In conclusion, internal and external learning processes help to enhance generating new knowledge for the organization. The state of an organization’s knowledge can be advanced by absorbing external existing knowledge of the organization (Nickerson & Zenger, 2004). The sources of external knowledge that an organization acquires include customers, service receivers, suppliers, partners, competitors, and others. The sources of external knowledge that an organization acquires from the learning process include customers or service receivers, suppliers,

partners, competitors, and others, and they can be used to increase value and performance for the organization.

Knowledge-Oriented Leadership

Leadership is a process influence between leaders and subordinates where a leader attempts to influence the behavior of subordinates to achieve the organizational goals (Voon, Ngui, & Ayob, 2011). The leadership is demonstrated to an important role in determining clearly the organization's direction, strategies, and goals as well as participating in the operation to achieve the organization's goals.

The widely recognized leadership form in early of the literature in the public sector organizations is bureaucratic or administrative leadership (Anantatmula, 2008). The administrative leadership has been discussed by Terry (1995) in the theoretical neglect related to leadership in the public sector organizational settings. Later, Gabris et al. (2001) have called on this field to improve on leadership theory of public sector organizations. Moreover, administrative leadership is broadly defined as all levels of people and the accompanying processes including networks that lead, manage, and guide the public and non-profit organizations by focusing on policy implementation and the technical aspects of policy development.

Van Wart (2013) has significantly indicated two main paradigms focused on the literature of public sector leadership that consists of the traditional hierarchical model and the public choice model. First, the traditional paradigm focuses on technical performance and hierarchical reporting, due process, and employee-friendly organizations. This paradigm might focus on the need for developments and innovations leading to efficient and effective management or emphasizes the importance of constitutional values and stewardship. The second model is the public choice model (known as New Public Management or Reinventing Government) highlights market values, customer and client orientation, competitive and comparable forms of accountability, and greater employee empowerment coupled with managerial flexibility. However, the public choice model is becoming more accepted for the public sector. Afterward, collaborative leadership has emerged as the third model (Kettl, 2006) that emphasizes collaborative processes leading to shared outcomes among organizations and sectors. Frequently, it is called integrative leadership (Bono, Shen, &

Snyder, 2010). As collaborative leadership has a strong values component (or market-based conception), it is called the new public service or public values leadership (Getha-Taylor, 2009).

Leadership style in the public sector organizations, Chen & Chen (2008) have identified different types of leadership styles in the literature that leaders adopt in managing organizations, and indicated transactional and transformational leadership styles of Burns (1978) are more prominent leadership styles. Transformational leaders focus on motivating followers' intrinsic and individual development by seeking to align the aspirations of followers and desired organizational outcomes. With the recognition of the organizations' complication and dynamic environment, the transformational leadership style is always to be the representation of the change that is able to lead the followers in an uncertain time and high risk-taking (Voon et al., 2011). On the other side, the transactional leadership style gains legitimacy through the application of incentives or rewards, praises, and promises that immediately satisfy followers' needs (Northouse, 2010). This means transactional leaders offer rewards to the follower in exchange for the desired goal achievement. Although scholars are aware that transformational leadership is more power for long term organizational settings than transaction leadership, in fact, effective leaders should attract followers' self-interest by rewarding them appropriately. This approach may significantly result in achieving organizational goals.

The leadership role of the public sector is linked with the era of Industry 4.0 which is a turning point in the global economy, so this concept is pushed to be one of the key strategies of the public sector to lead to changes in economic structures that are driven by technology and innovation. Therefore, there is an important question of how leaders of the public section's organization will need to adjust to the environment and change shortly. Identically, Kee et al. (2014) have mentioned that when the world changes, so do the expectations of leadership. However, the success of knowledge management and innovativeness of the public sector organizations, leaders must be adjusted according to the environment and changes in the present. This research has presented knowledge-oriented leadership by integrating the characteristics of the transformational and transactional leadership styles to apply for the context of

knowledge management capability and innovativeness to create the organizational value and develop the quality of public service.

Knowledge-oriented leadership is a specific leadership style that is defined as the attitude and actions of a leader that stimulates the creating (knowledge stock), and sharing or using (knowledge flow) new knowledge for enhancing the thinking and overall organizational outcomes (Mabey et al., 2012). The organizational leaders demonstrate the behavior of knowledge-oriented leadership in many ways, such as creating an environment for responsible employee behavior and teamwork, mediating for the achievement of the organization's objectives, promoting the learning from experience and the acquisition of external knowledge, rewarding employees who share and apply their knowledge, etc. The characteristic of knowledge-oriented leadership is combined between attributes of transactional and transformational leadership styles for effective knowledge management in an organization (Naqshbandi & Jasimuddin, 2018). The transactional leadership style has emphasized the exchange between leader and follower in the form of benefits, rewards, incentives, and self-interest (Birasnav, 2014). For the transformational leadership style, it has focused on the motivation and inspiration of followers or members to give their best (Donate & de Pablo, 2015).

Organizational Innovativeness

In the literature, the empirical evidence shows the rising number of studies on innovation in the public sector Arundel, Bloch, & Ferguson, 2019) as the result of employees in the innovative workplace exhibit higher job satisfaction, higher organizational commitment, and lower turnover intention (Demircioglu, 2017). Furthermore, many public organizations attempt to seek any way to establish an innovative culture (Demircioglu & Audretsch, 2019). Torugsa & Arundel (2016) have mentioned the increased recognition of the significance of innovation in the public sector context with emerging literature by identifying how innovation's sources impact organizational outcomes and innovation.

Innovation is a dynamic process which identifies the problems, challenges, and improvements of new, creative ideas, and the selection and implementation of new solutions (Petkovsek & Cankar, 2013). Additionally, innovation is important for organizational survival, not only for the private organization but also for the public

organization. The private sector needs to develop innovation to attain market competition, while the public sector improves innovation to increase the organization's efficiency and public service quality (Mustafid, 2013). Successful innovation is the creation and implementation of new processes, products, services, and methods of delivery which lead to an important development in the efficiency, effectiveness, and quality of outcomes. The public sector organizations tend to be stable in fostering innovation to generate better and more effective public service and delivery to citizens, contrary to the private sector compete to produce and service innovations for customer satisfaction responses and sustainable competitiveness.

The general objectives for innovation in the public sector are the improvement in efficiency (lower service costs and reduced management), transparency, service quality, and users' satisfaction. But there are also more specific objectives, such as managing social challenges, complying with new laws and rules, policies, and improving the employees' working conditions (Thenint, 2010). An innovative public sector is providing high-quality services, particularly a new service or new aspects, ease of use, access, timeliness, actions to strengthen relations between the public sector and citizens in areas such as public information, taxation, education, healthcare, etc. (Bloch, 2011).

The private sector's innovation is classified into three types including radical, disruptive, and incremental innovation (Albury, 2005). First, radical innovation refers to the development of a new service or a basically new way of systemizing and delivering a service. Second, disruptive innovation is the category of innovation that required fundamental change in organization, social, and cultural arrangements to have a full effect. Finally, incremental innovation is a minor change and adaptations to existing services or processes to improve performance. For concerning research, innovations may be measured in only two groups (i.e., radical and incremental innovations) according to the concept of Schumpeterian (1991).

On the other hand, the public sector’s innovation consists of product or service innovation, process innovation, organizational innovation, and communication innovation (Bloch, 2010). First, the product or service innovation is the suggestion of a service or product that is new or outstandingly improved compared to existing services or products in an organization. This includes important developments in the service or

product’s characteristics in customers' access or in how it is used. Second, process innovation is the application of a method for the production and provision of services and products that are new or significantly improved when compared to existing processes in an organization. This is related to significant developments in such as equipment and skills and includes significant improvements in support functions such as information technology (IT), accounting, and purchasing. Third, organizational innovation is the implementation of a new method for managing work that differs importantly from existing methods in an organization including new or significant improvements to management systems or workplace organization. Finally, the communication innovation is the application of a new method of supporting the organization, services or products, or new methods to affect the individual and organizational behaviors which differ importantly from existing communication methods in an organization.

Innovativeness for an organization’s context is defined as a description of the general characteristics of the implementation function and the creation of new things that are related to the ability of organizational innovation (Rogers, 2003; Tajeddini, 2016). Matsuo (2006) has referred to organizational innovativeness as a trend of organizations that support innovation. Organizational innovativeness is characteristics, attitudes, or propensity towards development or acceptance of innovation in an organization. For this research, organizational innovativeness is a characteristic that is part of the organization’s culture and reflects its intention to exploit new opportunities, thereby generating the capacity to innovate and, later, to introduce effective innovations to the organization (Hurley & Hult, 1998; Werlang & Rossetto, 2019). The creative endeavors include the search for, and the discovery, experiment, and progression of new technologies, novel products or services, new processes of production, and modern organizational structures (Lopez-Nicolas & Merono-Cerdan, 2011).

Organizational innovativeness is comprised of technological and behavioral elements (Avlonitis, Kouremenos, & Tzokas, 1994). Wang & Ahmed (2004) have specified overall of organizational innovativeness that consists of product innovativeness, market innovativeness, process innovativeness, behavioral innovativeness, and strategic innovativeness. To be appropriate for measuring organizational innovativeness in the context of the public sector, then the author has

defined organizational innovativeness followed five attributes of the innovative behavior according to the guidelines of Shoham et al. (2012). Therefore, organizational innovativeness composes of creativity (implementing a new idea), risk-taking (committing resources to risky decisions), future orientation (facilitates an organization's adaptation in a rapidly changing environment), openness to change (involves an organization's willingness to adopt innovations), and proactiveness (the proactive organization anticipates changes and exploits opportunities).

The Effect of Knowledge-Oriented Leadership on KMC

Knowledge-Oriented Leadership and Accumulation of Knowledge Stocks

Leadership is described as a theoretical principle that emphasizes ascertaining what makes successful leaders surpass in what they do. Nowadays, organizational leadership for adjustment to various growth and survival changes in an organizational environment must have special characteristics, which commonly are not available for managers, or they confront different problems to achieve it (Moradi et al., 2014). In leadership literature, it is often linked to the efficiency and effectiveness of an organization. Organizational success in achieving its goals and objectives depends on the leaders of the organization and their leadership styles (Voon, Ngui, & Ayob, 2011). Leadership style is explained to be one of several specimens of leadership theory that focuses especially on leaders' traits and behaviors (Nawaz & Khan, 2016). Leadership is recognized as a critical factor in effectively managing organizational knowledge in the previous literature (Singh, 2008). Although recently knowledge management is discussed to be an interesting topic to focus on, knowledge-oriented leadership has attracted the attention of enthusiastic thinkers in the boundary of management. As well, the role of leadership also began to be used to describe knowledge management in the organization (Sadeghi & Rad, 2018).

Blanchard et al. (1993) have indicated that the style of leadership does work and is situation-dependent. According to contingency theory, successful knowledge management of organizational depends on the style and behavior of the leader and needs to be adjusted according to the changed recent situation and environmental condition in the organization. Leadership is a valued resource of the organization to put

a force on the organization to lead it to attain general goals by indicating the method and approach of the effect on key changes in the whole organization (Ramezani, Safari, Hashemiamin, & Karimi, 2017). Knowledge-oriented leadership is considered a leadership style that enhances effective knowledge management in the public sector. Knowledge-oriented leadership plays a critical role in increasing organizational capability in knowledge management (Lackchmann & Parent, 2008) especially involving in terms of accumulated knowledge stocks in human resources, technology infrastructure, and strategic templates.

Birely & Daly (2002) have identified that designing and procuring knowledge management processes is a difficult task for leaders, the benefits, efficiency, and success of these processes seriously depend on their adaptation to organizational factors. Thus, leaders must provide an ideal situation for actuating and improving using of the knowledge management process and its basics for organizations by designing such as human resource management (Lin, 2011). Knowledge-based leadership concerns the accumulation of knowledge stocks through the management of human resources as knowledge workers. This leadership style focuses on defining the organizational processes and practices of effective individual management such as selecting, staffing, training, assessing, compensating knowledge workers (Miranda et al., 2011). Birasnav et al. (2011) have shown leaders (transformational) affect human resources (as social capital) development through executing the tactical knowledge management process among employees. As well as knowledge stock concerning the provision of appropriate and effective technological tools for knowledge management is directed by leaders who commit to knowledge. The study of Ingebrigtsen et al. (2014) has indicated that leadership influence to develop a vision comprised a long-term commitment to the application of information technology in an organization. Likewise, Mingaine (2013) has affirmed that leadership impacts the provision of ICT equipment, qualified staff, and implementation. Moreover, knowledge stocks in the area of strategic templates, the leader has determined knowledge management strategies by indicating a clear management approach toward employees and encouraging them to follow the leader to collectively attain the organization's goals. Kaplan & Norton (2004) have demonstrated a strategy map/template is an intangible asset for organizational value creation.

Additionally, the KM strategic alignment determines the value of three intangible assets such as human capital (i.e., skills, talent, and know-how to perform activities required by the strategy), information capital (i.e., information systems and knowledge applications and infrastructure required to the support the strategy), and organizational capital (i.e., awareness and internalization of the shared mission, vision, and value needed to execute: leadership, alignment, and teamwork). Burstein et al. (2010) have confirmed that the leadership of top managers affects knowledge management strategy development and strategic plan implementation. Thus, this research proposes hypotheses as follows:

Hypothesis 1: Knowledge-oriented leadership positively influences the accumulation of an organization's knowledge stocks.

Knowledge-Oriented Leadership and Regulation of Knowledge Flows

Knowledge-oriented leadership is identified as a particular type of leadership that promotes knowledge management practices (Donate & de Pablo, 2015; Naqshbandi & Jasimuddin, 2018; Sadeghi & Rad, 2018). The roles of leadership enhance knowledge flows through sharing among members (Hyypia, 2013; Tuan, 2017). The regulation of knowledge flows via institutionalization, leaders play an important role in the institute such as encouraging collaboration culture in an organization, supporting the followers or members to learn and share their knowledge, motivating employees' commitment, etc. Knowledge-based leadership encourages an organizational culture and leads to internal learning processes including creation, acquisition, dissemination, sharing, and application of knowledge among the members (Abbasi & Zamani-Miandashti, 2013). The regulated knowledge flows indicate the speed and effectiveness of the knowledge management process in an organization in which the leadership encourages an organization's knowledge flows through knowledge sharing behavior and organizational learning of employees (Park & Kim, 2018). Similarly, Yang et al. (2014) have specified out that knowledge-oriented leadership organizes and expands the knowledge flows from manufacturer to recipient and facilitates information sharing among employees. The organization's learning process acquires through observation and its effective interpretation (Shrivastava,

1983) and it is expanded through others' experience, information technology, classrooms and training methods, electronic media, and knowledge and competitive techniques (Geh, 2014). Leadership has been recognized as a key determinant of the organizational learning process because it has a significant effect on presenting appropriate attitudes and behaviors for employees (Flores, Zheng, & Rau, 2012). Vargas (2015) has proposed a blended leadership style as a strategic leadership able to simultaneously implement diverse courses of action to facilitate organizational learning and presented that the leadership style appears as the most dominantly apt to support an organizational learning process to achieve innovation, high performance, and competitiveness. Furthermore, DeTienne et al. (2004) have indicated that acquiring and integrating external knowledge depends on leaders who support the activity management involving knowledge development and acquisition. Additionally, Morse (2010) has affirmed the integrative public leadership catalyzes partners' collaboration in acquiring and learning the external knowledge to create public value. Thus, this research proposes hypotheses as follows:

Hypothesis 2: Knowledge-oriented leadership positively influences the regulation of an organization's knowledge flows.

Accumulation of Knowledge Stocks and Organizational Innovativeness

Knowledge accumulated in stocks is a knowledge-based resource that is valuable for the organization and difficult to imitate by the competitor. According to the KBV approach, Miller (2002) has mentioned that the organizations are bodies for creating, integrating, and distributing knowledge. Furthermore, knowledge of the organization is an awareness to stimulate new ideas, creativity, innovation, and performance in private and public organizations. In several empirical pieces of research have tried to show that knowledge helps create value for organizations in many areas and emphasizes the importance of knowledge management concepts. While other researchers have concurred that a knowledge-based view is a useful extension of organizational learning towards organizational strategies and theories, which is an extension that can inform research and provide new insights about the works of an organization (Kogut & Zander, 1996). The knowledge-based view of the organization

is focused on acquiring and creating knowledge and sometimes new knowledge is generated or developed from discovering a valuable new solution after identifying a problem of an organization (Nickerson & Zenger, 2004).

Knowledge is a significant driver of an organization and the primary factor in value creation (Najmi, Kadir, & Kadir, 2018), and this knowledge is also considered as a strategic resource that gives the means for generating innovative products and services (Du Plessis, 2006). The stock of knowledge resource is the intellectual capital of an organization (Rothberg & Erickson, 2005), and it intimately involves human resources which is the most essential intellectual asset (Najmi et al, 2018). Knowledge characteristics are intrinsically connected with the people and are a prerequisite to the action of human (Bornemann & Sammer, 2003). Ducharme (1998) has focused on the importance of human resources as a participant in the acquisition and transformation of knowledge. Accumulating the stocks of knowledge as intellectual capital derived from human resources displays preliminary roles in the fluent functioning of modern organizations, thus it is universally acknowledged that knowledge-based assets are a basis of success (Wiig, 1997) in formatting innovation capability (Andrews & Criscuolo, 2013). The previous empirical research has shown knowledge-based employees who through organizational human resource management influence innovation (Özbağ, Esen, & Esen, 2013; Shamim, Cang, & Li, 2016). Seleim & Khalil (2011) indicate sources of human capital are knowledge, experiences, skill, and innovative behavior of human resources. Therefore, the generation of organizational innovativeness will be encouraged by knowledge-based human resources.

In the area of technology infrastructure, existing research provides widely theoretical arguments involving the potential of technology or information technology capability for efficient information and knowledge sharing without distance limitations. Information technology instruments allow for rapid discovery and access to information and support for knowledge transfer and collaboration among organizational members (Pérez-López & Alegre, 2012). The technology infrastructure promotes the conversion of implicit/tacit knowledge into explicit knowledge (Alavi & Leidner, 2001), and that knowledge can be systematized, stored in a document, and retrieved to implement within the organization (Chen, Yeh, & Huang, 2012). When organizational knowledge is transferred among members through technology infrastructure, it affects employees'

knowledge application for their work as well as generating new ideas or creativity in organizational value creation. Similarly, information technology capability assists the organizational processes automatically operate and encourages routine tasks and practices (García-Álvarez, 2015) including enhances organizational agility for innovation (Cai, Liu, Huang, & Liang, 2019) and open innovation (Martinez-Conesa et al., 2017).

Strategic templates of knowledge management are considered as an organizational resource that indicates the goals of knowledge management originality and the approaches adopted to attain them (Choi, Poon, & Davis, 2008). Knowledge management strategy is aligned to organizational strategies (Shih & Chiang, 2005), as a result, the role of knowledge management in the achievement of organizational objectives is more obvious, and the need to increase knowledge management capability is justifying (Pee & Kankanhalli, 2009). The essentials of enhancing knowledge management capability are to conduct through an organizational strategy presented relevant supports to encourage members to participate in knowledge management activities. The effectiveness of the implementation of strategic knowledge management will promote organizational creativity (Shahzad, Bajwa, Siddiqi, Ahmid, & Sultani, 2016) and innovation (Naqshbandi & Jasimuddin, 2018). The organization's interest in knowledge management is motivated by the possibility of resultant benefits such as increased creativity and innovation in products and services (Darroch, 2005). The current research also presents that knowledge and its management is one of the factors that affect innovation capacity in an organization (López-Nicolás & Meroño-Cerdán, 2011). Thus, this research proposes hypotheses as follows:

Hypothesis 3: The accumulation of an organization's knowledge stocks positively influences organizational innovativeness.

Regulation of Knowledge Flows and Organizational Innovativeness

Creative ideas are produced and used in product/service innovation via knowledge flow and refinement (Swink & Song, 2007). Knowledge flow concerns the institutionalization and organizational learning processes (Miranda et al., 2011). Institutionalization demonstrates an organizational culture that creates capabilities of knowledge management activities within the organization, e.g., the support of leaders,

organizational commitment, communication, collaboration, and including formal activities formulated from the operation of the institutes. The reasons for knowledge management stimulated innovativeness is it enables the sharing and codification of tacit knowledge converted to explicit knowledge, generating a culture of enhanced knowledge creation and sharing as well as collaboration in an organization (Madhoushi, Sadati, Delavari, Mehdivand, & Mihandost, 2011). That shows the knowledge management capability in terms of knowledge flow regulation (i.e., institutionalization) impact on innovativeness.

Developing new knowledge via organizational learning processes interacts in generating new capabilities of employees (Pemberton & Stonehouse, 2000) and organizational performance (Theriou & Chatzoglou, 2008). The new knowledge creation and tacit knowledge transfer between employees are conducted through internal learning processes. Pini & Santangelo (2010) have investigated the internal learning processes (knowledge flows) underlying incremental and radical innovativeness. Innovation depends largely on the amount of knowledge that is available in the organization. Therefore, knowledge management and knowledge-based assets are expected to be related to innovation performance (Adams & Lamont, 2003) especially when they are operated via organizational learning. The knowledge that is transferred within an organization influences the four stages of the innovation process according to Basadur & Gelade (2006). Firstly, knowledge affects acquiring and generating proactively new information and awareness of trends, opportunities, including problems. Secondly, knowledge also encourages the conceptualization of new challenges and ideas of employees and organizations. Thirdly, knowledge can develop and optimize new solutions. Finally, knowledge is implemented in new solutions.

The existing literature on organizational innovation, the several factors affecting innovativeness, such as organizational characteristics (i.e., organizational structure, size, and resource slack) and the role of the external environment of an organization implying the importance of the external knowledge acquisition (Gunsel et al., 2011). According to Filius et al. (2000), knowledge is acquired through participation in professional networks, with customers and competitors, and research and development. Moreover, knowledge derived from external sources can provide

supplementary insights into the job expertise of employees in various knowledge management activities to generate better quality outputs (Pee & Kankanhalli, 2009). Organizational learning and effective knowledge management have directly affected organizational innovation (Noruzy et al., 2013). Similarly, organizational knowledge management capability has been confirmed that influences the innovation process (Carneiro, 2000) through the learning capability (Gunsel et al., 2011) of both internal and external organizations. External learning influences innovativeness through knowledge absorption from external sources to adapt for effective routine work and to innovate the new product or service including new approaches and processes. Thus, this research proposes hypotheses as follows:

Hypothesis 4: The regulation of an organization's knowledge flows positively influences organizational innovativeness.

The Effect of Knowledge-Oriented Leadership on Organizational Innovativeness

Leadership is a skill that influences others, inspires, motivates, and directs activities to achieve organizational goals (Jones & George, 2003). Leaders can achieve the desired goals from their fellows by adopting the appropriate leadership style according to the situation (Shamim, Cang, & Li, 2016). The empirical research has shown that creativity and innovation often depend on leadership (Černe, Jaklič, & Škerlavaj, 2013). Knowledge-oriented leadership is one type of leadership style that is essential for organizational innovativeness by communicating strategies for knowledge management and innovation to receive better organizational performance. Such leaders also motivate their followers to exploit the organization's knowledge resources by specifying the mode of motivation they use, depending on the nature of the activities they want to promote in followers by supporting the intellectual and creative stimulation as well as empowering to take risks to utilize new ideas resulting in effective diffusion of knowledge (Williams & Sullivan, 2011; Naqshbandi & Jasimuddin, 2018) that means the leaders' efforts about acquiring the organizational innovativeness. Jaiswal & Dhar (2015) have examined and pointed out the role of leadership in affecting innovation climate and employee creativity. Sethibe & Steyn (2015) have identified leadership significantly impact on innovation and superior

organizational performance and leadership are also more appropriate when the aim is to instill a culture of innovation. Additionally, the contingent role of leadership in knowledge sharing and innovation in higher education institutions is pointed out by Elrehail (2018). Thus, this research proposes hypotheses as follows:

Hypothesis 5: Knowledge-oriented leadership positively influences organizational innovativeness.

The Mediating Effect of KMC on Knowledge-Orientated Leadership and Organizational Innovativeness

Existing research on innovation leadership in the context of KMC presents inconclusive results about how leadership can make a significant impact on organizational innovativeness (Von Krogh, Nonaka, & Rechsteiner, 2012). Such discussion is set arguments to support the existence of a positive relationship between KMC and innovation. As a knowledge-oriented leadership, it acts as a driving force for KMC, this leadership style will share indirect connections with innovativeness. In particular, the greater the knowledge-oriented leadership level, the KMC level will more increase, which in turn will have a positive impact on organizational innovativeness. Leadership positively and indirectly influence organizational innovation and improve organizational performance through knowledge management and organizational learning (Noruzy et al., 2013). Donate & de Pablo (2015) have presented the empirical results of knowledge management processes (i.e., knowledge transfer, storage, application, and creation) that affect innovation performance including the role of knowledge-oriented leadership. However, KMC in terms of accumulating knowledge stocks and regulating knowledge flows is still necessary to examine to confirm how it influences the relationship between knowledge-oriented leadership and innovativeness. KM capability encompasses the accumulation of knowledge stocks and regulation of knowledge flows that specifies the link between leadership and KM success leading to organizational performance (Bryant, 2003).

In previous research, knowledge-based leadership supports various knowledge-based processes of the organization. Organizational leadership impacts knowledge management processes to inspire members in knowledge acquisition, sharing, and new idea creation. Furthermore, leaders have formulated a suitable reward/incentive system as well as supporting several and effective channels of communication (Williams & Sullivan, 2011). For innovation behavior, the leaders enhance the member's novel idea creation and new knowledge application (Crawford, Gould, & Scott, 2003) for their routine work. Effective knowledge management usually demonstrates increased knowledge stocks or repositories such as human resources, technology infrastructure, and strategic templates, as well as, regulated knowledge flows through organization culture or structure (as institutionalization) and learning processes. As a result, leadership considerably significantly affects the organization's knowledge management capability and innovativeness. Thus, this research proposes hypotheses as follows:

Hypothesis 6: The accumulation of an organization's knowledge stocks mediates the relationship between knowledge-oriented leadership and organizational innovativeness.

Hypothesis 7: The regulation of an organization's knowledge flows mediates the relationship between knowledge-oriented leadership and organizational innovativeness.

The Moderating Effect of Social Capital on Knowledge-Oriented Leadership and KMC

Social capital is defined as the sum of both the actual and potential resources that are embedded within, available through, and obtained from the network of relationships in the organization (Bourdieu, 1983; Nahapiet & Ghoshal 1998). Putnam (1993) has defined social capital as a connection among individuals, social networks, and norms of reciprocity and trustworthiness. Coleman (1994) has indicated the function of social capital that consists of two characteristics (social structure and facilitating actions of individuals within their structure). In literature, social capital is a multidimensional construct. Generally, social capital is investigated in three main

dimensions: structural dimension (e.g., network ties, network structure, suitable organization, etc.); cognitive dimension (e.g., shared codes and ethics, shared narratives, etc.); and relational dimension (e.g., trust, norms, obligation and expectation, identification, etc.). Relational capital consists of the ability of the organization's employees to develop links and connections with themselves and coalition partners (Seleim & Khalil, 2011). However, this research focuses on the relational dimension of social capital comprised of understanding (Alavi & Tiwana 2002), trust (Collins & Smith, 2006), norms of collaboration (Kankanhalli et al., 2005), reciprocity (Bock, Zmud, Kim, & Lee, 2005), and identification (Ravishankar & Pan 2008).

The previous studies have shown these relational compositions increase the sharing, applying, and creating knowledge among employees. Social capital is extremely significant to the development of knowledge management capabilities because the relationships and interaction between individuals and groups are important pathways of knowledge flows (Barton & Sensiper, 1998). Knowledge is produced by and exists in individual employees as well as it is produced through social interactions and is embedded in the social structure of organizational members (Narasimha, 2000). Therefore, the purpose of an organization’s knowledge management is more achieved especially in practices of knowledge stock and knowledge flow when social capital is higher (Manning, 2010).

The social capital asserts that social relationships are resources that can lead to the development and accumulation of human capital through the learning process (Coleman, 1988). Leadership in knowledge organizations is particularly relevant when knowledge workers perceive leaders as actively engaging and committing to supporting knowledge and learning activities (DeTienne et al., 2004). The organization's social capital helps leaders enhance regulating the knowledge flow by supporting the organizational internal and external learning activities to their employees. In terms of the internal and external organization networks (e.g., personal knowledge networks, co-workers, alliances or partners, clients, etc.) can help promote the learning process and the creation of new knowledge for employees.

In this research, social capital plays a moderating role in the relationship between knowledge-oriented leadership and KMC. This implies that when an organization has a social relationship between individuals and trust, resulting in reducing obstacles for the leader in the formulation of strategies or practices regarding the accumulation of knowledge stocks and regulation of knowledge flows, knowledge management of the organization has more opportunities for success. On the other hand, if an organization loses a good relationship and trustfulness, it will lead the leader to be unable to successfully implement strategies to manage the organization's knowledge, or can do but there may be obstacles. Thus, this research proposes hypotheses as follows:

Hypothesis 8: Social capital positively moderates the relationship between knowledge-oriented leadership and the accumulation of an organization's knowledge stocks.

Hypothesis 9: Social capital positively moderates the relationship between knowledge-oriented leadership and the regulation of an organization's knowledge flows.

The Moderating Effect of Creative Organizational Climate on KMC and Organizational Innovativeness

Organizational support (Eisenberger, Huntington, & Hutchison, 1986) has explained the relationships between employers and employees that are based on social exchange theory and inference to the organization's commitment to the employee and, finally, employees' commitment toward the organization. Organizational support (Eisenberger, Cummings, Armeli, & Lynch, 1997; Eisenberger, Stinglhamber, Vandenberghe, Sucharski, & Rhoades, 2002) assumes that to meet social needs and to determine the organization's readiness to reward increased work efforts, employees develop global beliefs about the extent to which organizations values their participation and looks after their well-being (Kurtessis, Eisenberger, Ford, Buuardi, Stewark, & Adis, 2017). Organizational support also discusses the psychological processes that are based on the consequences of perceived organizational support (POS). POS is the value of ensuring that assistance from the organization is needed when performing tasks and to deal with stress situations (George, Reed, Ballard, Colin, & Fielding, 1993; Rhoades

& Eisenberger, 2002). Therefore, employees demonstrate a consistent form of agreement with various statements relating to the extent to which the organization appreciates their contribution and will treat them well or badly in different situations (Eisenberger, Fasolo, & Davis-LaMastro, 1990; Shore & Wayne, 1993). Employees believe that the organization has a positive or negative direction towards them, which covers both awareness of participation and concern for their welfare.

Organizational climate has begun to be studied since 1973 by Kurt Lewin, and there is a constant focus on empirical research in the recent (Singh, 2018). Organizational climate is often defined as the recurring patterns of behavior, attitudes, and feelings that characterize life in the organization (Isaksen & Ekvall, 2007) and exists independently of the perceptions and understandings of the members of the organizations (Ekvall, 1996; Ismail, 2005). Khasawneh (2018) assigned an organizational climate that can help organizations reach their goals because of their impact on many aspects of the workplace. Furthermore, a positive or creative organizational climate affects individual and group learning behaviors (Hult & Ferrell, 1997). Foxon (1994) has identified that organizational climate influences employees' learning experiences and a supportive organizational climate will encourage and reinforce to transfer of learning.

The creative organizational climate refers to the organizational characteristics as perceived organizational support by its members and it encourages people to generate new ideas and helps the organization to grow and increase its efficiency (Ekvall et al., 1996; Samad, 2010). The study of Ismail (2005) specifies ten factors of creative climate stimulated organizational learning according to the concept of Ekvall et al. (1983) which consist of challenge/motivation, freedom, dynamism or liveliness, trust or openness, idea time, playfulness or humor, conflicts, debates, risk-taking. In another aspect, a creative organizational climate is related to creativity performance. Coveney (2008) has presented six dimensions of organizational climates: organizational encouragement; supervisory encouragement; workgroup support; freedom, sufficient resources, and challenging work; workload pressures; organizational impediments that affect enabling creativity performance. Chiou (2006) has found seven main categories of creative organizational climate: organizational idea; working style; resource availability; teamwork operation; leadership efficacy; learning

and progress; and environmental atmosphere facilitate or inhibit employee's creativity performance. Furthermore, the meta-analysis study of Hunter and others (2007) indicates the relationships between organizational climate dimensions such as support and autonomy and various indicators of creative and innovative performance. For the reason that the creative organizational climate support affects both the organization's internal and external learning (knowledge flow regulation) and organizational innovativeness, consequently, the perceived creative organizational climate will be predicted to stimulate the relationship to be stronger. This means that if an organization in which employees or knowledge workers perceive the creative organizational climate support in the organization, the implementation of knowledge management activities or practices (such as the accumulation of knowledge stocks and the regulation of knowledge flows) facilitates more organizational creativity and innovativeness. In contrast, if employees do not perceive the creative organizational climate support, knowledge management activities will also encourage less organizational creativity and innovativeness. Thus, this research proposes hypotheses as follows:

Hypothesis 10: A creative organizational climate positively moderates the relationship between the accumulation of an organization's knowledge stocks and organizational innovativeness.

Hypothesis 11: A creative organizational climate positively moderates the relationship between the regulation of an organization's knowledge flows and organizational innovativeness.

Summary

This chapter provides the conceptual framework of KMC and organizational innovativeness of the tax administrative organizations. Moreover, it also includes the concerning literature review, theories, and constructs, and proposes a set of testable hypotheses. KMC is the primary concern of this research by focusing on its antecedent (knowledge-oriented leadership) and consequence (organizational innovativeness). Furthermore, this research verifies the effect of the moderating roles of social capital and creative organizational climate including the influence of KMC as the mediating role between knowledge-oriented leadership and organizational innovativeness. For comprehension, the summary of all hypothesized relationships is shown in Table 6.

Table 6 Summary of Hypothesized Relationships

Hypotheses	Description of Hypothesized Relationships
H_1	Knowledge-oriented leadership positively influences the accumulation of an organization's knowledge stocks.
H_2	Knowledge-oriented leadership positively influences the regulation of an organization's knowledge flows.
H_3	The accumulation of an organization's knowledge stocks positively influence organizational innovativeness.
H_4	The organization's knowledge flows positively influence organizational innovativeness.
H_5	Knowledge-oriented leadership positively influences organizational innovativeness.
H_6	The accumulation of an organization's knowledge stocks mediates the relationship between knowledge-oriented leadership and organizational innovativeness.
H_7	The regulation of an organization's knowledge flows mediates the relationship between knowledge-oriented leadership and organizational innovativeness.
H_8	Social capital positively moderates the relationship between knowledge-oriented leadership and the accumulation of an organization's knowledge stocks.
H_9	Social capital positively moderates the relationship between knowledge-oriented leadership and the regulation of an organization's knowledge flows.
H_{10}	A creative organizational climate positively moderates the relationship between the accumulation of an organization's knowledge stocks and organizational innovativeness.
H_{11}	A creative organizational climate positively moderates the relationship between the regulation of an organization's knowledge flows and organizational innovativeness.

CHAPTER III

RESEARCH METHODS

The previous chapter provided a review of prior researches, theoretical foundation, and relevant literature concerning knowledge management capability and other variables, including hypotheses development. To understand the research methods, therefore this chapter provides four main parts as research methodology, measurements, methods, and statistical techniques. The first section of this chapter explains the methodology and research design involving population and sample selection, data collection procedure, instrument, and the test of non-response bias. The next section describes the measurements of all constructs in terms of the dependent, independent, consequential, moderating, and control variables. The third section presents the methods used in this research including the tests of validity, reliability, and common method variance to measure the questionnaire. The final section discusses the application of statistical techniques by the structural equation model (SEM) analysis.

The Research Methodology

Population and Sample Selection

This research was interested in and selected the tax administrative organizations in Thailand as the population to examine KMC for several reasons. First, tax administrative organizations are responsible for collecting taxes, which are the country's main income, to be used to drive domestic activities. Furthermore, their operating activities are also an important part of national development according to the 20-year national strategic plan of Ministry of Finance. One of the key strategies is the development of knowledge management and innovation which is identified in this plan. Because an organization believes that knowledge within an organization is a valuable resource and can be developed in various areas. Second, although the tax administrative organizations are agencies in the public sector, these organizations have financial goals (as the taxation income) similar to the business sector. Therefore, it is necessary to develop the capability to manage organizational knowledge for innovativeness to help

increase operational efficiency in achieving the organization's goals. Third, The Ministry of Finance plays an important role in the national economic system. The tax administrative organizations are part of the Ministry of Finance therefore these agencies are also involved in the economic system. Knowledge management and innovation strategies are emphasized through affiliation agencies to participate in driving the national economy because these agencies especially tax units work closely with the citizen both in the public and business sectors. Finally, taxation work is involved with individuals, juristic persons, companies, business organizations, including stakeholders in the country. All of these have the right to know the necessary information or access to receive an efficient and satisfactory service. Likewise, knowledge is systematically stored so customers can access for searching, while the developed technology and innovation originate the efficient channels in receiving services. Therefore, the improvements in knowledge management and innovation are essential that tax administrative organizations cannot neglect.

The population used in this research is derived from the published database of the Ministry of Finance in Thailand. As a result, 1,334 tax administrative organizations in Thailand (May 12, 2020) are selected as the population. From the 1,334 tax administrative organizations are separated into 971 samples from the Revenue Department, 73 samples from the Customs Department, and 290 samples from the Excise Department. The calculation method of a sample size suggested by Yamane (1973) is used to estimate the number of organizational units that need for being a reliable sample. The calculation formula is provided below.

$$n = N/(1 + Ne^2)$$
$$n = 1{,}334/ [1 + 1{,}334(0.05)^2]$$
$$n = 307$$

By n = size of the sample,
N = population,
e^2 = probability of error

For this research, the probability of error can be calculated as five percent (e = .05), while 1,334 is the total number of population (N = 1,334). After calculating the sample size, 309 are considered sufficient for data analysis. However, it is difficult to acquire

a 100 percent response rate by using the mailed data collection method. For mailed questionnaires as a survey method, 20 percent of the response rates are considered acceptable and satisfactory for subsequent analysis (Aaker, Kumar, & Day, 2001). The calculation is given below.

$$n = (307*100)/20$$
$$n = 1,535$$

Therefore, to receive 1,535 sample sizes, it is necessary to mail 1,535 questionnaires. However, the total population was only 1,334, thus this research should be to collect data from the whole population that is identified in the list of tax administrative organizations in Thailand for examining the hypotheses.

Data Collection Procedure

This research collects data from survey approach by mailing a self-administered questionnaire is suitable and effective to use for data collection as it is a widely-used method for collecting large-scale data in demographical areas (Neuman, 2006). Besides, a mail survey approach is accepted in lower distributive bias, reducing the pressure on potential respondents, and saving time, more than an on-site survey (Kwok & Sharp, 1998).

The main respondents are the chiefs of the tax collection division of each tax administrative organization in Thailand because they are responsible for formulating strategic plans and implementing them to develop the efficiency of tax collection. Consequently, these respondents are well informed about the role of leaders in managing the strategic operations that influence the KM effectiveness including innovativeness and performance outcomes of organization.

The questionnaire mailing may be given a low rate unless the questionnaire can engage the respondents' interest or the respondents perceived a direct value from the investigation of the questionnaire. Thus, to solve this problem, a cover letter is used to introduce the researcher, the objectives of the research, and the importance of the survey. Additionally, a letter from the university is also attached to confirm that the researcher comes from the cited academic institution and to ask for cooperation from the participants.

The total number of questionnaires sent was 1,334 packages mailed in the late of June 2020. The collection of data receives within four weeks according to the plan. At the first stage, the questionnaire is answered and sent to the researcher in the first two weeks. After four weeks, to increase the response rate, a following up mail was sent to organizations that have not yet replied to remind them to complete the questionnaire and to request them to cooperate in answering it. Furthermore, the effective response rate, a 20% response rate for a mail survey is considered acceptable (Aaker et al., 2001).

The data was obtained from the respondents who are the chiefs of tax collection division of each tax administrative organization. The 798 questionnaires were returned, 784 were usable, and 14 were uncompleted and unusable. Therefore, the effective response rate was approximately 58.77 percent which is acceptable as the sample size for applying confirmatory factor analysis and structural equation model. The description of the questionnaire mailing is also indicated in Table 7.

Table 7 Details of Questionnaire Mailing

Detail	Number
Mailed Questionnaires	1,334
Received Questionnaires	798
Unusable Questionnaires	14
Usable Questionnaires	784
Response Rate of Samples (784/1334)*100	58.77%

Instrument

The research instrument is the questionnaire that adapts from reviewing the related literature, definitions, and instruments used in previous research. The questionnaire was used to collect the data imposed in seven parts. The first part was the respondents' demographics data consisting of gender, age, educational level, working experience, and working position at the present. The second part provided about the general information of the organization which included the department's name, location of the office, organizational level, number of officers, and awards for knowledge

management and innovation that the organization has received. The next part is related to evaluating each of the items in the conceptual model. This part contains a question measuring knowledge-oriented leadership. The fourth part is related to two dimensions of KMC as the accumulation of knowledge stocks and the regulation of knowledge flows. The fifth part concerns the items that indicate the moderating role of social capital. The measurement items of the creative organizational climate as the moderating role are comprised in the sixth part. For the final part, it is related to the gauged items the organizational innovativeness. Furthermore, in this part included an open-ended question for the recommendation and opinions of respondents concerning the tax organization's administration in Thailand. The questionnaire is also attached in Appendix A (English version) and Appendix B (Thai version).

The measurement was developed by using multiple items and a five-point Likert scale ranging from 1 to 5 (1 = strongly disagree, to 5 = strongly agree) for knowledge-oriented leadership and organizational innovativeness constructs. Whilst, the constructs of KMC, social capital, and the creative organizational climate were measured by a seven-point Likert scale ranging from 1 to 7 (1 = strongly disagree, to 7 = strongly agree). The items for measure all constructs are shown in Table 8. Furthermore, before disseminating the questionnaire, it is piloted on 30 surveys to establish face validity (Cooper & Schindler, 2003).

Table 8 The Items of Five Main Constructs

Item Code	Knowledge-oriented Leadership
KL1	Your leader has been creating an environment to promote responsible officer behavior.
KL2	Your leader encourages officers to be teamwork.
KL3	Your leader used to play the role of knowledge leadership, which is mainly characterized by openness and tolerance of mistakes.
KL4	Your leader focuses on a compromise to reduce conflicts and to accomplish organizational goals.
KL5	Your leader promotes learning from experiences or mistakes.
KL6	Your leader is always advising and controlling the evaluation of results to achieve organizational objectives.
KL7	Your leader stimulates the acquisition of external knowledge.
KL8	Your leader rewards officers who share and apply their knowledge.
	Knowledge Management Capability
Item Code	**Accumulation of Knowledge Stocks**
KS1	Your organization has effective management processes for knowledge workers such as selecting, staffing, educating/ training, and maintaining continuity.
KS2	Your organization has an adequate performance appraisal of knowledge workers.
KS3	Your organization has an adequate system for measurement and reward for knowledge workers.
KS4	Your organization has appropriate knowledge repository and map architectures.
KS5	Your organization has appropriate engine architecture to access information and knowledge search that is up to date and fair.
KS6	Your organization has a suitable knowledge index/directory.

Table 8 The Items of Five Main Constructs (Continued)

Item Code	Accumulation of Knowledge Stocks (continued)
KS7	Your organization has a clear vision and goals for knowledge management.
KS8	Your organization has effective knowledge management planning.
KS9	Your organization has an integration of administrative planning, IT strategic planning, and knowledge management planning.
KS10	Your organization has a policy on knowledge management that is consistent throughout the organization.
Item Code	**Regulation of Knowledge Flows**
KF1	Officers of the organization are interested in and committed to implementing knowledge management projects.
KF2	Officers of the organization have effective communication in knowledge management.
KF3	Officers of the organization effectively collaborate in knowledge management.
KF4	Your organization has effective knowledge management processes such as creating, acquiring, filtering, validating, sharing, and applying knowledge.
KF5	Your organization has an effective process for updating outdated knowledge through feedback.
KF6	Your organization has knowledge-based links with customers/service receiver and external network organizations.
KF7	Your organization focuses on knowledge by cooperating with partners or external networks.
KF8	Your organization acquires knowledge from other agencies in the government sector.
KF9	Your organization acquires knowledge from the best practice of both public and private organizations.

Table 8 The Items of Five Main Constructs (Continued)

Item Code	Social Capital
SC1	In general, members of your organization understand each other very clearly when they discuss work.
SC2	In general, members of your organization share a very similar understanding of how work is done.
SC3	In general, each member of your organization always acts in an organization's best interests.
SC4	In general, members of your organization trust each other.
SC5	In general, members of your organization are always sincere.
SC6	There is a strong norm of cooperation and collaboration in your organization.
SC7	In general, members of your organization offer assistance to each other.
SC8	In general, members of your organization are very proud to be employees of the organization.
SC9	In general, members of your organization feel a strong sense of belonging to the organization.
Item Code	**Creative Organizational Climate**
CC1	To what degree do you feel that the climate in the organization is positive and encourages new ideas? (trust/openness)
CC2	How often do you feel that people in the organization can bring up new ideas and opinions without quickly being criticized? (idea support)
CC3	To what degree do you feel that the organization allows you to solve problems and take actions that you think are most suitable in a given situation? (freedom)
CC4	To what degree do you feel that there is a free atmosphere in the organization, where the seriousness of the task can be mixed with unusual ideas and humor? (playfulness)

Table 8 The Items of Five Main Constructs (Continued)

Item Code	Creative Organizational Climate (continued)
CC5	How often do you experience that different opinions, ideas, experience, and knowledge can be discussed in projects? (debates)
CC6	To what degree do you feel that the organization has a dynamic atmosphere? (dynamism/liveliness)
Item Code	**Organizational Innovativeness**
OI1	Creativity has emerged in your organization.
OI2	Your organization has stimulated members to be resourceful problem solvers.
OI3	Your organization has constantly looked to develop and offer new or improved service formation.
OI4	Your organization has always moved toward the development of new answers.
OI5	Your organization has advocated and assisted in developing new ideas that are readily available.
OI6	Your organization has been open and responsive to changes.
OI7	Your organization has established a realistic set of future goals for itself.
OI8	The organization's leader and members understand and aware of the organizational vision in aiming for the future.
OI9	Your organization believes that higher risks are worth taking for high payoffs.
OI10	Your organization has continuously encouraged innovative strategies, although some time may be unsuccessful.
OI11	Your organization has constantly sought new opportunities for itself.
OI12	Your organization has taken initiative in the adjustment of the environment to members' advantage.

Test of Non-Response Bias

The effort of researchers in social science research to create reliability and validity of measurement data for the congruent implementation is a commonly accepted method in designing, conducting, analyzing, and reporting of the survey approach. The survey research is found four sources of possible errors such as sampling error, coverage error, measurement error, and non-response error (Dillman, 2007). For controlling nonresponse error, Miller & Smith (1983) suggested that researchers could use one of five general methods: ignore non-respondents, compare respondents to the population, compare respondents to non-respondents, compare early to late respondents, and double-dip non-respondents. The test of non-response bias is necessary to confirm that it is not an issue in the research by using a t-test to compare and indicate the significant difference between early and late respondents (Armstrong & Overton, 1977; Lindner, Murphy, & Briers, 2001). If there are no statistically significant differences between early and late respondents, then there is no non-response bias between respondents (Rogelberg & Stanton, 2007; Lewis, Hardy, & Snaith, 2013).

In this research, all of the received questionnaires are divided into two groups by time frame criteria of questionnaire returned: the responses returned within first two weeks are treated as the early respondents (the first group) and other responses returned within the next two weeks are treated as the late respondents (the second group). Afterward, both groups can be compared to their responses to the Likert scale questions by employing a t-test statistic to indicate any significant differences (Lindner et al., 2001). These results must provide evidence that there are no statistically significant differences between the two groups at a 95% confidence level. Therefore, it can be concluded that the finding has no problem of nonresponse bias, and this research is able to analyze the statistical outcomes for hypothesis testing.

From the mentioned above, therefore, to test non-response bias for all the received questionnaires from 784 samples were divided into essentially two equal groups: the first 439 responses were treated as the early respondents (the first group), and the last 345 responses were treated as the late respondents (the second group). The results from the data analyzed showed no differences for each variable from both early and late respondents which are demonstrated in Table 9.

Table 9 Test of Non-Response Bias between Early and Late Respondents

	Respondent	N	Mean	S.D.	t-value	p-value
KL	Early Respondents	439	4.199	.477	-1.315	.189
	Late Respondents	345	4.244	.475		
KS	Early Respondents	439	5.691	.687	-1.509	.132
	Late Respondents	345	5.765	.676		
KF	Early Respondents	439	5.634	.725	-1.755	.080
	Late Respondents	345	5.723	.693		
SC	Early Respondents	439	5.688	.878	-1.067	.293
	Late Respondents	345	5.752	.779		
CC	Early Respondents	439	5.486	.974	-.812	.417
	Late Respondents	345	5.541	.898		
OI	Early Respondents	439	4.197	.530	-1.906	.057
	Late Respondents	345	4.269	.513		

Note: N = 784

Measurements

This quantitative research has an empirical analysis that uses the primary data received by the survey questionnaire. In this research, the variables that need to be examined include knowledge-oriented leadership, knowledge management capability (i.e., accumulation of knowledge stocks and regulation of knowledge flows), social capital, creative organizational climate, and organizational innovativeness. These constructs are adjusted into operational variables for real measuring. The measure of each construct in the conceptual model is developed from the variables' definition. The knowledge-oriented leadership and organizational innovativeness acquired from the survey are measured by a five-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree). Additionally, knowledge management capability, social capital, and creative organizational climate are measured by a seven-point Likert scale, ranging from 1 (strongly disagree) to 7 (strongly agree). Therefore, the measure of all constructs is described as follows:

Dependent Variables

Organizational innovativeness. Organizational innovativeness is measured by 12 items that are adapted from the measurement scales of Shoham et al. (2012) including Tajdini & Tajeddini (2018). The items indicate five attributions of organizational innovativeness (i.e., creativity, risk-taking, future orientation, openness to change, and proactiveness).

Independent Variable

Knowledge-oriented leadership. Knowledge-oriented leadership is measured by eight items scale adopted from Donate & de Pablo (2015). All items demonstrate the characteristics of specific leadership (knowledge-oriented leadership) occurred from the combination of transactional and transformational leadership styles for effective knowledge management.

Consequential and Mediating Variable

Knowledge management capability (KMC). KMC consists of two dimensions that include the accumulation of knowledge stocks and the regulation of knowledge flows adapted from the measurement scale of Miranda et al. (2011). The accumulation of knowledge stocks is gauged by 10 items. For the regulation of knowledge flows, it is measured by 9 items

Moderating Variables

Social capital. Social capital is related to the network of relationships in an organization presented a relational dimension (i.e., of shared understanding, trust, norms of collaboration, reciprocity, and identification) is gauged by using 9 items scale adapted from Nahapiet & Ghoshal (1998) and Pee & Kankanhalli (2009).

Creative organizational climate. The measurement item of a creative organizational climate is a set of characteristics of an organizational climate that encourages and stimulates its members to generate new ideas and innovation (Ekvall et al., 1996; Samad, 2010) such as trust or openness, idea support, freedom, playfulness, debates, and dynamism or liveliness. The creative organizational climate will be assessed by six items based on Sundgren et al. (2005).

Control variable

The organizational variables that may influence the dependent variables which have to control include organization type (Moon & Norris 2005; Franzel, 2008), organization size (Boyne et al. 2005; Walker 2008), and award-winning experience (Glor, 1998).

Organization type. Organization type affects differently supporting innovativeness because of disparate organizational factors such as internal efforts aimed at improving the innovative potential, technological intensity, managerial capabilities of the executives, strategic posture and monitoring of customers' needs, and the strength of cooperation with the innovative networks (Wojnicka-Sycz & Sycz, 2016). The tax administrative organizations are separated into three types which include the Revenue Department, the Customs Department, and the Excise Department. Each type of tax administrative organization is responsible in collecting different tax.

Organization size. Organization size is internal factors significantly influence innovativeness (Damanpour & Schneider, 2009). Additionally, the general tendency for innovation outcome is influenced by organization size which the large organization will be more capable in innovation adoption than the small or medium organization (Ettlie, Bridges, & O'keefe, 1984; Bernier, Hafsi, & Deschamps, 2015). The size of the tax administrative organizations is based on the number of officers of the organization which provide in four groups: (1) less than 30 officers; (2) 31 - 50 officers; (3) 51 - 100 officers; and (4) more than 100 officers.

Award-winning experience. The innovations of public organizations are related to management which the reward system is included (Damanpour & Evan, 1984). Award for innovation is rewarding developers of successful innovation which influences more innovativeness of public organizations (Borins, 2001). Thus, any organizations that have experience in receiving an award, they incline to increasingly develop innovation. In this research, the experience in winning an award about knowledge management or innovation is divided into two categories (i.e., ever to receive and never to receive an award).

Methods

All constructs in the conceptual framework of this research have developed the mailed survey questionnaire and measurement scales from the relevant literature. For the thirty tried out questionnaires to the respondent, it is used to be the pre-test to assert the validity and reliability of all measures in the questionnaires (Cooper & Schindler, 2003). Finally, all questionnaires sent back were used in analyzing the research hypotheses and assumptions with confirmatory factor analysis (CFA) and the structural equation model (SEM). In consequence, in the following sections discuss the validity and reliability as the criteria upon that the validity and credibility of the research findings were judged, and were significant in all research for the methods for achieving these qualities. The validity and reliability were a concern in this research because both ideas helped to produce the truthfulness, credibility, or believability of the findings (Neuman, 2006). Furthermore, the common method variance (CMV) has been discussed in the next section**.**

Validity Test

Validity is defined as the level that indicates the measurement to be accurate and appropriate to measure all constructs that the researcher needs (Hair, Black, Babin, & Anderson, 2010). Furthermore, validity also presents that the research has a higher validity of the measures it can lead to powerful predictors of future behaviors (Piercy & Morgan, 1994). Neuman (2006) has indicated the lack of validity occurs if there is a poor fit between the constructs a researcher uses to describe, theorize, or analyze which occurs. Consequently, this research is necessary to test the validity of the questionnaire by two types of validity including content validity and construct validity to accurately confirm that a set of measures implies the concept or construct of research.

Content Validity

Content validity is the scales containing items that are adequate to measure what is intended (Nunnally & Bernstein, 1994) or to be the extent to which the items of the scales sufficiently reflect the interrelated theoretical domains (Green, Tull, & Albaum, 1988). Content validity is based on a subjective interpretation of the suitability of items to the construct under study, the former from the point where the researcher

collects knowledge from literature, and the latter from professional scholars. Nunnally & Bernstein (1994) have recommended that content validity is a scale that has items enough to measure what is intended. As a result, it presents the degree of the essence of the construct's scale that is measured (Thoumrungroje & Racela, 2013).

In this research, a comprehensive review of the literature questionnaires leads to improve the face validity and content validity (Hair et al., 2010). Furthermore, the examination of the instrument to be confident that the whole structure sufficiently covers the variables' content according to relevant theories and literature, experts have considered and given the needed recommendations (Rosier, Morgan, & Cadogan, 2010). In this research, the overall index of IOC (equal .87) displays the adequacy of content validity based on the opinions of five experts with experience in this area. The overall index of IOC indicates more than .50, thus the content validity is acceptable (Turner & Carlson, 2003).

Construct validity

Construct validity is considered as a set of measured items reflecting the latent theoretical construct, and those items are produced to measure (Hair et al., 2010). Construct validity is used to examine the underlying relationships of a large number of items and consider if they can be decreased to a smaller set of factors. To ensure that a measure or set of measures correctly demonstrates the concept of research, this research had tested the construct validity developed from prior research by using the confirmatory factor analysis (CFA) according to the approach of Carlo and Randall (2002). Convergent and discriminant validity are tested for content validity. Convergent validity refers to harmony and the internal consistency of a theoretical concept and a specific concept that is used for measures and instruments of the research (Trochim, 2006). Kwok and Sharp (1998) have identified convergent validity is the degree to which two measures are designed to measure the same construct concerning convergence whether two measures are highly correlated. For discriminant validity is defined as the extent to which a construct is surely distinct from other constructs (Hair, Ringle, & Sarstedt, 2011).

Convergent Validity

The convergent validity of the measurement model can be assessed by the average variance extracted (AVE) which is an evaluation of the degree of shared variance between the latent variables of the model. The AVE calculates the level of variance which is captured by a construct versus the scale because of measurement error. In this research, the AVE value is between .484 - .686 which almost all values are higher than acceptable thresholds at 0.5 (Fornell & Larcker, 1981). Exclusive of knowledge-oriented leadership, the AVE value is .484 which is below the cut-off criterion and indicated that the multi-item measurement is fairly reliable and internally consistent. However, some literature has indicated that a threshold for AVE at .40 has been recommended to reflect a sufficient degree of indicator reliability (Hulland, 1999). Additionally, Fornell & Larcker (1981) have stated that if an AVE value is less than .50 and the CR value (equals .882) is more than .60, the convergent validity of the variable is enough to accept. Composite reliability (CR) is between .882-.929 and it is greater than .70 which indicates the items of each latent construct have sufficient consistency to explain the latent (Hair, Sarstedt, Hopkins, & Kuppelwieser, 2014). To indicate that the research instrument meets the measurement criteria of construct validity, therefore the results of the construct validity should be verified by the factor loading. The range of factor loading is .595 to .874 which is higher than the .40 cut-off and to be statistically significant (Nunnally & Bernstein, 1994). The values of AVE, CR, and factor loadings derived from CFA model are shown in Table 19 in the next chapter.

Discriminant Validity

Discriminant validity was used to measure different construct that should not be highly correlated but should be highly correlated only with the indicators itself. The correlation between the construct and its indicator is found from the square root of the average variance extracted (√AVE). For assessing discriminant validity, this study used the Fornell-Larcker criterion (Fornell & Larcker, 1981). The table of the Fornell-Lacker criterion, if the square root of each construct's AVE value in the main diagonal surpass the correlations with other constructs (off-diagonal) in the relevant rows and columns, shows the construct has discriminant validity. Table 10 presented the result of discriminant validity testing.

Table 10 Discriminant Validity Testing by Forwell-Larcker, 1981

Constructs	KL	KS	KF	SC	CC	OI
KL	**.696**					
KS	.603**	**.755**				
KF	.598**	.726**	**.748**			
SC	.573**	.619**	.615****	**.769**		
CC	.576**	.524**	.568**	.514**	**.829**	
OI	.615**	.684**	.711**	.692**	.630**	**.718**

Reliability Test

The method of reliability test is very important to verify the data collection and used instruments. Reliability is an assessment of the degree of consistency between multiple measures of a variable (Hair et al., 2010). Additionally, it is the extent to which measurements of the particular test are repeatable (Nunnally & Berstein, 1994). Cronbach's alpha coefficient method was used to assess the reliability of this study. Furthermore, Tavakol & Dennick (2011) have mentioned reliability measured by Cronbach's alpha is one of the most commonly used coefficient methods to assess the reliability of variables. The cut-off value of Cronbach's alpha is .60 while a value of .80 is considered to be good (Hair et al., 1998). Additionally, Cronbach's alpha coefficient should be greater than .07 (Nunnally, 1978) to ensure internal consistency.

The results of the reliability test of all constructs are shown at Table 11. For Cronbach's alpha coefficients of each construct is in the range from .737 to .836 which were greater than 0.70 as recommended by Nunnally (1978). Therefore, it can be mentioned that the internal consistency of the entire scale exists in this research.

Table 11 Reliability Value of All Constructs

Variable	Item	Cronbach's alpha (α)
Knowledge-Oriented Leadership	8	.817
Accumulation of Knowledge Stocks	10	.804
Regulation of Knowledge Flows	9	.793
Social Capital	9	.836
Creative Organizational Climate	6	.828
Organizational Innovativeness	12	.737

Common Method Variance (CMV)

In this research, solely questionnaires are used to collect data in which common method variance (CMV) may appear. Common method variance (CMV) refers to the variance from the measurement method which caused a mistake in the discussion of research results. Because the correlation of independent variables and the dependent variables are not really related between the variables, but a correlation occurs due to the data is derived from the common source (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Podsakoff & Organ (1986) have mentioned that the same method was used to collect the data from only a single-or key-informant at the same time which may result in a problem known as the common method variance (CMV), and this problem will have a greater impact in the event that the data used to measure the predictor variable and criterion variable are derived from the same data provider.

Podsakoff et al. (2003) have indicated that the factors that may cause CMV problems can be classified into four categories: (1) common rater effects, which refer to the pseudo-correlation between predictor variables and criterion variables resulting from data derived from the one person or source; (2) item characteristics effects, which refer to the pseudo-correlation resulting from the influence or interpret each question, this may be the result of using common factor formats such as the Likert scale; (3) item context effects, which refer to the influence or interpretation of each question that may result from a relationship between other questions in the same questionnaire, and this may be caused by the sequence of questions leading respondents to have a bias in their response (Wainer & Kiely, 1987); and (4) measurement context effects, which are

pseudo-correlations resulting from the context of measurement such as measuring predictor variables and criterion variables at the same time and/or at the same location and/or in the same method.

This research reduces CMV by following the guidelines of Podsakoff et al. (2003) that protecting the anonymity of respondents and improving the item scale by carefully constructing the measurement items following the theory and constructive measures of prior research. Furthermore, the questionnaires are sent to academic experts who reviewed the instrument and adjusted it to be a possible scale measure before sending it to the respondents (Eggers & Kaplan, 2013). For measure scale, this research uses more than one scale to measure each variable, in order to reduce the risk of CMV (Lindell & Whitney, 2001).

For CMV examining, Harman's single-factor analysis is applied to verify common method variance in the data; if common method variance is a serious issue, a factor analysis would shape a single factor accounting for most of the variance (Podsakoff et al., 2003). In this method, all items from every construct are loaded into a factor analysis with none rotation to verify whether one single factor emerges or whether a single general factor results in the majority of the covariance among the measures. The result shows factors accounting (46.09%) which are less than 50 percent of the total variance in data. Thus, the underlying assumptions met, a single factor does not emerge and account for the majority of the covariance. Additionally, the confirmatory factor analysis (CFA) is also performed to examine a single-factor model with all indicators (Kearns & Sabherwal, 2007) for this research. The result of single-factor model is poorer fit with the data when compares with five factor model which displays fit index as follow: $\chi 2 = 7681.263$, df = 1377, p = .000, CMIN/DF ($\chi 2$/df) = 5.578, GFI = .616, CFI = .787, NFI = .752, IFI = .787, RFI = .743, and RMSEA = .076. Therefore, these results suggested that CMV is not a serious issue and does not significantly affect the findings (Mossholder, Bennett, Kemery, & Wesolowski, 1998; Korsgaard & Roberson, 1995).

Statistical Techniques

To clarify the research questions and affirm the proposed hypotheses, the data derived from the survey is analyzed to test research hypotheses using in several statistical techniques such as descriptive statistics (e.g. frequency, percentage, mean ($\bar{X}$), standard deviation (S.D)), confirmatory factor analysis, and structural equation modeling (SEM). Because empirical evidence has indicated important several variables involving with the KMC literature, proposing the relative conceptual framework of this research is rather complex. However, to assess the whole of the causal relationships in the research model is needed to apply the statistic technique which can analyze them simultaneously. Therefore, structural equation modeling (SEM) is used as the main method of analysis to test the relationships between the constructs and determine the predictive power of the model.

SEM consists of structural (as theoretical connections among latent variables) and measurement paths (as connections between a latent variable and its indicators). Furthermore, SEM is a multivariate technique combining aspects of multiple regression and also factor analysis to estimate a series of interrelated dependence relationships simultaneously (Hair & Tripp, 1995), therefore it is utilized to investigate the model and impose the model's goodness of fit with its data. It helps to assess the network of relationships between measured items, thus it is held as an underlying model.

The model relevancy is indicated by the goodness-of-fit value between the hypothesized model and the samples' data. The statistical indexes indicated goodness-of-fit value include Chi-square, Root Mean Square Error of Approximation (RMSEA), Goodness of Fit Index (GFI), Normed Fit Index (NFI), Comparative Fit Index (CFI), Relative Fit Index (RFI), and Incremental Fit Index (IFI). Hair and others (1998) have identified that careful consideration presents assessing the model's goodness-of-fit is more a relative process than one based on an absolute criterion. For the testing results, the chi-square value should be nonsignificant to imply the hypothesized model is well-fitted with the samples' data. At a lower value than .05 is recommended for RMSEA (Hair, Black, Babin, Anderson, & Tatham, 2006). The others of the goodness-of-fit index such as GFI, NFI, CFI, RFI, and Incremental IFI are considered to the measuring range from 0 (no fit at all) to 1.00 (perfect fit), but the well-fitted level is .90 or higher

(Diamantopoulus & Siguaw, 2000). The fit indices and acceptable thresholds are showed in Table 12.

Table 12 Fit Indices and Acceptable Thresholds of Structural Equation Model Analysis

Fit Index	Descriptions	References
CMIN (χ^2)	p > .05	Diamantopoulos et al. (2000)
CMIN/DF (χ^2/df) (Absolute Fit Index)	≤ 2.00 good fit or 2.00 – 5.00 acceptable	Diamantopoulos et al. (2000), Arbuckle (2009)
GFI (Goodness of Fit Index)	> .95 perfect fit .90 – .95 acceptable	Diamantopoulos et al. (2000)
CFI (Comparative Fit Index)	> .95 perfect fit .90 – .95 acceptable	Diamantopoulos et al. (2000)
NFI (Normed Fit Index)	≥ .90	Bollen (1989), Gold et al. (1995)
IFI (Incremental Fit Index)	≥ .90	Bollen (1989), Arbuckle (2009)
RFI (Relative Fit Index)	≥ .90	Hu & Bentler (1999)
RMSEA (Root Mean Square Error of Approximation)	< .05 perfect fit .05 – .08 acceptable .09 – .10 poor fit	Schermelleh-Engel & Moosbrugger (2003), Diamantopoulos et al. (2000)

Summary

This chapter describes the research methods used to examine the relationships between constructs in this research. There are four main parts: methodology and research design, measurements of all constructs, verification of instrument, and statistical techniques. A total of 1,334 tax administrative organizations in Thailand are selected as the population and sample of this research. The collected data is analyzed by structural equation modeling (SEM).

CHAPTER IV

RESULTS

The prior chapter presented the research methods which include sample selection and data collection procedure to confirm the conceptual framework of this research. Furthermore, survey research, data analysis, and hypothesis testing were explained. This chapter illustrates the results of the hypothesis testing acquired from the statistical analysis which is divided into five parts: (1) the respondent characteristics; (2) descriptive statistics of the constructs; (3) testing the assumptions of structural equation model (i.e., Univariate normality and correlation tests); (4) structural equation modeling analysis (SEM) consisting of the measurement model and the structural model; and (5) hypotheses testing and results.

The abbreviations of all variables:

KL	is	Knowledge-Oriented Leadership
KS	is	Accumulation of Knowledge Stocks
KF	is	Regulation of Knowledge Flows
SC	is	Social Capital
CC	is	Creative Organizational Climate
OI	is	Organizational Innovativeness

The abbreviations of statistical symbols:

α	is	Coefficient alpha
AVE	is	Average Variance Extracted
β	is	Beta
CFI	is	Comparative Fit Index
CR	is	Composite Reliability
DF or df	is	Degree of freedom
CMIN/DF	is	Chi-square Mean/Degree of Freedom
GFI	is	Goodness of Fit Index
IFI	is	Incremental Fit Index
NFI	is	Normed Fit Index

r	is	Correlation Coefficients
p-value	is	Level of Marginal Significance
R^2	is	Squared Factor Loading
RFI	is	Relative Fit Index
RMSEA	is	Root Mean Square Error of Approximation
S.D.	is	Standard Deviation
S.E.	is	Standard Error
t-value	is	t-statistics
χ^2	is	Chi-square
$\bar{x}$	is	Mean

Respondent Characteristics

Demographic Profile of Respondents

The respondent profile of chiefs of the tax collection division from 784 organizations in Thailand is demonstrated in Table 13. It indicates that there are more female chiefs (72.2%) than their male counterparts (27.8%). In terms of age, a majority (36.5%) of the respondents were more than 50 years. The other age groups were distributed as follows: the range between 41 years old to 50 years old (32.7%), 30 years old to 40 years old (23.3%), and less than 30 years old (7.5%). The majority of the respondents (62.8%) were holders of a bachelor's degree. The other educational level groups were as follows: master's degree (27.7%), lower than bachelor's degree (9.2%), and higher than a master's degree (0.3%). The respondents represent various working experiences in the tax administrative organizations, with 46.7% having more than 20 years. The experiences of different working groups were as follows: less than 10 years (22.8%), 16 years to 20 years (17.2%), and 10 years to 15 years (13.3%).

Based on the collected information, this research can indicate the several key characteristics of the respondents. A majority were females of older age and with a reasonably good educational background. Almost half of the respondents owned a working experience in tax administration for more than 20 years and worked in an important position as chief of tax collection division. They preferred to clarify and understand the information in the questionnaire about knowledge-oriented leadership, knowledge management capability, and organizational innovativeness.

Table 13 Demographic Profile of Respondents

Variables	Scale	Frequency	Percent
Gender	Male	218	27.8
	Female	566	72.2
	Total	784	100.0
Age	Less than 30 years old	59	7.5
	30 - 40 years old	183	23.3
	41 - 50 years old	256	32.7
	More than 50 years	286	36.5
	Total	784	100.0
Educational level	Lower than bachelor's degree	72	9.2
	Bachelor's degree	493	62.8
	Master's degree	217	27.7
	Higher than master's degree	2	0.3
	Total	784	100.0
Working experience	Less than 10 years	179	22.8
	10 - 15 years	104	13.3
	16 - 20 years	135	17.2
	More than 20 years	366	46.7
	Total	784	100.0

Note: N = 784

Profile of Tax Administrative Organizations

The survey results of the demographic characteristics of the 784 tax administrative organizations in Table 14 indicated that 555 respondents' organizations were affiliated organizations of the Revenue Department (70.8%). For the remainders, 176 organizations were affiliated with the Excise Department (22.4%), and 53 organizations were affiliated with the Customs Department (6.8%). The 650 tax administrative offices have located in a regional area (82.9%) and 134 offices have located in the Central area (17.81%). In term of organizational level, 554 organizations were branch office (70.5%), 158 organizations were province/area office (20.2%), 35

organizations were customs house (4.5%), 22 organizations were bureau/division/ group/center (2.8%), and 16 organizations were sector/region office (2.0%). The majority, 585 tax administrative organizations had a number of officers less than 30 officers (74.6%), 81 organizations had more than 100 officers (10.3%), 60 organizations had 51 to 100 officers (7.7%), and 58 organizations had the officers between 31 to 50 officers (7.4%). For award concerning knowledge management or innovation, 221 tax administrative organizations had ever received (28.2%) while 563 organizations had not ever received (71.8%).

Table 14 presents the tax administrative organization profile which the majority of respondents from the Revenue Department, located in the regional area, to be the branch office, and to have a number of officers less than 30. These profiles determined that all information from each organization can be used as a proxy of population and a useful measure in this research.

Table 14 Profile of Tax Administrative Organizations

Variables	Scale	Frequency	Percent
Affiliated organization	Revenue Department	555	70.8
	Excise Department	176	22.4
	Customs Department	53	6.8
	Total	784	100.0
Location of office	Central area	134	17.1
	Regional area	650	82.9
	Total	784	100.0
Organizational level	Bureau/division/group/center	22	2.8
	Sector/region office	16	2.0
	Province/Area office	158	20.2
	Branch office	553	70.5
	Customs house	35	4.5
	Total	784	100.0

Table 14 Profile of Tax Administrative Organizations (Continued)

Variables	Scale	Frequency	Percent
Number of officers	Less than 30 officers	585	74.6
	31 - 50 officers	58	7.4
	51 - 100 officers	60	7.7
	More than 100 officers	81	10.3
	Total	784	100.0
Experience in award-winning for KM or innovation	Yes	221	28.2
	No	563	71.8
	Total	784	100.0

Note: N = 784

Descriptive Statistics of the Constructs

In order to understand the overall consequence of knowledge-oriented leadership of the high-level management understudy, a descriptive analysis was conducted. Table 15 shows the mean, standard deviation, minimum and maximum score of each construct in this study. The level of implementation of knowledge-oriented leadership was labeled as possessing a high or low degree based on the value of the construct's mean score. Identically, the knowledge management capability, social capital, creative organizational climate, and organizational innovativeness constructs were labeled as either having a high or low rating in knowledge-oriented leadership construct.

The research results display a mean value of knowledge-oriented leadership ($\bar{x}$ = 4.22) is a high level. This means that knowledge-oriented leadership is important and focused on for their organization. Furthermore, the minimum and maximum values of the knowledge-oriented leadership are 2.25 to 5.00 accordingly with a standard deviation equal to 0.48.

For knowledge management capability, a mean value of both accumulation of knowledge stocks ($\bar{x}$ = 5.66) and regulation of knowledge flows ($\bar{x}$ = 5.57) are high level. The minimum and maximum values of the accumulation of knowledge stocks

and regulation of knowledge flows are between 2.40 to 7.00 and 2.11 to 7.00 respectively including a standard deviation is 0.82. Therefore, these results imply that the chiefs of tax collection division in tax administrative organizations agree that knowledge-oriented leadership is very important for organizations and generate greater knowledge management capability and innovativeness.

The mean value of social capital and creative organizational climate constructs are high degree. The average values of these constructs are 5.72 and 5.51 accordingly with a standard deviation equal to 0.84 and 0.94. Furthermore, these constructs have the minimum and maximum values between 3.00 to 7.00 and 1.83 to 7.00 respectively. This may indicate that the chiefs of tax collection division in tax administrative organizations perceived social capital and creative organizational climate in an organization to be important to their operation.

Lastly, organizational innovativeness as the consequence construct, it possesses a mean value is also high level ($\overline{x}$ = 4.23) and a standard deviation is 0.52. The minimum and maximum values of organizational innovativeness are between 2.33 to 5.00. These findings represent the middle leaders have awareness of organizational innovativeness to encourage better outcomes for organizations.

Table 15 Descriptive Statistics of the Constructs

Constructs	Mean	S.D.	Minimum	Maximum
Knowledge-Oriented Leadership	4.22	0.48	2.25	5.00
Accumulation of Knowledge Stocks	5.66	0.82	2.40	7.00
Regulation of Knowledge Flows	5.57	0.82	2.11	7.00
Social Capital	5.72	0.84	3.00	7.00
Creative Organizational Climate	5.51	0.94	1.83	7.00
Organizational Innovativeness	4.23	0.52	2.33	5.00

Testing the Assumptions of Structural Equation Model

MOS (Analysis of Moment Structures) version 24 is applied to evaluate the construct measures and model fitting for this research. The analysis of mean and covariance structures is qualified in AMOS. Furthermore, the AMOS program provides numerous benefits such as the easy method of use, flexibility, and many additional options (i.e., treatment of missing data, multigroup invariance analysis, and bootstrapping). The method approach used in AMOS is based on maximum likelihood estimation (MLE), thus is theoretically based (Arbuckle & Wothke, 1999). Besides, when AMOS is based on the MLE, it is required the data to meet specific assumptions such as the relevance of continuous and normality distributed endogenous variables. Furthermore, correlation analysis is used to verify the multicollinearity problems for this research. Accordingly, initial checks of necessary assumptions are required before testing the hypotheses.

Univariate Normality – Skewness and Kurtosis of Constructs

The normality test is shown to gauge skewness and kurtosis along with the standard error of skewness and kurtosis. Skewness is a measurement of how irregular the probability distribution related to a normal distribution. Kurtos is a process to assess the integrated distribution of data in the tails and it must also operate before proving a hypothesis. In terms of absolute values, skewness is considered as highly presented if it is greater than 3.00 (Kline, 2005). Simultaneously, the absolute values of kurtosis greater than 2.00 can be considered as problematic (George & Mallery, 2010). Skewness and kurtosis values are used to verify the univariate normality of knowledge-oriented leadership, knowledge management capability, and organizational innovativeness including two moderator constructs are social capital and creative organizational climate. The results of the normality test are thoroughly displayed in Table 16.

The kurtosis and skewness normality tests have to be calculated by a z-test that use to excess by the standard error for the small-size samples ($n<50$) and the medium-sized samples ($50< n < 300$). The data distribution will be concluded as being non-

normal if the samples have an absolute z-value of over 1.96 for the small-size samples and over 3.29 for the medium-sized samples. The range at which the skewness absolute variable lies is ±1.00 and it is less than ± 3.00 (Kim, 2013). It also tends to be recognized when the standard error of skewness and kurtosis is lower than 3.29, then distribution is considered normal.

However, this research has a large sample size (n = 784). Kim (2013) has suggested that absolute skewness and kurtosis values are considered to assess normality distribution instead of z-test for a large sample size (N > 300). As the standard errors get smaller when the sample size increases, z-tests under the null hypothesis of normal distribution tend to be easily rejected in large samples with distribution which may not substantially differ from normality. The absolute skewness value of the constructs is between .612 to .924 which is not greater than 2.00. Furthermore, the absolute kurtosis value is between .127 to .461 which is not greater than 7.00. Thus, these absolute values of skewness and kurtosis are used to reference for determining substantial normality.

Table 16 The Skewness and Kurtosis Values of the Constructs

Constructs	**Skewness**	**S.E. Skewness**	**Kurtosis**	**S.E. Kurtosis**
KL	-.844	.147	.302	.294
KS	-.845	.147	.412	.294
KF	-.841	.147	.398	.294
SC	-.924	.147	.461	.294
CC	-.828	.147	.239	.294
OI	-.612	.147	.127	.294

Correlation Analysis

Correlation analysis was used as a basis for measuring the strength of linear dependence between two variables using the covariance of the two variables. A bivariate-correlational analysis of Pearson's correlation was proceeding in this research for investigating the relationships between variables and checking the multicollinearity occurrence for the value of the correlation. The values of Pearson's correlation range

between -1.00 and 1.00 (Cohen, Polk, & Vuolteenaho, 2003). Therefore, to verify that whether a relationship between the constructs (knowledge-oriented leadership, knowledge management capability, social capital, creative organizational climate, and organizational innovativeness) existed, the Pearson correlation analysis has been undertaken.

In this research, there are two objectives for testing the correlation of all variables by a bivariate correlation analysis of Pearson's are (1) to explore the relationships among variables, and (2) to verify the multicollinearity problem which exists when inter-correlation between independent variables exceeds 0.80 (Hair, Black, Babin, Anderson, & Tatham, 2006). The correlation matrix presents the correlations among six constructs (knowledge-oriented leadership, accumulation of knowledge stocks, regulation of knowledge flows, social capital, creative organizational climate, and organizational innovativeness), which indicate the relative strength and direction of a linear relationship among these constructs in the matrix. Table 17 shows the correlation matrices gathered from data dealing with the middle leaders of tax administrative organizations in Thailand.

The bivariate correlation procedure is subject to a two-tailed test and provides the significance at the .01 level ($p < .01$). In this study, the correlation matrix displays the relationship between the two variables ($r = .514$ to $.726$, $p < .01$), which each pair of relations is lower than .80 (Hair et al., 2006). Accordingly, this result indicates no multicollinearity problems.

Table 17 Correlation Matrix of All Constructs

Constructs	KL	KS	KF	SC	CC	OI
KL	1.000					
KS	.603**	1.000				
KF	.598**	.726**	1.000			
SC	.573**	.619**	.615**	1.000		
CC	.576**	.524**	.568**	.514**	1.000	
OI	.615**	.684**	.711**	.692**	.630**	1.000

Note: N = 784

** Correlation is significant at the .01 level (2-tailed)

Additionally, to confirm no multicollinearity problem, variance inflation factor (VIF), tolerance value, and condition index of constructs were examined. The results show that VIF values are less than 10 (Miles & Shevlin, 2001) and tolerance value is greater than 0.2 (O'Brien, 2001). Furthermore, collinearity diagnosis presented that condition index (CI) of all dimensions are less than 30, and the highest condition index equals 27.476. These results displayed in Table 18.

Table 18 Variance Inflation Factor (VIF) and Tolerance Value

Constructs	VIF	Tolerance
KL	1.631	.613
KS	4.187	.239
KF	4.145	.241
SC	2.964	.337
CC	3.090	.323

Note: Dependent variable: OI
Condition index (CI) = 27.476

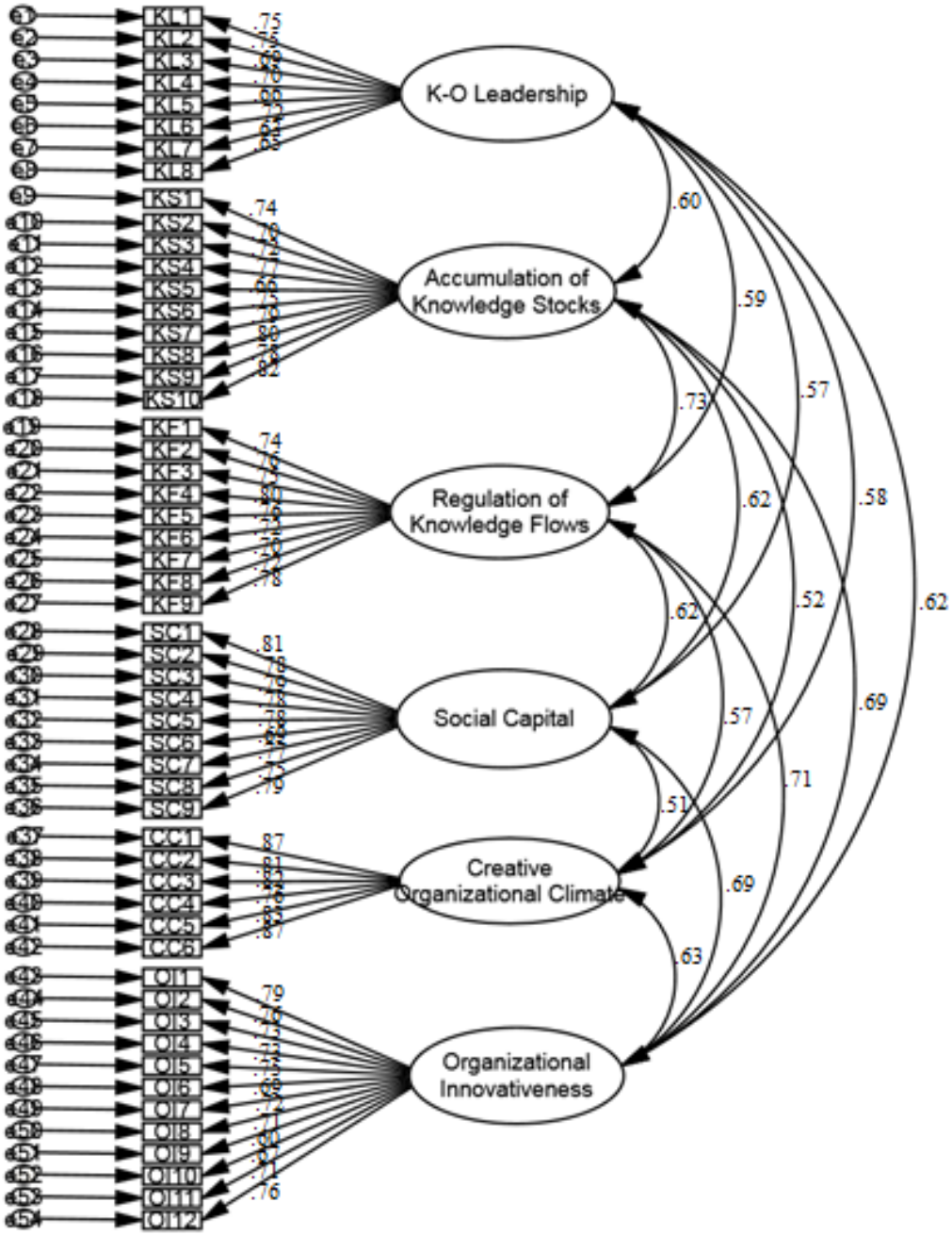
Structural Equation Modeling Analysis

The structural equation modeling (SEM) is performed in order to test the hypotheses proposed in this research. Normally, SEM takes two important terms of the analysis which is a series of structural equations provide the causal processes under study, and structural relation can be modeled pictorially to enable a clearer conceptualization of the theory under study (Byrne, 2001). Additionally, Byrne (2001) has indicated that SEM offers a unique analysis as well as considers the questions of both measurement and prediction. The process of SEM is divided into two stages. In the first stage, the measurement model is evaluated by using confirmatory factor analysis (CFA) which includes the assessment of construct validity by parameter estimation method in each construct measurement model. It conducts with the latent variables and their indicators to provide a confirmatory assessment of convergent and discriminant validity (Anderson & Gerbing, 1988). In another stage, a structural model is provided to capture the estimation of the measurement models and their structural/path relations.

The Measurement Model - Confirmatory Factor Analysis (CFA)

Confirmatory factor analysis (CFA) is a type of factor analysis as a statistical procedure for investigating the relationship between a set of observed and latent variables (Byrne, 2001). Regarding the measurement, the pure CFA model refers to a measurement model with an unmeasured covariance between each possible pair of the latent variables, and the measurement model is also part of the SEM with respect to the latent variable and their indicators. Confirmatory factor analysis purposed to confirm that each of the questions measured the construct as designed which demonstrated to examining validity of constructs in research model. The information acquired from the confirmatory factor analysis also helped determine whether any questions should be removed and reanalyze to consider only the significant factors.

Figure 3 illustrates that CFA is conducted for all variables in this research and its results suggest that this measurement model fits the data well by indicating fit indices as follow: absolute fit index (χ^2/df) equals 1.675, root mean square error of approximation (RMSEA) equals .029, goodness of fit index (GFI) equals .903, comparative fit index (CFI) equals .970, normed fit index (NFI) equals .929, incremental fit index (IFI) equals .970, and relative fit index (RFI) equals .923.



χ^2 = 2216.437, DF = 1323, p = .000

CMIN/DF = 1.675, GFI = .903, CFI = .970,

NFI = .929, IFI = .970, RFI = .923, RMSEA = .029

Figure 3 Confirmatory Factor Analysis

The results of the factor loading, squared multiple correlations, composite reliability, and average variance extracted (AVE) for verifying the construct validity of all variables are presented in Table 19.

Table 19 Factor Loading, Squared Multiple Correlations, Composite Reliability, and Average Variance Extracted

Item	Factor Loading			R^2	CR	AVE
	Loading	S.E.	t-value			
KL:						
KL1	.752	-	-	.566	.882	.484
KL2	.750	.052	20.098***	.563		
KL3	.693	.047	18.524***	.480		
KL4	.703	.049	21.350***	.494		
KL5	.655	.047	17.738***	.429		
KL6	.715	.049	18.582***	.511		
KL7	.633	.045	19.764***	.401		
KL8	.653	.046	17.319***	.426		
KS:						
KS1	.737	-	-	.543	.929	.570
KS2	.701	.042	23.888***	.491		
KS3	.722	.049	22.514***	.521		
KS4	.771	.047	22.999***	.594		
KS5	.656	.050	18.311***	.430		
KS6	.754	.051	21.205***	.569		
KS7	.793	.049	22.334***	.629		
KS8	.797	.048	22.566***	.635		
KS9	.781	.051	21.138***	.610		
KS10	.820	.049	23.307***	.672		

Note: *** significance level at 0.001

Table 19 Factor Loading, Squared Multiple Correlations, Composite Reliability, and Average Variance Extracted (Continued)

Item	Factor Loading			R^2	CR	AVE
	Loading	S.E.	t-value			
KF:						
KF1	.738	-	-	.545	.920	.561
KF2	.764	.042	24.219***	.584		
KF3	.747	.043	23.779***	.558		
KF4	.803	.046	23.070***	.645		
KF5	.764	.047	21.846***	.584		
KF6	.721	.046	20.496***	.520		
KF7	.695	.047	19.671***	.483		
KF8	.720	.049	20.453***	.518		
KF9	.783	.049	22.416***	.613		
SC:						
SC1	.806	-	-	.650	.929	.592
SC2	.782	.034	28.795***	.612		
SC3	.786	.042	24.798***	.618		
SC4	.775	.042	24.257***	.601		
SC5	.777	.043	24.323***	.604		
SC6	.678	.043	20.465***	.460		
SC7	.768	.042	23.959***	.590		
SC8	.750	.043	23.227***	.563		
SC9	.794	.046	25.151***	.630		
CC:						
CC1	.866	-	-	.750	.929	.686
CC2	.809	.032	28.856***	.654		
CC3	.823	.033	29.755***	.677		
CC4	.759	.037	25.872***	.576		
CC5	.833	.036	27.913***	.694		
CC6	.874	.034	33.180***	.764		

Table 19 Factor Loading, Squared Multiple Correlations, Composite Reliability, and Average Variance Extracted (Continued)

Item	Factor Loading			R^2	CR	AVE
	Loading	S.E.	t-value			
OI:						
OI1	.790	-	-	.624	.927	.516
OI2	.756	.033	27.685***	.572		
OI3	.725	.041	21.665***	.526		
OI4	.726	.041	21.705***	.527		
OI5	.752	.041	22.675***	.566		
OI6	.691	.041	20.473***	.477		
OI7	.718	.041	21.444***	.516		
OI8	.712	.040	21.295***	.507		
OI9	.595	.045	17.187***	.354		
OI10	.669	.042	19.703***	.448		
OI11	.705	.041	20.941***	.497		
OI12	.764	.039	23.211***	.584		

Note: *** significance level at 0.001

The Structural Model

The structural model is the process of the second stage of the SEM following the measurement model stage. After the measurement model has presented the links between the latent variables and the observed measures by the confirmatory factor analysis (CFA) model, the structural model depicts the links among the latent variables themselves. Actually, the measurement model and the structural model are two components of the full latent variable model. The full model means allowing for the specification of the regression structure among the latent variables. Accordingly, the researcher able to set a hypothesis in this model that indicates the effect of one latent construct on another in the modeling of causal direction. Ordinarily, the stage of estimating the model's parameter and examining the structural relationships among hypothesized constructs occurs in this stage.

Figure 4 demonstrates the transformation of the hypothesized conceptual model in this research into an AMOS graphics program and the overview diagram shows the structural model as the base model.

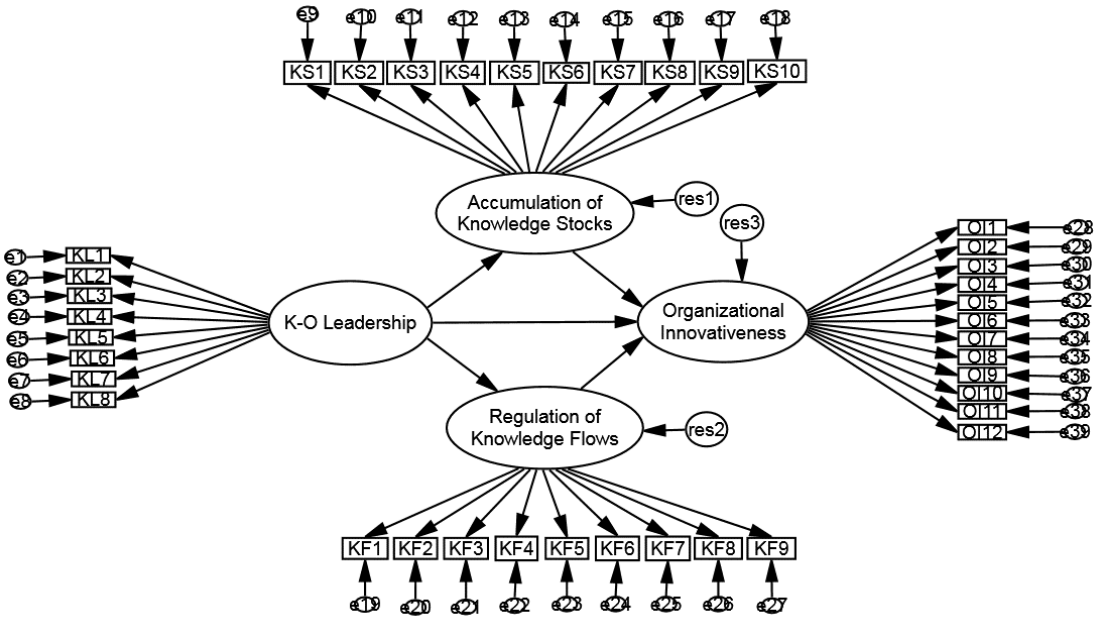


Figure 4 The Structural Model of Main Effect

The results of the model fit evaluation of knowledge-oriented leadership, accumulation of knowledge stocks, and regulation of knowledge flows based on the organizational innovativeness framework are displayed the testing goodness-of-fit indices for the structural model in Table 20. The value of CMIN/DF equals 1.786 which is lower than 2.00. Moreover, the values of other goodness of fit indexes are higher than .90 (i.e., GFI = .919, CFI = .967, NFI = .929, IFI = .967, RFI = .922) including RMSEA value equals .032 which is lower than .05.

Table 20 Testing Goodness-of-fit Indices for the Structural Model

Goodness-of-fit Indices	Acceptable Criteria	Results
CMIN/DF (χ^2/df)	≤ 2.00	1.786
GFI	≥ .90	.919
CFI	≥ .90	.967
NFI	≥ .90	.929
IFI	≥ .90	.967
RFI	≥ .90	.922
RMSEA	< .05	.032

Hypotheses Testing and Results

The results of the structural equation modeling analysis are shown in this section. The causal relationships were investigated among knowledge-oriented leadership, accumulation of knowledge stocks, regulation of knowledge flows, social capital, creative organizational climate, and organizational innovativeness by using a statistical package. The results were verified for reliability and validity including the fit of the measurement model was finished. Simultaneously, the structural model of this research was modified to fit with the analyzed data and displayed the fit index in the previous section. Thus, hypotheses testing and results are presented in this section.

The results of the seven hypotheses following Figure 5, as previously discussed, the proposed model shows the structural relationships among all constructs. Therefore, hypotheses 1 to 7 can be tested.

Hypothesis 1 tests the influence of antecedent which is knowledge-oriented leadership on the accumulation of knowledge stocks.

Hypothesis 2 verifies the direct effects of knowledge-oriented leadership on the regulation of knowledge flows.

Hypothesis 3 tests the relationship between the accumulation of knowledge stocks and organizational innovativeness.

Hypothesis 4 investigates the relationship of regulation of knowledge flows on organizational innovativeness.

Hypothesis 5 investigates the relationship of knowledge-oriented leadership on organizational innovativeness.

Hypothesis 6 examines the mediating effect of accumulation of knowledge stocks on the relationship between knowledge-management leadership and organizational innovativeness.

Hypothesis 7 examines the regulation of knowledge flows as a mediator on the relationship between knowledge-management leadership and organizational innovativeness.

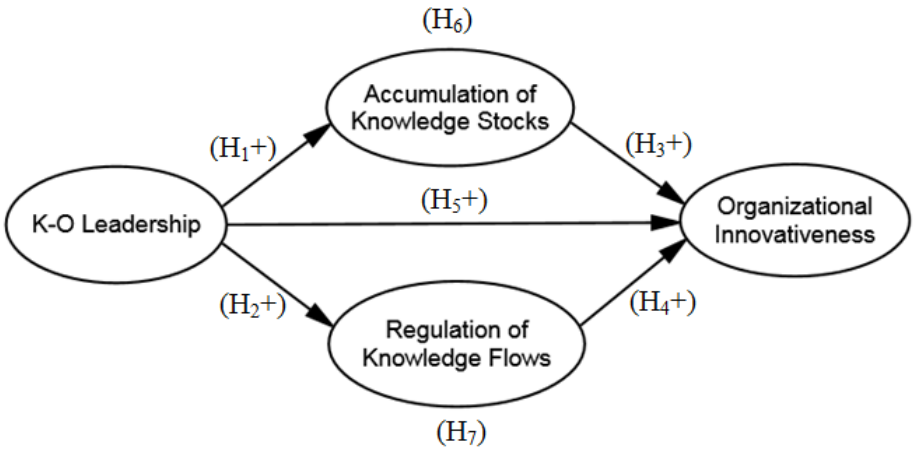
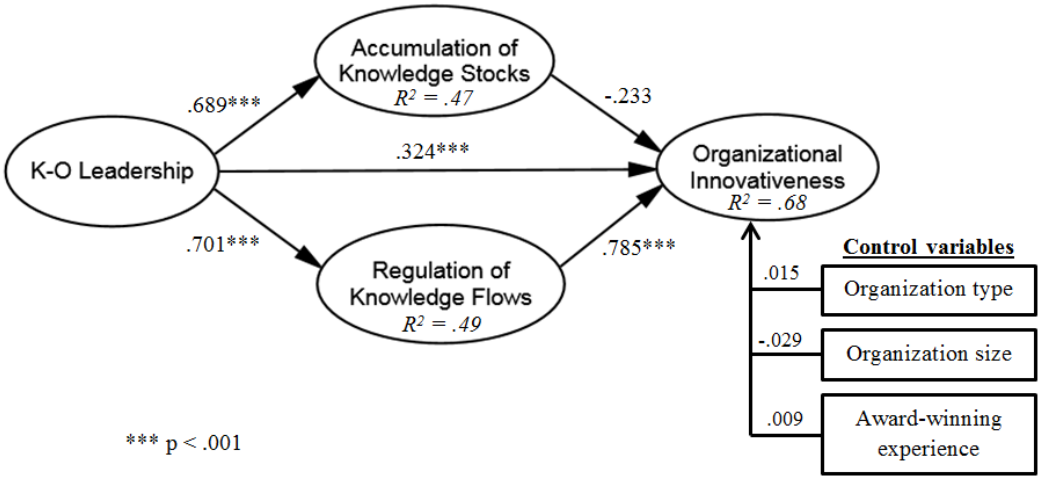


Figure 5 The Hypotheses Testing Model

This research concentrates on both accumulation of knowledge stocks and regulation of knowledge flows which are two components of the KMC construct, its external antecedents (i.e., knowledge-oriented leadership), and its consequences (i.e., organizational innovativeness), the overall hypotheses investigate the details of the KMC construct in each dimension. When the model has considered being fit with analyzed data, the structural model is constructed and the parameters are estimated based on the proposed model and hypotheses. Additionally, the result of the model assessment and parameter estimation is illustrated in Figure 6



χ^2 = 1416.286, DF = .793, p = .000

CMIN/DF = 1.786, GFI = .919, CFI = .967,

NFI = .929, IFI = .967, RFI = .922, RMSEA = .032

Figure 6 The Structural Model of Knowledge-oriented Leadership, Knowledge Management Capability, and Organizational Innovativeness with Standardized Parameter Estimates and Statistical Significance

The structural model fitting is assessed by criteria of main fit indices such as CMIN/DF, GFI, CFI, NFI, IFI, RFI, and RMSEA and RMSEA. The results of AMOS output in Table 20 reveal that the model has a good fit. Then the hypothesized model is estimated to examine the structural relationships. As formerly referred to, the relationships among knowledge-oriented leadership, two components of KMC, and organizational innovativeness are investigated and appraised. Based on the main criteria, all hypotheses are examined by analyzing the t-value at a significance level of 0.05. The summary of the relationships in the preliminary structural model with the results of parameter estimation and test of significance (p-value) is shown in Table 21.

Table 21 Standardized Structural Equation Parameter Estimates and t-value of Knowledge-oriented Leadership, Knowledge Management Capability, and Organizational Innovativeness Framework

Hypotheses	Standardized Coefficients (β)	S.E.	t-value	p-value
H1: KL→KS	.689	.066	15.069***	.000
H2: KL→KF	.701	.069	15.355***	.000
H3: KS→OI	-.233	.112	-1.579	.114
H4: KF→OI	.785	.049	7.188***	.000
H5: KL→OI	.324	.112	5.091***	.000

Note: KL is knowledge-oriented leadership; KS is accumulation of knowledge stocks; KF is regulation of knowledge flows; and OI is organizational innovativeness

*** significance level at .001, ** significance level at .01,

* significance level at .05

Knowledge-Oriented Leadership and Accumulation of Knowledge Stocks

The hypothesis purposes to test the main effects of the proposed constructs. This presents that there is significance in the structural relationship between knowledge-oriented leadership and the accumulation of knowledge stocks (hypothesis 1) at p-value < .001. Knowledge-oriented leadership significantly and positively influence the accumulation of knowledge stocks (t-value = 15.069, p-value = .000). For estimated regression weight, knowledge-oriented leadership positively influences the accumulation of knowledge stocks with path standardized coefficient (β = .689). The standardized coefficient's result of knowledge-oriented leadership indicates the contribution of knowledge-oriented leadership intensely explains the accumulation of knowledge stocks. *Thus, hypothesis 1 is supported.*

Knowledge-Oriented Leadership and Regulation of Knowledge Flows

The result of examining hypothesis 2 shows a significant and positive relationship between knowledge-oriented leadership and the regulation of knowledge flows. Knowledge-oriented leadership significantly and positively influence the regulation of knowledge flows (t-value = 15.355, p-value = .000). The standardized coefficient of knowledge-oriented leadership is high with positive direction (β = .701) which indicates the contribution of knowledge-oriented leadership widely explains the regulation of knowledge flows at the significance level of .001. *Thus, hypothesis 2 is supported.*

Accumulation of knowledge Stocks and Organizational Innovativeness

The results of the structural model disclose that the relationship between the accumulation of knowledge stocks and organizational innovativeness (hypothesis 3) is not significant at the significance level of .05 (t-value = -1.579, p-value = .114). The standardized coefficient of accumulation of knowledge stocks is negative and not significant (β = -.233). This shows the contribution of the accumulation of knowledge stocks is not significantly determined by organizational innovativeness. *Thus, hypothesis 3 is not supported*.

Regulation of Knowledge flows and Organizational Innovativeness

The structural model points out the result of the relationship between the regulation of knowledge flows and organizational innovativeness (hypothesis 4) that is positively significant at the significance level of .001 (t-value = 5.091, p-value = .000). The standardized coefficient of the regulation of knowledge flows is high with a positive direction (β = .785). This means the regulation of knowledge flows strongly affect organizational innovativeness. *Thus, hypothesis 4 is supported*.

Knowledge-Oriented Leadership and Regulation of Knowledge Flows

The testing in Table 21 discloses that the relationship between knowledge-oriented leadership and organizational innovativeness (hypothesis 5) is statistically significant (t-value = 7.188, p-value = .000). The standardized coefficient of knowledge-oriented leadership is a positive direction (β = .324). The result shows knowledge-oriented leadership positively and significantly influences organizational innovativeness at the significance level of .001. *Thus, hypothesis 5 is supported*.

Mediation Effect Testing

Beyond the main hypothesis testing, this research has proposed two components of KMC (i.e., accumulation of knowledge stocks and regulation of an organization's knowledge flows) are mediators and determined hypotheses for testing presented in figure 6. In order to better understand the mediating effect of accumulation of knowledge stocks and regulation of an organization's knowledge flows, the research elaborates and provides further examining for obvious discussion. Testing the mediating effect of KMC is examined in two relationships. First, the accumulation of knowledge stocks mediates the relationship between knowledge-oriented leadership and organizational innovativeness. Another, regulation of knowledge flows mediates the relationship between knowledge-oriented leadership and organizational innovativeness.

The Mediating Effect of KMC on Knowledge-Orientated Leadership and Organizational Innovativeness

According to testing the mediating effect, Baron and Kenny's (1986) criteria is used for this research which is divided into two parts. In the first part, the accumulation of knowledge stocks is tested as a mediator (hypothesis 6) following these criteria: (1) the knowledge-oriented leadership need to significantly influence the accumulation of knowledge stocks; (2) knowledge-oriented leadership need to significantly affect organizational innovativeness in the absence of the accumulation of knowledge stocks; (3) the accumulation of knowledge stocks has a significant unique effect on organizational innovativeness; and (4) the effect of knowledge-oriented leadership on organizational innovativeness devaluates upon the addition of the accumulation of knowledge stocks to the model. The result of this research demonstrates the accumulation of knowledge stocks has not a significant effect on organizational innovativeness which does not follow Baron and Kenny's (1986) criteria. This implies that the accumulation of knowledge stocks does not play a mediating role in the relationship between knowledge-oriented leadership and organizational innovativeness, *thus, hypothesis 6 is not supported.*

In another part, the mediation effect of regulation of knowledge flows (hypothesis 7) is verified following these criteria: (1) the knowledge-oriented leadership needs to significantly affect the regulation of knowledge flows; (2) knowledge-oriented leadership need to significantly affect organizational innovativeness in the absence of the regulation of knowledge flows; (3) the regulation of knowledge flows has a significant unique effect on organizational innovativeness; and (4) the effect of knowledge-oriented leadership on organizational innovativeness devaluates upon the addition of the regulation of knowledge flows to the model. Comparing the structure model of knowledge-oriented leadership on organizational innovativeness without a mediator to mediator possessed show the estimated relationship coefficient is shrunk upon.

These criteria can be used informally to determine whether or not mediation will occur. The mediation test can be done via SEM analysis by testing direct, indirect, and total effects of relationship paths. Table 22 demonstrates the results of parameter estimation for testing the mediating effect of the regulation of knowledge stocks among knowledge-oriented leadership and organizational innovativeness with direct, indirect, and total effects. The results present that knowledge-oriented leadership can influence organizational innovativeness through the regulation of knowledge flows by the regression coefficients for the indirect relationship is estimated at .550. The research results show significantly the mediating effect of the regulation of knowledge flows by attaining all of Baron and Kenny's (1986) criteria. These results reveal that regulation of knowledge flows is a partial mediator, *thus, hypothesis 7 is supported.*

Table 22 The Standardized Parameter Estimation for Mediation Effect

Path	Standardized coefficients			t-value
	Total effects	Direct effects	Indirect effects	
KL→ KS	.689	.689	-	15.069***
KL→KF	.701	.701	-	15.355***
KS → OI	-.233	-.233	-	-1.579
KF → OI	.785	.785	-	5.091***
KL→ OI	.714	.324	.390	7.188***
H6: KL→ KS→OI	-	-	-.160	-1.563
H7: KL→ KF→OI	-	-	.550	4.815***

Note: KL is knowledge-oriented leadership; KS is accumulation of knowledge stocks; KF is regulation of knowledge flows; and OI is organizational innovativeness

*** significance level at .001

Moderating Effect Testing

In the previous section, the hypotheses of the main effect and the mediating effect were tested and displayed their result. However, this research has also proposed the investigation of the moderating role of social capital and creative organizational climate which shows as Figure 7. In addition, the model fit assessment of knowledge-oriented leadership and KMC that is moderated by social capital including KMC and organizational innovativeness that is moderated by creative organizational innovativeness shown in Figure 8.

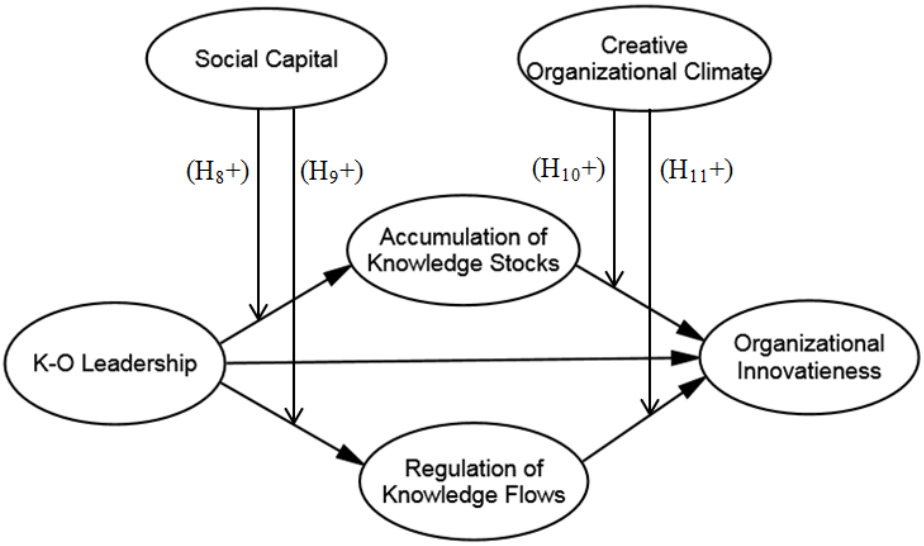
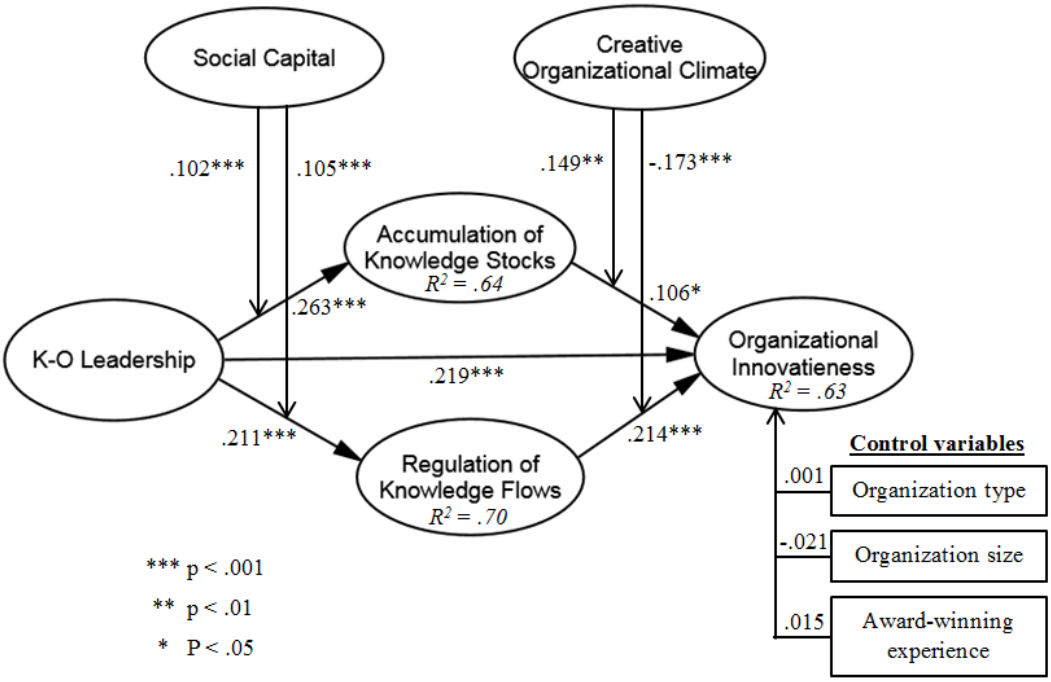


Figure 7 The Moderating Effect Testing Model

The ratio of Chi-square values to the degree of freedom is between 2.00 - 5.00 (2.617), which shows a good fit of a model among the observed data. Moreover, fit indices, GFI (.983), CFI (.992), NFI (.987), IFI (.992), and RFI (.972), are above the cut-off criteria (.90), and RMSEA values is between .05 - .08 (.045). In summary, these indicators demonstrate a good fit of the structural model of the moderating effect testing. From the analyzed results obtained in this study, it can be concluded that a structural model of the knowledge-oriented leadership moderated by social capital to influence KMC, and a structural model of KMC moderated by a creative organizational climate to affect organizational innovativeness consistent fits with the empirical data as shown in Figure 8. Additionally, the parameter estimation and the significance test for the moderating effect are presented in Table 23.



χ^2 = 78.509, DF = 30, p = .000

CMIN/DF = 2.617, GFI = .983, CFI = .992,

NFI = .987, IFI = .992, RFI = .972, and RMSEA = .045

Figure 8 The Structural Model for Moderating Effect Testing with Estimated Relationship Coefficients

Table 23 Standardized Structural Equation Parameter Estimates and t-value of the Moderating Effect of Social Capital and Creative Organizational Climate

Relationship Path	Standardized Coefficients (β)	S.E.	t-value	p-value
Exogenous Constructs				
KL→KS	.263	.028	9.347***	.000
KL→KF	.211	.026	8.206***	.000
KL→OI	.219	.028	7.705***	.000
KL*SC→KS	.102	.023	3.702***	.000
KL*SC→KF	.105	.021	4.206***	.000
Endogenous Constructs				
KS→OI	.106	.046	2.312*	.021
KF→OI	.214	.052	4.361***	.000
KS*CC→OI	.149	.043	2.800**	.005
KF*CC→OI	-.173	.042	-3.221***	.001

Note: KL is knowledge-oriented leadership; KS is accumulation of knowledge stocks; KF is regulation of knowledge flows; and OI is organizational innovativeness

*** significance level at .001, ** significance level at .01,

* significance level at .05

The Moderating Effect of Social Capital on Knowledge-Oriented Leadership and KMC

Figure 8 shows the path model of knowledge-oriented leadership moderated by social capital that affects a component of KMC (i.e., accumulation of knowledge stocks) as hypothesis 8. The results indicate that social capital moderates knowledge-oriented leadership and the accumulation of knowledge stocks with standardized coefficients (β = 102, t-value = 3.702, and p = .000). According to the above result, this implies that social capital plays a moderating role in the relationship between knowledge-oriented leadership and the accumulation of knowledge stocks. *Thus, hypothesis 8 is supported.*

For hypothesis 9, social capital is examined as a moderator of knowledge-oriented leadership and another one component of KMC (i.e., the regulation of knowledge flows). The result discloses that the relationship between knowledge-oriented leadership and the regulation of knowledge flows is moderated by social capital with a standardized coefficient (β = .105, t-value = 4.206, and p = .000). The results can be summarized that social capital is a moderator of this relationship. *Thus, hypothesis 9 is supported*.

The Moderating Effect of Creative Organizational Climate on KMC and Organizational Innovativeness

Hypothesis 10 posited a relationship between the accumulation of an organization's knowledge stocks moderated by a creative organizational climate based on organizational innovativeness. The results show a positively supported hypothesis with a standardized coefficient (β = .149, t-value = 2.800, and p = .005). According to these results, a creative organizational climate displays a moderating role in the relationship between the accumulation of knowledge stocks and organizational innovativeness. *Thus, hypothesis 10 is supported.*

In this section, creative organizational climate is also verified the moderating effect of the relationship between the regulation of knowledge flows and organizational innovativeness (hypothesis 11). The survey result indicates that a creative organizational climate negatively moderates the relationship between the regulation of knowledge flows and organizational innovativeness with a standardized coefficient (β = -.173, t-value = -3.221, and p = .001). This result is inconsistent with previous research in which the creative organizational climate was a decisive factor that positively affected organizational innovativeness. In this research hypothesis, the creative organizational climate was proposed to play a moderating role in the positive direction. *Thus, hypothesis 11 is not supported.*

Summary

This chapter clarifies the results of data analysis in this research. There are five main parts. The first part indicates the demographic profile of respondents and the profile of tax administrative organizations by frequency and percentage data. The second part describes and discusses the descriptive statistics include Mean ($\bar{x}$), Standard Deviation (S.D.), and minimum and maximum of data. The third part explains the structural equation modeling analysis (SEM) into two steps: (1) confirmatory factor analysis (CFA) shows the values of the factor loading, t-value, p-value, R2, C.R., and AVE when a model to be fit by considering Chi-square value, the goodness of fit index (GFI, CFI, NFI, IFI, and RFI), and RMSEA; (2) the structural model for hypothesis testing is displayed. The next part is related to testing the assumptions of the structural equation model by univariate normality analysis and correlation analysis. Skewness and kurtosis of constructs do not exceed the criteria that present to be distribution normality. Furthermore, the correlation of constructs is lower than .80 which has not multicollinearity problem. The final part describes the hypotheses testing and results into two subparts consisting of main hypotheses testing including mediation effect testing, and moderating effect testing.

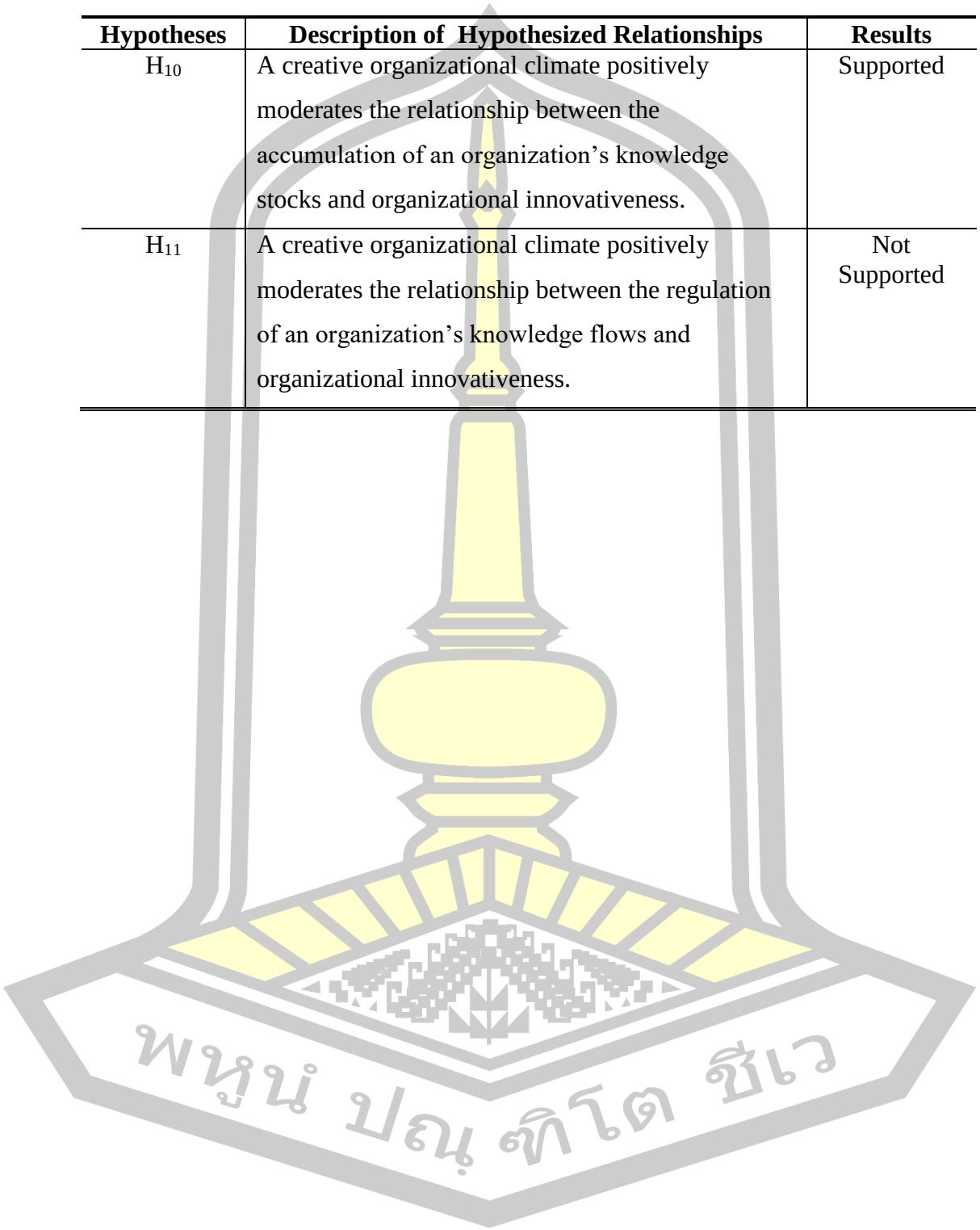
The results of the main hypotheses testing present that hypothesis 1, hypothesis 2, hypothesis 4, and hypothesis 5 are supported, only hypothesis 3 is not supported. Furthermore, the mediation effect testing shows that the accumulation of knowledge stocks is not a mediator of the relationship between knowledge-oriented leadership and organizational innovativeness (hypothesis 6), while the regulation of knowledge flows plays the mediating role of the above relationship (hypothesis 7). Additionally, moderating effect testing demonstrates that social capital is the moderator of the relationship between knowledge-oriented leadership and two components of KMC (hypothesis 8 and hypothesis 9). Furthermore, a creative organizational climate positively moderates the relationship between the accumulation of knowledge stocks and organizational innovativeness (hypothesis 10), while it negatively moderates the relationship between the regulation of knowledge flows and organizational innovativeness (hypothesis 11). Table 24 provides a summary of the results of hypotheses testing.

Table 24 Summary of Hypotheses Testing Results

Hypotheses	Description of Hypothesized Relationships	Results
H_1	Knowledge-oriented leadership positively influences the accumulation of an organization's knowledge stocks.	Supported
H_2	Knowledge-oriented leadership positively influences the regulation of an organization's knowledge flows.	Supported
H_3	The accumulation of an organization's knowledge stocks positively influence organizational innovativeness.	Not Supported
H_4	The organization's knowledge flows positively influence organizational innovativeness.	Supported
H_5	Knowledge-oriented leadership positively influences organizational innovativeness.	Supported
H_6	The accumulation of an organization's knowledge stocks mediates the relationship between knowledge-oriented leadership and organizational innovativeness.	Not Supported
H_7	The regulation of an organization's knowledge flows mediates the relationship between knowledge-oriented leadership and organizational innovativeness.	Supported
H_8	Social capital positively moderates the relationship between knowledge-oriented leadership and the accumulation of an organization's knowledge stocks.	Supported
H_9	Social capital positively moderates the relationship between knowledge-oriented leadership and the regulation of an organization's knowledge flows.	Supported

Table 24 Summary of Hypotheses Testing Results (Continued)

Hypotheses	Description of Hypothesized Relationships	Results
H_{10}	A creative organizational climate positively moderates the relationship between the accumulation of an organization's knowledge stocks and organizational innovativeness.	Supported
H_{11}	A creative organizational climate positively moderates the relationship between the regulation of an organization's knowledge flows and organizational innovativeness.	Not Supported



CHAPTER V

DISCUSSION AND CONCLUSION

The previous chapter displays respondent characteristics, tax administrative organization's characteristics, descriptive statistics, test the validity of each variable, and the results of hypotheses testing. Hence, this chapter aims to discuss based on the results of the proposed hypotheses which were empirically tested through SEM including the results of the exploration in the context of the study. Besides, the theoretical and managerial implications, limitations, and suggestions for additional research are discussed. Finally, the conclusion encompasses the overview of this research.

Discussion

Knowledge-oriented leadership and knowledge management capability are significant for innovativeness in the tax administrative organizations. The data in this research is part of a study that analyzes the relationship between specific leadership (knowledge-oriented leadership) and the innovativeness of the public organizations in Thailand. According to the knowledge-based view (KBV), the research aims to affirm that the organization's knowledge is an important strategic resource to enhance better innovative performance and competitiveness (Grant, 1996). Thus, generating the capability in knowledge management must be regarded. Furthermore, the rapid change of the external environment is a key determinant, which influences internal organizational management. Consequently, the leadership, especially, knowledge-oriented leadership expressed by a leader plays a key role in strategic planning and directing the organization to get along various changes underpinned by contingency theory. This study empirically evaluates the proposed model to point out the link among leadership, KMC, and organizational innovativeness which follows the formulated research objectives.

The first objective of this research has been to analyze the influence of knowledge-oriented leadership on KMC (i.e., accumulation of knowledge stocks and

regulation of knowledge flows) of tax administrative organizations in Thailand. The results indicate that knowledge-oriented leadership is antecedent to KMC.

First, the finding reveals that knowledge-oriented leadership strongly influences the accumulation of knowledge stocks (*hypothesis 1*). The result shows where the leader has expressed knowledge-oriented behaviors well perform in the accumulation of knowledge stocks. Knowledge stocks of an organization include human resources (as knowledge workers), technology infrastructure, and KM strategic templates of organization. This finding is corresponding with the prior research that has emphasized the role of leadership in advocating the accumulation of knowledge stocks by managing knowledge workers effectively (Mládková, 2012) and providing the resources which are necessary for KM activities, especially technology infrastructure, including inspiring employees to accept the implementation of new technology and to understand the purpose of implementing new technology (Schepers, Wetzels, & De Ruyter, 2005) to support achieving individual and organizational goals (Birasnav, 2014). Senge and others (1994) have also indicated the leadership of technological organizations encourages the continuous learning and facilitate technological learning and new technologies usage. As well as KM strategic planning, leaders play an important role in analyzing involved organizational factors and generating the process capabilities (Birasnav & Bader, 2013) to attain the organization's KM objectives.

The result also shows that knowledge-oriented leadership (the combination of transformational and transactional leadership) significantly and positively affects the regulation of knowledge flows (*hypothesis 2*) which is congruent with the previous studies asserted the association between leadership and organizational learning (Senge et al., 1994; Bass, 1999; McDonough, 2000; Birasnav, Albufalasa, & Bader, 2013; Senge, 2014). Abbasi & Zamani-Miandashti (2013) have indicated knowledge-based leadership enhances an organizational value and brings to internal learning processes as well as creation, acquisition, dissemination, sharing, and application of knowledge among the employees. The empirical evidence also displays knowledge-based leadership which combines transformational leadership with transactional leadership affects knowledge flows in the process of acquisition, transfer, and application (Ugwu & Okore, 2020). Menguc and others (2007) have suggested that transformational leadership allows organizations to learn through experimentation, exploration, communication, and

dialogue. Leadership also builds teams and provides them with direction, energy, and support for processes of change and organizational learning (McDonough, 2000). Additionally, leadership affects organizational learning by promoting intellectual stimulation and providing inspirational motivation and self-confidence among organization members (Coad & Berry, 1998; García-Morales, Jiménez-Barrionuevo, & Gutiérrez-Gutiérrez, 2012). For transactional leadership, it is found that contingent reward is positively and significantly associated with knowledge transfer (Chen & Barnes, 2006; Analoui, Doloriert, & Sambrook 2013; Obeidat & Zyod, 2015; Masa'deh, Obeidat, & Tarhini, 2016). This relationship is clarified by the fact that transactional leaders can use contingent rewards to motivate employees to share knowledge. In conclusion, knowledge-oriented leadership influences as knowledge management initiator and supporter to encourage shared mental models (i.e., institutionalization or culture) in creating new knowledge and learning commitment and participates in enhancing the internal and external learning processes of employees to regulate knowledge flows in organizations.

The second objective has been to verify the effect of KMC (i.e., accumulation of knowledge stocks and regulation of knowledge flows) on organizational innovativeness. Although there is evidence to suggest that managing human resources related to the intellectual capital development of knowledge workers (Rosenfeld & Servo, 1990; Mouritsen, 1998; Martins & Terblanche, 2003; Mostafa & El-Masry, 2008), supporting technology used in KM practices (Hult, Hurley, & Knight, 2004) as well as determining effective KM strategies (Lumpkin & Dess, 1996) encourages organizational innovativeness. However, in tax administrative organizations, it was found that the accumulation of such knowledge stocks did not influence organizational innovativeness (*hypothesis 3*). The prior studies suggested that the interconnectedness between existing knowledge stocks and knowledge flows may be important on innovation (Dierickx & Cool 1989). However, a few studies have indicated different findings. For example, the study of Roper & Hewitt-Dundas (2015) has represented the weak and negative effect of knowledge stocks on innovation outputs. As well, some studies (e.g., Ahuja & Katila, 2001; Penin, 2005) have attempted to present that knowledge stocks negatively affects the relationship between knowledge flows (especially external knowledge flows) and innovativeness.

The results derived from the analysis of the data from tax administrative organizations may explain the possible cause according to the summary of Eisenhardt and Santos (2002) about the limitation of knowledge. The knowledge existing in tax administrative organizations is without consideration to use for the real benefit creation. Knowledge is solely accumulated within individuals and not circulated or transferred among members to encourage learning. Likewise, technology and management strategies are not implemented thereby these knowledge stocks do not stimulate organizational innovativeness.

On the other hand, the finding of the regulation of knowledge flows on organizational innovativeness (*hypothesis 4*) shows a positive effect (Ulku 2007; Santamaría, Nieto, & Barge-Gil, 2009; Artz, Norman, Hatfield, & Cardinal, 2010). Knowledge flows may contribute to innovation (Wu & Shanley, 2009) by helping organizations to access new knowledge and technology (Hung & Chou, 2013; Bergek, Berggren, Magnusson, & Hobday, 2013). The finding of this research also affirms the regulation of knowledge flows which is the process of acquiring, adjusting, and applying the accumulated knowledge stocks to be used in the organization involving institutionalization and internal and external learning processes positively affect organizational innovativeness as well as past studies (Gunsel et al., 2011; Noruzy et al., 2013). Institutionalization (i.e., organizational culture, collaboration, shared value, etc.), in addition to the capability to integrate daily activities of employees to achieve the planned goals, can also help organizations adapt well to the external environment for rapid and appropriate responses (Nguyen & Mohamed, 2011) to aim possible goals in the future. This implies that the regulation of knowledge flows is related to organizational innovativeness (i.e., openness to change and future orientation). Furthermore, (internal and external) organizational learning promotes creativity, inspires new knowledge and ideas, and increases the ability to under for orientation to organizational innovation (García-Morales, Jiménez-Barrionuevo, & Gutiérrez-Gutiérrez, 2012).

The third objective has been to investigate the influence of knowledge-oriented leadership on organizational innovativeness. The results present a positive role of knowledge-oriented leadership in predicting organizational innovativeness (*hypothesis 5*) which is supported. Knowledge-oriented leadership displays behaviors integrated

between transformational and transactional leadership by focusing the knowledge implement to generate value for the organization coupled with stimulating motivation members to have the creativity and innovative behaviors. Besides, the finding is also synonymous with past research (Sarin & McDermott, 2003; Garcia-Morales, Llorens-Montes, & Verdú-Jover, 2006) that has highlighted the role of leadership in promoting the creation and adoption of new ideas by exemplifying the desired activities and stimulating followers to have learned.

The fourth objective has been to explore the mediating role of KMC (i.e., accumulation of knowledge stocks and regulation of knowledge flows) on the relationship between knowledge-oriented leadership and organizational innovativeness. Firstly, the accumulation of knowledge stocks is verified as the mediator of the relationship between knowledge-oriented leadership and organizational innovativeness (*hypothesis 6*). The result demonstrates the proposed hypothesis is not supported. Although the correlations between knowledge-oriented leadership and both accumulation of knowledge stocks and organizational innovativeness are significant presenting the result indicated an indirect effect between knowledge-oriented leadership and organizational innovativeness, the mediating effect of accumulation of knowledge stocks in the structural model does not occur. This means that knowledge-oriented leadership has a direct impact on organizational innovativeness which does not depend on the organization's knowledge stock accumulation. The explanation that knowledge-oriented leadership could not influence organizational innovativeness through the accumulation of knowledge stocks, which is presented the insignificant relationship between the accumulation of knowledge stocks and organizational innovativeness. Knowledge-oriented leadership influences the generation of knowledge stocks in the organization via developing knowledge workers, technology infrastructure, and knowledge strategies. Concurrently, these different sources of accumulated knowledge stocks are necessary to be integrated and exchanged (Gold et al., 2001; Noruzy et al., 2013) to encourage the learning processes of the organization’s members, therefore then innovativeness arises. (Aragón-Correa, García-Morales, & Cordón-Pozo, 2007).

Secondly, the relationship between knowledge-oriented leadership and organizational innovativeness is examined by the mediation effect by regulation of

knowledge flows (*hypothesis 7*). The result displays regulation of knowledge flows plays a moderating role in the above relationship. Similar to previous research that tries to present leadership affects creativity and innovation through KMC (Naqshbandi & Jasimuddin, 2018) or KM processes (Donate & de Pablo, 2015; Sadeghi & Rad, 2018). As the interpretation of proposed hypotheses, when an organization has a greater tendency toward a knowledge-oriented leadership position, this organization develops and promotes a larger volume of KMC with regulating knowledge flows among employees, which, in turn, positively influences its innovativeness.

Noticeably, the research results present that knowledge-oriented leadership roles in tax administrative organizations help to enhance innovativeness through only the regulation of knowledge flows, but do not for the accumulation of knowledge stocks. Actually, these organizations have been capable of knowledge management following the policy of public organizational development to escalate knowledge stocks. Leaders of public organizations have also continually developed their knowledge stocks through enhancing human resource efficiency, promoting the implementation of infrastructural and new technology, as well as improving the strategic plans to augment the effectiveness of knowledge management. Leaders of public organizations have also continually developed their knowledge stocks through enhancing human resource efficiency, promoting the implementation of infrastructural and new technology, as well as improving the strategic plans to augment the effectiveness of knowledge management. However, their leaders could support the regulation of knowledge flows among their members via collaboration and learning to create new ideas or processes to attain innovation goals and organizational performance (Montes, Moreno, & Morales, 2005).

The fifth objective has been to examine the moderating role of social capital in the relationship between knowledge-oriented leadership and KMC (i.e., accumulation of knowledge stocks and regulation of knowledge flows). Social capital is investigated whether it has a moderating effect on the relationship between knowledge-oriented leadership and the accumulation of knowledge stocks (*hypothesis 8*). The finding reveals social capital positively moderates the effect of knowledge-oriented leadership on the accumulation of knowledge stocks. When the relational social capital of an organization is higher, knowledge-oriented leadership acts the greater

participation in generating KM capability by accumulating and developing the knowledge stocks for the organization.

As well, the relationship of knowledge-oriented leadership and the regulation of knowledge flows are affirmed by social capital to play a moderating role in this relationship (*hypothesis 9*). This result implies that knowledge-oriented leadership is more related to the regulation of knowledge flows when an organization has higher social capital. Corresponding to prior studies, social capital has a positive effect on knowledge management processes that encourages knowledge to circulate in the organization (e.g., Smith, Bakker, Leenders, Gabbay, Kratzer, & Van Engelen, 2006; Kim, Lee, Paek, & Lee, 2013; Akhavan & Mahdi Hosseini, 2016). Social capital is often linked with the ability of knowledge management. Organizations with high levels of social capital have more knowledge management capability than organizations with low levels (Hoffman, Hoelscher, & Sherif, 2005). The good relationship between the members as the organization's social capital helps the leader who expresses knowledge-oriented leadership can augment the regulation of knowledge flows.

The final objective has been to examine the moderating effect of a creative organizational climate on the relationship between KMC (i.e., accumulation of knowledge stocks and regulation of knowledge flows) and organizational innovativeness. First, the creative organizational climate is verified as a moderator of the relationship between the accumulation of knowledge stocks and organizational innovativeness (*hypothesis 10*). The result presents a significant and positive moderating effect on this relation. Even though, the finding of this research indicates the accumulation of knowledge stocks within an organization does not directly affect innovativeness. However, the accumulation of knowledge stocks impacts on organizational innovativeness when a creative climate is supported. In the literature, previous studies empirically demonstrated that organizational climate is related to knowledge management capability and innovation (Chen & Huang, 2007; Chen, Huang, & Hsiao, 2010). This research confirms the linkage of creative organizational climate with the relationship between knowledge management capability in the accumulation of knowledge stocks and organizational innovativeness. The creative climate is essential for the innovative performance in an organization by knowledge workers who perceive their work climate as creative get a greater work motivation,

which in turn positively affects organizational innovation (Lin & Liu, 2012). Likewise, organizational creative climate plays a decisive role in motivating the knowledge workers to improve the ability to implement complex work designs (Isaksen & Ekvall, 2010) and to think creatively for augmenting innovation performance (Shah & Ali, 2011). Furthermore, knowledge stock in terms of technology infrastructure is one of the strategic factors that can help improve an organization's productivity and performance (Yang, Lee, & Lee, 2007). Technology is the basic component of innovation performance (Jabbouri, Siron, Zahari, & Khalid, 2016), as well as, the creative climate is one of the several aspects leading technology to innovation performance (Li, Ragu-Nathanb, Ragu-Nathanb, & Raob, 2006). The summary of this research result indicates that when tax administrative organizations support or provide a higher creative climate, the accumulated knowledge stocks contribute to more innovativeness. The knowledge accumulated within an individual encourages more innovative behavior when a positive and creative climate is provided (Yström, Aspenberg, & Kumlin, 2015).

In contrast, although the creative organizational climate is found to be a moderator of the relationship between the regulation of knowledge flows and organizational innovativeness (*hypothesis 11*), it shows a negative moderating effect while the hypothesis is posited the positive moderating effect. Thus, it is not supported this hypothesis. Generally, the creative organizational climate is accepted to be a critical aspect to the extent of providing a work context that facilitates innovation (Hunter, Bedell, & Mumford, 2005) as well as playing a vital role in the organizational learning process (Samad, 2004). The creative climate is the organization's characteristics as perceived by its members that include a learning climate or a culture that encourages creativity and innovativeness (Ortenblad, 2002). The creative organizational climate also enhances employees to create new ideas and encourages the organization to improve and increase its efficiency and simultaneously, it enables members to generate and implement creative ideas more effectively (Ekvall et al., 1983).

Although the previous studies affirm that the creative organizational climate positively influences employee learning processes and innovative behaviors, the result of this research is indeed the opposite. Possible explanations for this result hinge on the characteristics of a determined creative climate. In this research, the creative climate is an atmosphere that an organization’s members perceive to trust or openness, idea

support, freedom, playfulness, debates, and dynamism or liveliness (Sundgren et al., 2005). These characteristics influence the larger effect of accumulated knowledge stocks on innovativeness. Nevertheless, any organization which employees feel to receive an overly creative organizational climate support may encounter a negative impact between regulated knowledge flows and innovativeness. For example, the atmosphere of discussion or debates in any project, if there are too many different opinions, can result in conflicts and mistrust. Thus, then employees' cooperation and learning are not promoted and at the same time to be a barrier to the regulation of knowledge flows and organizational innovativeness. The concept of divergence can explain this phenomenon. The organization which allows employees to have the openness of thinking sometimes may get positive results or benefits from the diverse opinion of team members. In contrast, that diversity can bring a problem or conflict to a team or organization (Stahl, Mäkelä, Zander, & Maznevski, 2010). Another case that may occur, the organization enhances an excessive dynamic climate (i.e., dynamism or liveliness), can cause employees to be more stress and lead to refusing the participation in activities of knowledge flow regulation and innovativeness.

These results can be interpreted to indicate that leaders of tax administrative organizations could be bear in mind in decisions to bring factors from this conceptual model and apply them to their organization to increase knowledge management capabilities and enhance innovativeness. The next section presents the summary of all results to answer research questions illustrated in Table 25.

Table 25 Summary of Results for Research Questions and Hypothesis Testing

Research Question	Hypotheses	Results	Conclusions
1. How does knowledge-oriented leadership affect KMC (i.e., accumulation of knowledge stocks and regulation of knowledge flows)?	H_1	Knowledge-oriented leadership strongly and positively affects the accumulation of knowledge stocks.	Supported
	H_2	Knowledge-oriented leadership strongly and positively affects the regulation of knowledge flows.	Supported
2. How does KMC (i.e., accumulation of knowledge stocks and regulation of knowledge flows) influence organizational innovativeness?	H_3	The accumulation of knowledge stocks does not influence organizational innovativeness.	Not Supported
	H_4	The regulation of knowledge flows positively influences organizational innovativeness.	Supported
3. How does knowledge-oriented leadership influence organizational innovativeness?	H_5	Knowledge-oriented leadership positively influences organizational innovativeness.	Supported

Table 25 Summary of Results for Research Questions and Hypothesis Testing (Continued)

Research Question	Hypotheses	Results	Conclusions
4. How does knowledge-oriented leadership, when mediated by KMC (i.e., accumulation of knowledge stocks and regulation of knowledge flows), affect organizational innovativeness?	H_6	Knowledge-oriented leadership mediated by the accumulation of knowledge stocks does not affect organizational innovativeness.	Not Supported
	H_7	Knowledge-oriented leadership mediated by the regulation of knowledge flows affects organizational innovativeness.	Supported
5. How does knowledge-oriented leadership, when moderated by social capital, affect KMC (i.e., accumulation of knowledge stocks and regulation of knowledge flows)?	H_8	Knowledge-oriented leadership moderated by social capital positively affects the accumulation of knowledge stocks.	Supported
	H_9	Knowledge-oriented leadership moderated by social capital positively affects the regulation of knowledge flows.	Supported

Table 25 Summary of Results for Research Questions and Hypothesis Testing (Continued)

Research Question	Hypotheses	Results	Conclusions
6. How do KMC (i.e., accumulation of knowledge stocks and regulation of knowledge flows), when moderated by a creative organizational climate, affect organizational innovativeness?	H_{10}	The accumulation of knowledge stocks moderated by a creative organizational climate positively affects organizational innovativeness.	Supported
	H_{11}	The regulation of knowledge flows moderated by a creative organizational climate negatively affects organizational innovativeness.	Not Supported

In the previous section, the research results were illustrated and fulfilled the research objectives and questions. Additionally, these findings then provided not only theoretical implications but also managerial implications.

Theoretical and Managerial Implications

Theoretical Implications

The findings of the research manifest the relationships of all proposed variables which are explained by the presented theories (i.e., knowledge-based view, contingency theory). This study theoretically contributes and extends the stream of literature involving knowledge-oriented leadership, KMC, social capital, creative organizational climate support, and organizational innovativeness of tax administrative organizations in Thailand. A few researches have indicated the links between these five constructs. Therefore, this study contributes to the theoretical development of a conceptual model for explaining the relationships among these constructs and clarifies five important relationships.

First, the effects of the main relationship model have displayed the direct effect of knowledge-oriented leadership on KMC in the tax administrative organization context. To achieve innovative outcomes, combination of leadership styles has to exhibit (Bryant, 2003). Knowledge-oriented leadership is the attribution of leadership integrated by transformational and transaction leadership (Donate & de Pablo, 2015) which influences two components of KMC (i.e., accumulation of knowledge stocks and regulation knowledge flows) by motivating, communicating, and rewarding employees who conduct required knowledge management activities.

Second, the direct effect of KMC on public organizational innovativeness is confirmed from the study. In the KMC literature, the researcher has studied KMC in various dimensions. Most of KMC researches have focused on knowledge management infrastructure and knowledge management processes or practices (Chinchang & Ussahawanitchakit, 2015; Sandhawalia & Dalcher, 2011). This research contributes to the study of Miranda and others (2011) which divides KMC into two components: accumulation of knowledge stocks (i.e., human resources, technological infrastructure, and strategic templates); and regulation of knowledge flows (i.e., institutionalization,

and internal and external learning processes). These components had been using to examine and understand the relationship between KMC and public organizational innovativeness in the tax administrative organization context. Also, organizational innovativeness consists of five characteristics (i.e., creativity, risk-taking, future orientation, openness to change, and proactiveness) according to the concept of Shoham and others (2012) that public organizations express in acceptance and aim to innovation.

Third, the literature on the linkage between knowledge-oriented leadership and innovativeness has not received much attention in leadership and innovativeness literature including exploring the indirect effect of leadership on innovativeness through two dimensions of KMC. To contribute and expand the literature in the concerned field, the indirect effect between knowledge-oriented leadership and organizational innovativeness is investigated through KMC (i.e., accumulation of knowledge stocks and regulation knowledge flows) as a mediator of the relationship.

Fourth, the relational social capital is recognized as a new paradigm of this research to explain the moderating role of the relationship between leadership and KMC. The research results demonstrate empirical evidence that social capital encourages the positive relationships between knowledge-oriented leadership and KMC (both accumulation of knowledge stocks and regulation knowledge flows) of tax administrative organizations.

Finally, it is quite a few previous studies that focus on moderating role of the creative organizational climate participates in the literature of KMC and innovativeness. Organizational climate, especially creative climate, is accepted to be an important role in knowledge management and innovation (Ekvall, 1996; Montes, Moreno, & Fernández, 2004; Chen, Huang, & Hsiao, 2010; Yu et al., 2013; Shanker, Bhanugopan, Van der Heijden, & Farrell, 2017). Thus, this research highlights the creative organizational climate plays a moderating role in the relationship between KMC and public organizational innovativeness. All results of examining the relationships between these interesting variables in the context of tax administrative organizations can also be used to refer to and compare with other contexts of the public-sector organization. However, an explanation of the expected and unexpected results may be interpreted differently by that context.

Managerial Implications

In addition to this research provides theoretical contributions, it also suggests managerial contributions. This study obtains four practical implications for public organizations. First, this research indicates the public organization may have to be aware to implement knowledge resources to encourage innovativeness for the value creation to the organization. Knowledge management helps to manipulate the stocks and flows of knowledge efficiently. Furthermore, to move towards innovativeness and to implement innovation in operations, tax administrative organizations need to generate the capability to manage an organization's knowledge resources effectively (Carneiro, 2000; Naqshbandib & Jasimuddina, 2018). In current, public organizations participated in knowledge management by adopting the innovativeness model, to leverage knowledge resources and to stimulate learning both within their organizations and externally to their service receivers. As a result, tax administrative organizations can enhance their innovativeness by accumulating knowledge stocks (through developing and improving human resources, technology infrastructure, and knowledge management strategies) and regulating knowledge flows (through promoting institutionalization and both internal and external learning).

Second, this study recommends that leadership role could be emphasized for public organizations, therefore proposing knowledge-oriented leadership in this conceptual framework. Leadership is one of the most important resources which can lead an organization to the expected goals of innovation and competition through the knowledge management initiative (Singh, 2008). Furthermore, knowledge-oriented leadership is accepted to be an initiator in knowledge management and innovativeness through motivating, communicating, and rewarding the organization's members. Based on the results of this research, public organizations could positively reinforce leaders who have knowledge management orientation and skills as well as innovation commitment. Consequently, tax administrative organizations may encourage their managers to follow a knowledge-oriented leadership style. Public organizations with knowledge-oriented leadership are better installed with knowledge management capabilities in increasing and developing an organization's knowledge stocks and simultaneously adjusting the speed of knowledge flows both within and outside organizations.

Third, social capital is confirmed to positively moderate the relationship between knowledge-oriented leadership and KMC. The finding displays that the public organizations have to use the benefit of the relational social capital to encourage the process of leadership on knowledge management capability creation. Public organizations with strong social capital show that leaders can better promote the accumulation of knowledge stocks and greater support the regulation of knowledge flows. Accordingly, the leader of an organization could formulate strategies and activities to continually support social capital.

Finally, the creative organizational climate perceived by members needs to be supported by the leaders of tax administration organizations as it helps to support the relationship between knowledge management capabilities in the accumulation of knowledge and innovativeness. Even if the creative organizational climate in this study has a negative moderating effect on the relationship of regulation of knowledge flows on innovativeness, meanwhile, it has a positive moderating effect on the relationship between accumulation of knowledge stocks and innovativeness. However, a creative organizational climate needs be considered in adapting appropriately to knowledge management strategy that the organization focused on at the time. To sum up, this research has integrated several concepts and provides some recommendations for executives to determine effective knowledge management activities and strategies to enhance the innovativeness and performance in public organizations.

Limitations and Future Research Directions

This research has some limitations. First, since the data were drawn only from a single population as the tax administrative organizations in Thailand, the findings may not be generalizable to other contexts. Thus, future studies can test the research model in other contexts of public-sector organizations and target different cultural or country contexts to validate the results of a broader spectrum of cultures.

Second, a cross-sectional study is the research design of this study. Although findings are corresponding with theoretical reasoning, the research design is unable to affirm the causal relationships determined in the hypotheses. Future research can modify this issue by applying a longitudinal design.

Third, this study indicated a constructive type of leadership knowledge-oriented leadership which is a specific characteristic of knowledge-based leadership, especially in promoting knowledge management capabilities and innovativeness for tax administrative organizations. In fact, there are other styles of leadership that need to be verified for knowledge management capability and innovativeness. Therefore, other styles of leadership could be further investigated in the future.

Fourth, self-report data were used in this study, which may encounter the common method variance problem. According to Harman's single factor test, although appears a little issue, it may still exist and affect research results. Future research can be benefit from independently obtaining and using objective measures of innovativeness including using several methods to reduce this problem.

Fifth, the findings from this research in structural equation modeling (SEM) analysis showed some results of the creative organizational climate played a negative moderating role variable was inconsistent with the previous studies. Therefore, future research may have to be re-examined with other populations and samples to confirm the result of this study. Besides, future studies could be studied the factors concerning knowledge management capabilities and innovativeness as the moderator of their relationships such as organizational structure, organizational communication, innovative culture, or technology orientation.

Finally, this research had proceeded to investigate the variables' relationships by using only a quantitative research method. Future studies might use a qualitative method such as a case study, in-depth interview, or focus group along with a quantitative method (i.e., mixed-method approach) to confirm the result of this study and obtain a clearer picture of KMC in this section.

Conclusion

According to the knowledge-based view, knowledge is the most strategically important resource of an organization and is also a critical resource in organizational strategy formulation leading to organizational competence outcomes (Felin & Hesterly, 2007). Innovativeness is enhanced by effective knowledge management which has been accepted for creating value to the organization and promoting organizational performance for the public sector. There is a limited study that has explored how leadership, especially knowledge-oriented leadership affects innovativeness. As a result, this research indicates how specific leadership style (knowledge-oriented leadership) influence two components of KMC (i.e., accumulation of knowledge stocks and regulation of knowledge flows) and innovativeness including how the KMC of tax administrative organizations can influence the relationship between leadership styles and innovativeness. In addition, the social capital and the creative organizational climate in tax administrative organizations have also been examined the moderating role of whether influence the relationships between knowledge-oriented leadership, KMC, and innovativeness. Knowledge-based view and contingency theory were used to explain variables' relationships in this study.

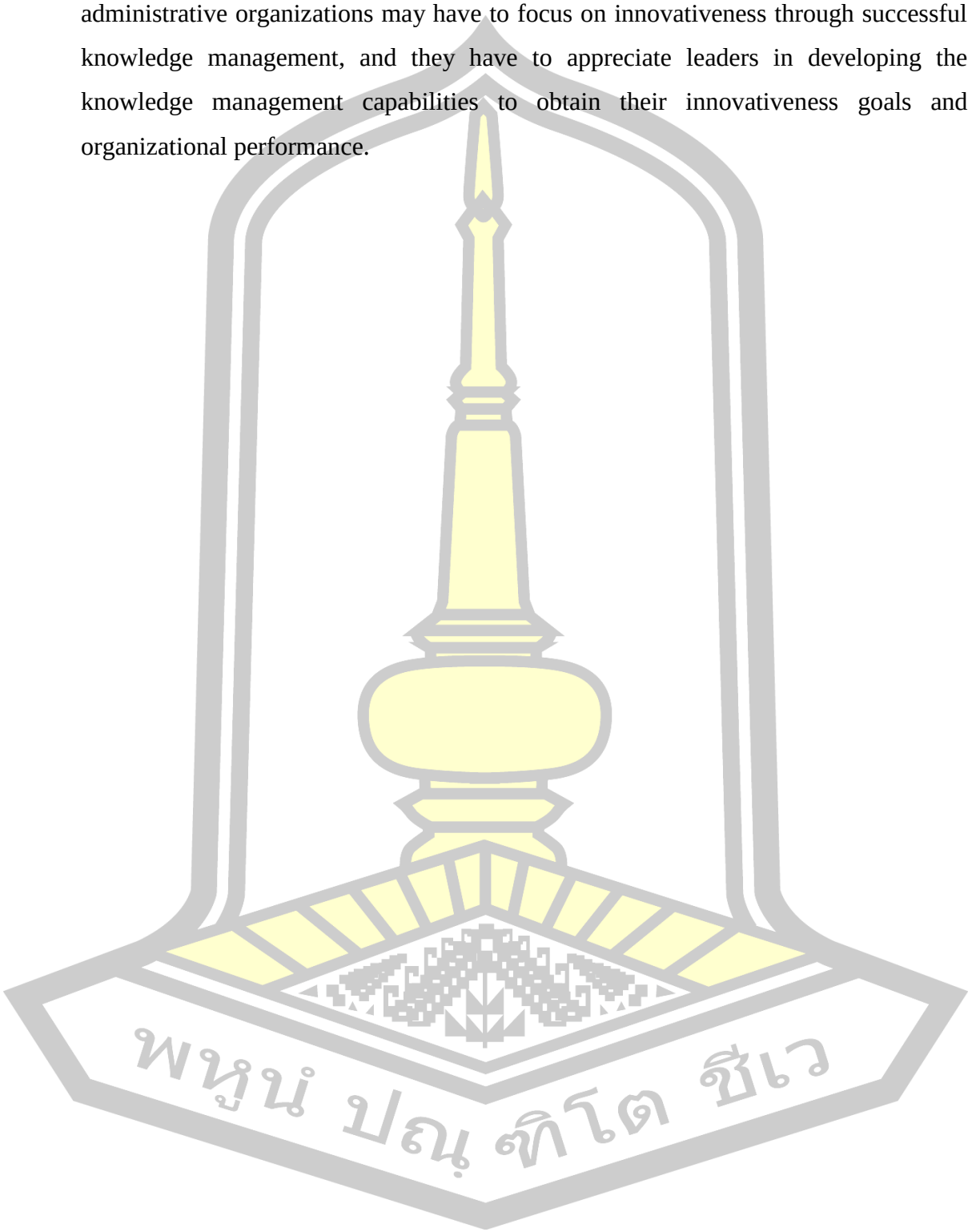
This research has been conducted through a quantitative research method. The data collected from the 784 tax administrative organizations in Thailand. In the hypothesis testing, the proposed research model was constructed using structural equation modeling (SEM) analysis which is well fit to analyzing data via the confirmatory factor approach to assess validity and reliability of measurement for inferential purposes. The structural model of the main effect shows that knowledge-oriented leadership positively influences KMC both accumulation of knowledge stocks and regulation of knowledge flows. The accumulation of knowledge stocks does not influence organizational innovativeness which is in contrast with the regulation of knowledge flows. The mediating effect model also indicates that the regulation of knowledge flows plays a partial mediating role in the relationship between knowledge-oriented leadership and organizational innovativeness while the accumulation of knowledge stocks does not. Additionally, the structural model of moderating effect displays social capital is a positive moderator of the relationship between knowledge-

oriented leadership and two components of KMC and a creative organizational climate positively moderates the effect of the accumulation of knowledge stocks on innovativeness. In contrast, the effect of the regulation of knowledge flows on innovativeness is negatively moderated.

Based on the results of this research, it is inferred that tax administrative organizations that are capable of managing their knowledge resources effectively by accumulating the knowledge stocks and regulating the knowledge flows are enablers in exploiting their knowledge resources. This can occur when organizations contain capable knowledge experts in managerial positions who know how to develop knowledge stocks, enhance knowledge flows, and apply new ideas. Knowledge-oriented leaders are the fundamental unit of overall knowledge management capability creation of organizations by being a role model, motivators, communicator, and facilitators in supporting the success of knowledge management in organizations. Therefore, tax administrative organizations require knowledge-oriented leaders who can assist to promote the accumulation of knowledge stocks by developing knowledge worker's management systems, appropriately providing technology infrastructure, and effectively formulating knowledge management strategies. Simultaneously, knowledge-oriented leaders can encourage regulating knowledge flows through shaping collaboration values and enhancing both internal and external learning processes.

Furthermore, tax administrative organizations need to explore and advocate the interpersonal relations within organizations such as social capital that positively affect knowledge management capabilities. For a creative organizational climate is also essential to be provided in an organization to stimulate the accumulation of knowledge stocks and regulation of knowledge flows toward innovativeness. However, a creative organization climate indicates the negative moderating role on the relationship between the regulation of knowledge flows and innovativeness while it also plays a positive moderating role on the relationship between the accumulation of knowledge stocks and innovativeness. Consequently, tax administrative organizations can consider to provide and to focus on suitable knowledge management strategies of organizations. From conceptual development to procedure execution of this research, leaders have to motivate and assist members by authorizing them with the desired resources and

leading them to innovativeness goals. This empirical research argues that tax administrative organizations may have to focus on innovativeness through successful knowledge management, and they have to appreciate leaders in developing the knowledge management capabilities to obtain their innovativeness goals and organizational performance.



REFERENCES

REFERENCES

Aaker, D. A., Kumar, V., & Day, G. S. (2001). *Marketing Research*, 7th ed. New York : John Wiley.

Abbasi, E., & Zamani-Miandashti, N. (2013). The role of transformational leadership, organizational culture and organizational learning in improving the performance of Iranian agricultural faculties. *Higher Education*, 66(4), 505-519.

Abdi, K., & Senin, A. A. (2014). Investigation on the impact of organizational culture on organization innovation. *Journal of Management Policies and Practices*, *2*(2), 1-10.

Abubakar, A. M., Elrehail, H., Alatailat, M. A., & Elçi, A. (2019). Knowledge management, decision-making style and organizational performance. *Journal of Innovation & Knowledge*, 4(2), 104-114.

Abu-Shanab, E., & Shehabat, I. (2018). The influence of knowledge management practices on e-government success. *Transforming Government: People, Process and Policy*, 12(3/4), 286-308.

Acedo, F. J., Barroso, C., & Galan, J. L. (2006). The resource-based theory: dissemination and main trends. *Strategic Management Journal*, 27(7), 621-636.

Acheampong, E. A., & Kandadi, K. R. (2008). *Assessing the Knowledge Management Capability of the Ghanaian Public Sector Through the Bcpimatrix: a Case Study of the Value Added tax (VAT) Service*. Retrieved February 20, 2020, from https://www.semanticscholar.org/paper/Assessing-the-Knowledge-Management-Capability-of-A-Acheampong-Kandadi/d0f81ac44d94a84d935e3d01cd411973d5839897.

Adams, G.L., & Lamont, B.T. (2003). Knowledge management systems and developing sustainable competitive advantage. *Journal of Knowledge Management*, 7(2), 142-55.

Addicott, R., McGivern, G., & Ferlie, E. (2006). Networks, organizational learning and knowledge management: NHS cancer networks. *Public Money and Management*, 26(2), 87-94.

Ahmed, Z. (2017). Government IS Implementation: A Framework for Stakeholder Orientation, *Journal of Information Technology Theory and Application (JITTA)*, 18(2), 245-289.

Ahuja, G., & Katila, R. (2001). Technological acquisitions and the innovation performance of acquiring firms: A longitudinal study. *Strategic Management Journal*, 22(3), 197-220.

Akhavan, P., & Mahdi Hosseini, S. (2016). Social capital, knowledge sharing, and innovation capability: an empirical study of R&D teams in Iran. *Technology Analysis & Strategic Management*, 28(1), 96-113.

Alavi, M., & Leidner, D. E. (2001). Knowledge management and knowledge management systems: Conceptual foundations and research issues. *MIS Quarterly*, 25(1), 107-136.

Alavi, M., & Tiwana, A. (2002). Knowledge integration in virtual teams: The potential role of KMS. *Journal of the American Society for Information Science and Technology*, 53(12), 1029-1037.

Albury, D. (2005). Fostering Innovation in Public Services. *Public Money & Management*, *25*(1), 51-56.

Alchian AA, & Demsetz H. (1972). Production, information costs and economic organization. *American Economic Review*, 62(5), 777-795.

Amabile, T. M., Schatzel, E. A., Moneta, G. B., & Kramer, S. J. (2004). Leader behaviors and the work environment for creativity: Perceived leader support. *The Leadership Quarterly*, 15(1), 5-32.

Amanchukwu, R. N., Stanley, G. J., & Ololube, N. P. (2015). A review of leadership theories, principles and styles and their relevance to educational management. *Management*, 5(1), 6-14.

Amayah, A. T. (2013). Determinants of knowledge sharing in a public sector organization. *Journal of Knowledge Management*, 17(3), 454-471.

Aminbeidokhti, A., Nikabadi, M. S., & Hoseini, A. M. (2016). The role of transformational leadership and knowledge management processes on the rate of organisational innovation. *International Journal of Knowledge Management Studies*, 7(3-4), 270-287.

Analoui, B. D., Doloriert, C. H., & Sambrook, S. (2013). Leadership and knowledge management in UK ICT organisations. *Journal of Management Development*, 32(1), 4-17.

Anantatmula, V. S. (2008). Leadership role in making effective use of KM. *The Journal of Information and Knowledge Management Systems,* 38(4), 445-460.

Anderson, J. C., & Gerbing, D. W. (1988). Structural equation modeling in practice: A review and recommended two-step approach. *Psychological Bulletin*, 103(3), 411-423.

Andreeva, T., Kianto, A., (2012). Does Knowledge Management really matter? Linking knowledge management practices, competitiveness and economic performance, *Journal of Knowledge Management*, 16(4), 617-636.

Andrews, D., & Criscuolo, C. (2013). Knowledge-Based Capital, Innovation and Resource Allocation. Retrieved February 20, 2020, from https://www.oecd-ilibrary.org/economics/knowledge-based-capital-innovation-and-resource-allocation_5k46bj546kzs-en.

Aragón-Correa, J. A., García-Morales, V. J., & Cordón-Pozo, E. (2007). Leadership and organizational learning's role on innovation and performance: Lessons from Spain. *Industrial Marketing Management*, 36(3), 349-359.

Aranda, D. A., & Molina-Fernández, L. M. (2002). Determinants of innovation through a knowledge-based theory lens. *Industrial Management & Data Systems*. 102 (5/6), 289-296.

Arbuckle, J. L., & Wothke, W. (1999). *Amos 4.0 User's Guide*. Chicago IL: SmallWaters Corporation.

Armstrong, J. S., & Overton, T. S. (1977). Estimating nonresponse bias in mail surveys. *Journal of Marketing Research,* 14(3), 396-402.

Artz, K. W., Norman, P. M., Hatfield, D. E., & Cardinal, L. B. (2010). A longitudinal study of the impact of R&D, patents, and product innovation on firm performance. *Journal of Product Innovation Management*, 27(5), 725-740.

Arundel, A., Bloch, C., & Ferguson, B. (2019). Advancing innovation in the public sector: Aligning innovation measurement with policy goals. *Research Policy*, 48(3), 789-798.

Avlonitis, G. J., Kouremenos, A., & Tzokas, N. (1994). Assessing the innovativeness of organizations and its antecedents: Project Innovstrat. *European Journal of Marketing*, 28(11), 5-28.

Aykac, B., & Metin, H. (2012). The future of public organizations. *Procedia-Social and Behavioral Sciences*, 62, 468-472.

Baden-Fuller, C. (1995). Strategic Innovation, Corporate Entrepreneurship and Matching Outside-in to Inside-out Approaches to Strategy Research 1. *British Journal of Management*, 6, S3-S16.

Baron, R. M., & Kenny, D. A. (1986). The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, 51(6), 1173-1182.

Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of Management*, 17(1), 99-120.

Barton, D. L., & Sensiper, S. (1998). The role of tacit knowledge in group innovation. *California Management Review*, 40(3), 112-131.

Basadur, M., & Gelade, G. A. (2006). The role of knowledge management in the innovation process. *Creativity and Innovation Management*, 15(1), 45-62.

Baskerville, R., & Dulipovici, A. (2006). The theoretical foundations of knowledge management. *Knowledge Management Research & Practice*, 4(2), 83-105.

Bass, B. M. (1999). Two decades of research and development in transformational leadership. *European Journal of Work and Organizational Psychology*, 8(1), 9-32.

Bergek, A., Berggren, C., Magnusson, T., & Hobday, M. (2013). Technological discontinuities and the challenge for incumbent firms: Destruction, disruption or creative accumulation?. *Research Policy*, 42(6-7), 1210-1224.

Bernier, L., Hafsi, T., & Deschamps, C. (2015). Environmental Determinants of Public Sector Innovation: A study of innovation awards in Canada. *Public Management Review*, 17(6), 834-856.

Bierly, P., & Daly, P. (2002). Aligning human resource management practices and knowledge strategies. *The Strategic Management of Intellectual Capital and Organizational Knowledge*, 277-295.

Birasnav, M., Rangnekar, S., & Dalpati, A. (2011). Transformational leadership and human capital benefits: The role of knowledge management. *Leadership & Organization Development Journal*, 32(2), 106-126.

Birasnav, M., Albufalasa, M., & Bader, Y. (2013). The role of transformational leadership and knowledge management processes on predicting product and process innovation: An empirical study developed in Kingdom of Bahrain. *Tékhne*, 11(2), 64-75.

Birasnav, M. (2014). Knowledge management and organizational performance in the service industry: The role of transformational leadership beyond the effects of transactional leadership. *Journal of Business Research*, 67(8), 1622-1629.

Biswas, S., Khan, A., & Biswas, S. K. (2017). The prospect of adopting knowledge management in public service organizations: evidence from a developing country. *European Journal of Research and Reflection in Management Sciences*, 5(3), 51-68.

Blanchard, K.H., Zigarmi, D. and Nelson, R.B. (1993). Situational leadership® after 25 years: a retrospective. *Journal of Leadership & Organizational Studie*s, 1(1), 21-36.

Bloch, S. (2010). *Lectures on Algebraic Cycles*. 2nd ed. Chicago : Cambridge University

Bloch, P. H. (2011). Product design and marketing: Reflections after fifteen years. *Journal of Product Innovation Management*, 28(3), 378-380.

Bock, G. W., Zmud, R. W., Kim, Y. G., & Lee, J. N. (2005). Behavioral intention formation in knowledge sharing: Examining the roles of extrinsic motivators, social-psychological forces, and organizational climate. *MIS Quarterly*, 87-111.

Bollen, K. A. (1989). A new incremental fit index for general structural equation models. *Sociological Methods & Research*, 17(3), 303-316.

Bono, J. E., Shen, W., & Snyder, M. (2010). Fostering integrative community leadership. *The Leadership Quarterly*, 21(2), 324-335.

Borins, S. (2001). Encouraging innovation in the public sector. *Journal of Intellectual Capital*, 2(3), 310-319.

Bornemann, M., & Sammer, M. (2003). Assessment methodology to prioritize knowledge management related activities to support organizational excellence. *Measuring Business Excellence*, 7(2), 21-28.

Bourdieu, P. (1983). The field of cultural production, or: The economic world reversed. *Poetics*, 12(4-5), 311-356.

Boyne, G. A. (2002). Public and private management: what's the difference?. *Journal of Management Studies*, 39(1), 97-122.

Brown, J. S., & Duguid, P. (1998). Organizing knowledge. *California Management Review*, 40(3), 90-111.

Bryant, F. (2003). Savoring Beliefs Inventory (SBI): A scale for measuring beliefs about savouring. *Journal of Mental Health*, 12(2), 175-196.

Bryson, J. M., Crosby, B. C., & Bloomberg, L. (2014). Public value governance: Moving beyond traditional public administration and the new public management. *Public Administration Review*, 74(4), 445-456.

Bučková, J. (2015). Knowledge management in public administration institutions. *Procedia Economics and Finance*, 34, 390-395.

Budiarti, I. (2017). Knowledge management and intellectual capital-A theoretical perspective of human resource strategies and practices. *European Journal of Economics and Business Studies*, 3(2), 148-155.

Burns, J. M. (1978). *Leadership*. New York : HarperCollins.

Burstein, F., Sohal, S., Zyngier, S., & Sohal, A. S. (2010). Understanding of knowledge management roles and responsibilities: A study in the Australian context. *Knowledge Management Research & Practice*, 8(1), 76-88.

Byrne, B. M. (2001). Structural equation modeling with AMOS, EQS, and LISREL: Comparative approaches to testing for the factorial validity of a measuring instrument. *International Journal of Testing*, 1(1), 55-86.

Cai, Z., Liu, H., Huang, Q., & Liang, L. (2019). Developing organizational agility in product innovation: the roles of IT capability, KM capability, and innovative climate. *R&D Management*, 49(4), 421-438.

Candra, S. (2012). ERP implementation success and knowledge capability. *Procedia-Social and Behavioral Sciences*, 65, 141-149.

Carlo, G., & Randall, B. A. (2002). The development of a measure of prosocial behaviors for late adolescents. *Journal of Youth and Adolescence*, 31(1), 31-44.

Carneiro, A. (2000). How does knowledge management influence innovation and competitiveness?. *Journal of Knowledge Management*, 4(2), 87-98.

Černe, M., Jaklič, M., & Škerlavaj, M. (2013). Authentic leadership, creativity, and innovation: A multilevel perspective. *Leadership*, 9(1), 63-85.

Chandler, J. (2017). *Questioning the New Public Management*. London: Routledge.

Chawla, D., & Joshi, H. (2010). Knowledge management initiatives in Indian public and private sector organizations. *Journal of Knowledge Management*, 14(6), 811-827.

Chen, L. Y., & Barnes, F. B. (2006). Leadership behaviors and knowledge sharing in professional service firms engaged in strategic alliances. *Journal of Applied Management and Entrepreneurship*, 11(2), 51-69.

Chen, E., Feng, K., & Liou, W. (2004). Knowledge management capability and firm performance: An empirical investigation. *AMCIS 2004 Proceedings*, 271, 2255-2262.

Chen, C. J., & Huang, J. W. (2007). How organizational climate and structure affect knowledge management-The social interaction perspective. *International Journal of Information Management*, 27(2), 104-118.

Chen, C. J., & Huang, J. W. (2009). Strategic human resource practices and innovation performance-The mediating role of knowledge management capacity. *Journal of Business Research*, 62(1), 104-114.

Chen, C. J., Huang, J. W., & Hsiao, Y. C. (2010). Knowledge management and innovativeness. *International Journal of Manpower*, 31(8), 848-870.

Chen, Y. Y., Yeh, S. P., & Huang, H. L. (2012). Does knowledge management fit matter to business performance?. *Journal of Knowledge Management*, 16(5), 671-687.

Chen, J., & Chen, Z. (2008). Extended Bayesian information criteria for model selection with large model spaces. *Biometrika*, 95(3), 759-771.

Chinchang, P., & Ussahawanitchakit, P. (2015). Knowledge management capability and goal achievement: An empirical investigation of ISO 9000 certified firms in Thailand. *The Business & Management Review*, 7(1), 37-51.

Chiou, H. (2006). *Organizational Environment and Creativity: Development of Creative Organizational Climate Inventory and Validation study*. Unpublished manuscript, Department of Psychology, Fu-Jen Catholic University of Taiwan.

Chiu, C. N., & Chen, H. H. (2016). The study of knowledge management capability and organizational effectiveness in Taiwanese public utility: the mediator role of organizational commitment. *Springer Plus*, 5(1), 1-34.

Choi, B., Poon, S. K., & Davis, J. G. (2008). Effects of knowledge management strategy on organizational performance: A complementarity theory-based approach. *Omega*, 36(2), 235-251.

Choi, B., & Jong, A. M. (2010). Assessing the impact of knowledge management strategies announcements on the market value of firms. *Information & Management*, 47(1), 42-52.

Chong, S. C., Salleh, K., Ahmad, S. N. S., & Sharifuddin, S. I. S. O. (2011). KM implementation in a public sector accounting organization: an empirical investigation. *Journal of Knowledge Management*, 15(3), 497-512.

Chuang, S. H. (2004). A resource-based perspective on knowledge management capability and competitive advantage: an empirical investigation. *Expert Systems With Applications*, 27(3), 459-465.

Coad, A. F., & Berry, A. J. (1998). Transformational leadership and learning orientation. *Leadership & Organization Development Journal*. 19(3), 164-172.

Cohen, J., Cohen, P., West, S. G., & Aiken, L. S. (2013). *Applied Multiple Regression/Correlation Analysis for the Behavioral Sciences*. New York: Mahwah.

Coleman, J. S. (1994). *Foundations of Social Theory*. New York: Harvard university.

Coleman, J. S. (1988). Social capital in the creation of human capital. *American Journal of Sociology*, 94, S95-S120.

Collins, C. J., & Smith, K. G. (2006). Knowledge exchange and combination: The role of human resource practices in the performance of high-technology firms. *Academy of Management Journal*, 49(3), 544-560.

Cooper, D. R., & Schindler, P. S. (2003). *Business Research Methods*. New York. McGraw-Hill.

Costelha, H., & Neves, C. (2018). *Technical Database on Robotics-Based Educational Platforms for K-12 Students.* In 2018 IEEE International Conference on Autonomous Robot Systems and Competitions (ICARSC), 167-172.

Costello, G. J., & Donnellan, B. (2011). *Beyond RBV and KBV to an Innovation-Based View of the Firm.* Conference Management Culture in the 21st Century, European Academy of Management EURAM2011.

Coveney, B. H. (2008). Assessing the organizational climate for creativity in a UK Public Library Service: a case study. *Library and Information Research*, 32(102), 38-56.

Crawford, C. B., Gould, L. V., & Scott, R. F. (2003). Transformational leader as champion and techie: Implications for leadership educators. *Journal of Leadership Education*, 2(1), 1-12.

Curado, C., & Bontis, N. (2006). The knowledge-based view of the firm and its theoretical precursor. *Int. J. Learning and Intellectual Capital*, 3(4), 367-381.

Dalkir, K. (2005). *Knowledge Management in Theory and Practice*. New York : Elsvier Butterworth-Heinemann.

Dalkir, K. (2013). Organizational memory in institutions of higher education: a case study. *Knowledge Management: an International Journal*, 12(2), 43-56.

Damanpour, F., & Schneider, M. (2009). Characteristics of innovation and innovation adoption in public organizations: Assessing the role of managers. *Journal of Public Administration Research and Theory*, 19(3), 495-522.

Darroch, J. (2005). Knowledge management, innovation and firm performance. *Journal of Knowledge Management*, 9(3), 101-115.

De Angelis, C. T. (2013). Models of governance and the importance of KM for public administration. *Journal of Knowledge Management Practice*, 14(2), 1-18.

DeCarolis, D. M., & Deeds, D. L. (1999). The impact of stocks and flows of organizational knowledge on firm performance: An empirical investigation of the biotechnology industry. *Strategic Management Journal*, 20(10), 953-968.

Delbaere, M., Di Zhang, D., Bruning, E. R., & Sivaramakrishnan, S. (2014). Knowledge Management and the Roles it Plays in Achieving Superior Performance. *European Journal of Marketing*, 90-108.

Demchig, B. (2015). Knowledge management capability level assessment of the higher education institutions: Case study from Mongolia. *Procedia-Social and Behavioral Sciences*, 174, 3633-3640.

Demircioglu, M. A., & Audretsch, D. B. (2017). Conditions for innovation in public sector organizations. *Research Policy*, 46(9), 1681-1691.

Demircioglu, M. A., & Audretsch, D. B. (2019). Public sector innovation: the effect of universities. *Journal of Technology Transfer*, 44(2), 596-614.

DeTienne, K. B., Dyer, G., Hoopes, C., & Harris, S. (2004). Toward a model of effective knowledge management and directions for future research: Culture, leadership, and CKOs. *Journal of Leadership & Organizational Studies*, 10, 26-43.

Diamantopoulos, A., Siguaw, J.A., & Siguaw, J. A. (2000). I*ntroducing LISREL: A Guide for the Uninitiated*. New York : Sage.

Dierickx, I., & Cool, K. (1989). Asset stock accumulation and sustainability of competitive advantage. *Management Science*, 35(12), 1504-1511.

Dillman, D. A. (2007). *Mail and Internet Surveys: The Tailored Design Method 2007 Update With new Internet, Visual, and Mixed-Mode Guide*. New Jersey: John Wiley & Sons.

Donate, M. J., & de Pablo, J. D. S. (2015). The role of knowledge-oriented leadership in knowledge management practices and innovation. *Journal of Business Research*, 68(2), 360-370.

Drazin, R., & Van de Ven, A. H. (1985). Alternative forms of fit in contingency theory. *Administrative Science Quarterly*, 30(4), 514–539.

DuCharme, B. (1998). *XML: The Annotated Specification*. New Jersey: Prentice Hall.

Du Plessis, S. A. (2006). Reconsidering the business cycle and stabilisation policies in South Africa. *Economic Modelling*, 23(5), 761-774.

Eisenberger, R., Huntington, R., Hutchison, S., & Sowa, D. (1986). Perceived organizational support. *Journal of Applied psychology*, 71(3), 500-507.

Eisenberger, R., Cummings, J., Armeli, S., & Lynch, P. (1997). Perceived organizational support, discretionary treatment, and job satisfaction. *Journal of Applied Psychology*, 82, 812-820.

Eisenberger, R., Fasolo, P., & Davis-LaMastro, V. (1990). Perceived organizational support and employee diligence, commitment, and innovation. *Journal of Applied Psychology*, 75, 51-59.

Eisenberger, R., Stinglhamber, F., Vandenberghe, C., Sucharski, I. L., & Rhoades, L. (2002). Perceived supervisor support: Contributions to perceived organizational support and employee retention. *Journal of applied psychology*, 87(3), 565-573.

Eisenhardt, K. M., & Santos, F. M. (2002). Knowledge-based view: A new theory of strategy. *Handbook of Strategy and Management*, 1(1), 139-164.

Eggers, J. P., & Kaplan, S. (2013). Cognition and capabilities: A multi-level perspective. *Academy of Management Annals*, 7(1), 295-340.

Ekvall, G., Arvonen, J., & Waldenström-Lindblad, I. (1983). *Creative Organizational Climate: Construction and Validation of a Measuring Instrument*. New York: Stockholm.

Ekvall, G. (1996). Organizational climate for creativity and innovation. *European Journal of Work and Organizational Psychology*, 5, 105-123.

Elrehail, H. (2018). The relationship among leadership, innovation and knowledge sharing: A guidance for analysis. *Data in Brief*, 19, 128-133.

Esposito, V., De Nito, E., Iacono, M. P., & Silvestri, L. (2013). Dealing with knowledge in the Italian public universities. *Journal of Intellectual Capital*, 14(3), 431-450.

Ettlie, J. E., Bridges, W. P., & O'keefe, R. D. (1984). Organization strategy and structural differences for radical versus incremental innovation. *Management science*, 30(6), 682-695.

Fan, Z. P., Feng, B., Sun, Y. H., & Ou, W. (2009). Evaluating knowledge management capability of organizations: a fuzzy linguistic method. *Expert Systems with Applications*, 36(2), 3346-3354.

Felin, T., &. Hesterly, W.S. (2007). The knowledge-based view, nested heterogeneity, and new value creation: Philosophical considerations on the locus of knowledge. *Academy of Management Review*, 32(1), 195-218.

Fiedler, F. E. (1964). A contingency model of leadership effectiveness. *Advances in Experimental Social Psychology*, 1(1), 149-190.

Filius, J. D., Lumsdon, D. G., Meeussen, J. C., Hiemstra, T., & Van Riemsdijk, W. H. (2000). Adsorption of fulvic acid on goethite. *Geochimica et Cosmochimica Acta*, 64(1), 51-60.

Flores, L.G., Zheng, W. and Rau, D. (2012). Organizational learning: subprocess identification, construct validation, and an empirical test of cultural antecedents. *Journal of Management*, 38(2), 640-667.

Foray, D. (2004). *Economics of Knowledge*. Cambridge: MIT Press.

Fornell, C., & Larcker, D. F. (1981). Structural equation models with unobservable variables and measurement error: Algebra and statistics. *Journal of Marketing Research*, 18(3), 382-388.

Foxon, M. (1994). A process approach to the transfer of training. *Australasian Journal of Educational Technology*, 11(6), 94-109.

Franzel, J. M. (2008). Urban government innovation: Identifying current innovations and factors that contribute to their adoption. *Review of Policy Research*, 25(3), 253-277.

Freeze, R., & Kulkarni, U. (2005). *Knowledge Management Capability Assessment: Validating a Knowledge Assets Measurement Instrument*. In Proceedings of the 38th Annual Hawaii International Conference on System Sciences, 251a-251a.

Freeze, R. D., & Kulkarni, U. (2007). Knowledge management capability: defining knowledge assets. *Journal of Knowledge management*, 11(6), 94-109.

Fu, N. (2015). The role of relational resources in the knowledge management capability and innovation of professional service firms. *Human Relations*, 68(5), 731-764.

Gabris, G. T., Golembiewski, R. T., & Ihrke, D. M. (2001). Leadership credibility, board relations, and administrative innovation at the local government level. *Journal of Public Administration Research and Theory*, 11(1), 89-108.

Gamble, P. R., & Blackwell, J. (2001). *Knowledge Management: A State of the Art Guide*. New York: Kogan.

García-Álvarez, M.T. (2015). Analysis of the effects of ICTs in knowledge management and innovation: the case of Zara Group. *Computers in Human Behavior*, 51(1), 994-1002.

García-Morales, V. J., Jiménez-Barrionuevo, M. M., & Gutiérrez-Gutiérrez, L. (2012). Transformational leadership influence on organizational performance through organizational learning and innovation. *Journal of business research*, 65(7), 1040-1050.

Garcia-Morales, V. J., Llorens-Montes, F. J., & Verdú-Jover, A. J. (2006). Antecedents and consequences of organizational innovation and organizational learning in entrepreneurship. *Industrial Management & Data Systems*, 106, 21-42.

Gascó, M. (2017). Living labs: Implementing open innovation in the public sector. *Government Information Quarterly*, 34(1), 90-98.

Geh, E.Z. (2014). Organizational spiritual leadership of worlds 'made' and 'found': an experiential learning model for 'feel'. *Leadership & Organization Development Journal*, 35(2), 137-151.

George, J. M., Reed, T. F., Ballard, K. A., Colin, J., & Fielding, J. (1993). Contact with AIDS patients as a source of work-related distress: Effects of organizational and social support. *Academy of Management Journal*, 36, 157-171.

George, D., & Mallery, P. (2010). *SPSS for Windows Step by Step: a Simple Guide and Reference, 17.0 Update*. 10th ed. New York: Prentice-Hall.

Gerdin, J., & Greve, J. (2008). The appropriateness of statistical methods for testing contingency hypotheses in management accounting research. *Accounting, Organizations and Society*, 33(7-8), 995-1009.

Getha-Taylor, H. (2009). Managing the “New Normalcy” with Values-Based Leadership: Lessons from Admiral James Loy. *Public Administration Review*, 69(2), 200-206.

Gharakhani, D., & Mousakhani, M. (2012). Knowledge management capabilities and SMEs' organizational performance. *Journal of Chinese Entrepreneurship*, 10(1), 1-18.

Girard, J. P., & McIntyre, S. (2010). Knowledge management modeling in public sector organizations: a case study. *International Journal of Public Sector Management*, 23(1), 71-77.

Girard, J., & Girard, J. (2015). Defining knowledge management: Toward an applied compendium. *Online Journal of Applied Knowledge Management*, 3(1), 1-20.

Glor, E. (1998). The role of innovation awards. *The Innovation Journal: The Public Sector Innovation Journal*, 3(1), 1-7.

Gold, A. H., Malhotra, A., & Segars, A. H. (2001). Knowledge management: An organizational capabilities perspective. *Journal of Management Information Systems*, 18(1), 185-214.

Grant, R. M. (1996). Toward a knowledge-based theory of the firm. *Strategic Management Journal*, 17(S2), 109-122.

Green, P. E., & Tull, D. S., Albaum.(1988) *Research for Marketing Decisions*. New Jerseys : Prentice-Hall.

Gunsel, A., Siachou, E., & Acar, A. Z. (2011). Knowledge management and learning capability to enhance organizational innovativeness. *Procedia-Social and Behavioral Sciences*, 24, 880-888.

Gupta, J. N., & Sharma, S. K. (Eds.). (2004). *Creating Knowledge Based Organizations.* New York: Ball State University.

Hannay, L., Jaafar, S. B., & Earl, L. (2013). A case study of district leadership using knowledge management for educational change. *Journal of Organizational Change Management*, 26(1), 64-82.

Hair, M. L., & Tripp, C. P. (1995). Alkylchlorosilane reactions at the silica surface. *Colloids and Surfaces A: Physicochemical and Engineering Aspects*, 105(1), 95-103.

Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (1998). *Multivariate Data Analysis*. New Jerseys : Prentice Hall.

Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (2006). *Multivariate Data Analysis*. New Jerseys : Prentice Hall.

Hair, J. F. Black, W.C., Babin., B.J., & Anderson R.E., (2010). *Multivariate Data Analysis, A Global Perspective*. 7th ed. New Jerseys : Prentice Hall.

Hair, J. F., Ringle, C. M., & Sarstedt, M. (2011). PLS-SEM: Indeed a silver bullet. *Journal of Marketing Theory and Practice*, 19(2), 139-152.

Hair Jr, J. F., Sarstedt, M., Hopkins, L., & Kuppelwieser, V. G. (2014). Partial least squares structural equation modeling (PLS-SEM). *European Business Review*, 26(2), 106-121.

Hofer, C. W. (1975). Toward a Contingency Theory of Business Strategy. *The Academy of Management Journal*, 18(4), 784–810.

Hoffman, J. J., Hoelscher, M. L., & Sherif, K. (2005). Social capital, knowledge management, and sustained superior performance. *Journal of Knowledge Management*, 9(3), 93-100.

Horner, M. (1997). Leadership theory: past, present and future. *Team Performance Management: An International Journal*, 3(4), 270-287.

Hsu, I. C., & Sabherwal, R. (2011). From intellectual capital to firm performance: the mediating role of knowledge management capabilities. *IEEE Transactions on Engineering Management*, 58(4), 626-642.

Hu, L. T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling*, 6(1), 1-55.

Hulland, J. (1999). Use of partial least squares (PLS) in strategic management research: a review of four recent studies. *Strategic Management Journal*, 20(2), 195-204.

Hult, G. T. M., & Ferrell, O. C. (1997). Global organizational learning capacity in purchasing: construct and measurement. *Journal of Business Research*, 40(2), 97-111.

Hult, T.M., Hurley, R.F., Knight, G.A., 2004. Innovativeness: its antecedents and impact on business performance. *Industrial Marketing Management*, 33, 429-438.

Hung, K. P., & Chou, C. (2013). The impact of open innovation on firm performance: The moderating effects of internal R&D and environmental turbulence. *Technovation*, 33(10-11), 368-380.

Hunter, S. T., Bedell, K. E., & Mumford, M. D. (2005). Dimensions of creative climate: A general taxonomy. *The International Journal of Creativity & Problem Solving*, 15(2), 97-116.

Hunter, S. T., Bedell, K. E., & Mumford, M. D. (2007). Climate for creativity: A quantitative review. *Creativity Research Journal*, 19(1), 69-90.

Hurley, R. F., & Hult, G. T. M. (1998). Innovation, market orientation, and organizational learning: an integration and empirical examination. *Journal of marketing*, 62(3), 42-54.

Hussein, N., Omar, S., Noordin, F., & Ishak, N. A. (2016). Learning organization culture, organizational performance and organizational innovativeness in a public institution of higher education in Malaysia: A preliminary study. *Procedia Economics and Finance*, 37, 512-519.

Hyypiä, M. (2013). *Roles of Leadership in Complex Environments: Enhancing Knowledge Flows in Organizational Constellations Through Practice-Based Innovation Processes*. Retrieved February 20, 2020, from https://www.lutpub.lut.fi/handle/10024/94027.

Ingebrigtsen, T., Georgiou, A., Clay-Williams, R., Magrabi, F., Hordern, A., Prgomet, M., & Braithwaite, J. (2014). The impact of clinical leadership on health information technology adoption: systematic review. *International Journal of Medical Informatics*, 83(6), 393-405.

Isaksen, S. G., & Ekvall, G. (2007). Assessing your context for change: a technical manual for the SOQ–Enhancing performance of organizations, leaders and teams for over 50 years.

Isaksen, S. G., & Ekvall, G. (2010). Managing for innovation: The two faces of tension in creative climates. *Creativity and Innovation Management*, 19(2), 73-88.

Ismail, M. (2005). Creative climate and learning organization factors: their contribution towards innovation. *Leadership & Organization Development Journal*, 26(8), 639-654.

Irwin, K. C., Landay, K. M., Aaron, J. R., McDowell, W. C., Marino, L. D., & Geho, P. R. (2018). Entrepreneurial orientation (EO) and human resources outsourcing (HRO): A "HERO" combination for SME performance. *Journal of Business Research*, 90, 134-140.

Jabbouri, N. I., Siron, R., Zahari, I., & Khalid, M. (2016). Impact of information technology infrastructure on innovation performance: an empirical study on private universities in Iraq. *Procedia Economics and Finance*, 39, 861-869.

Jaiswal, N. K., & Dhar, R. L. (2015). Transformational leadership, innovation climate, creative self-efficacy and employee creativity: A multilevel study. *International Journal of Hospitality Management*, 51, 30-41.

Jain, A.K. and Jeppesen, H.J. (2013), Knowledge management practices in a public sector organization: the role of leaders' cognitive styles, *Journal of Knowledge Management*, 17(3), 347-362.

Johnson, K. (2018). *What Are the Implications of the Contingency Theory for Managers?* Retrieved February 20, 2020, from http://smallbusiness.chron.com/ implicationscontingency-theory-managers80500.html.

Jones, G., & George, J. (2003). *Contemporary Management*. 3rd ed. New York: McGrew-Hill.

Kammani, A., Date, H., & Hundewale, N. (2013). Organizational knowledge management capability: a multi case study. *International Journal of Information Technology and Management*, 12(3-4), 298-319.

Kandadi, K. R., & Acheampong, E. A. (2009). *Assessing the Knowledge Management Capability of the Ghanaian Public Sector Through the "BCPI Matrix": A Case Study of the Value Added Tax (VAT) Service.* Retrieved February 12, 2020, from https://semanticscholar.org/paper/Assessing-the-Knowledge-Management-Capability-of-A-Acheampong-Kandadi/d0f81ac44d94a 84d935e3d01 1cd411973d5839897.

Kankanhalli, A., Tan, B. C., & Wei, K. K. (2005). Understanding seeking from electronic knowledge repositories: An empirical study. *Journal of the American Society for Information Science and Technology*, 56(11), 1156-1166.

Kaplan, M., Berci, G., & Barry, J. (2001). *Patent services in the US*. Retrieved February 12, 2020, from https://www.patentarea.com/countries/patent-filing-sa/?gclid=Cj0KCQjwpdqDBhCSARIsAEUJ0hPr0gp3QucH-eh6slWddVX2CfY14lPtSXPWw8GUr9rVyi5e8GvN6zIaAtsVEALw_wcB.

Kaplan, R. S., & Norton, D. P. (2004). The strategy map: guide to aligning intangible assets. *Strategy & Leadership*, 32(5), 10-17.

Kearns, G. S., & Sabherwal, R. (2007). Antecedents and consequences of information systems planning integration. *IEEE Transactions on Engineering Management*, 54(4), 628-643.

Kee, J. E., Newcomer, K., & Davis, S. M. (2014). *Transformational Stewardship: Leading Public-Sector Change.* Transforming public leadership for the 21st century, 168-196.

Kettl, D. F. (2006). Managing boundaries in American administration: The collaboration imperative. *Public Administration Review*, 66, 10-19.

Khasawneh, M. A. (2018). Macrotexture characterisation of laboratory-compacted hot-mix asphalt specimens using a new asphalt polishing machine. *Road Materials and Pavement Design*, 19(2), 400-416.

Kim, T. H., & Benbasat, I. (2012, January). *Effectiveness of Knowledge Seeking Behaviors Embedded in Social Networks: A Perspective of Individuals in Workplaces*. In 2012 45th Hawaii International Conference on System Sciences, 3848-3857, IEEE.

Kim, H.Y. (2013). Statistical notes for clinical researchers: Assessing normal distribution using skewness and kurtosis. *Restorative Dentistry & Endodontics*, 38(1), 52-54.

Kim, T. T., Lee, G., Paek, S., & Lee, S. (2013). Social capital, knowledge sharing and organizational performance. *International Journal of Contemporary Hospitality Management*, 25(5), 683-704.

Kline, T. J. (2005). *Psychological Testing: A Practical Approach to Design and Evaluation.* New York *: Sage.*

Kogut, B. and U. Zander (1996). What Firms Do? Coordination, Identity, and Learning. *Organization Science*, 7(5), 502-523.

Kong, E., & Thomson, S. B. (2009). An intellectual capital perspective of human resource strategies and practices. *Knowledge Management Research & Practice*, 7(4), 356-364.

Korsgaard, M. A., & Roberson, L. (1995). Procedural justice in performance evaluation: The role of instrumental and non-instrumental voice in performance appraisal discussions. *Journal of Management*, 21(4), 657-669.

Kulkarni, U., & Freeze, R. (2004). Development and validation of a knowledge management capability assessment model. ICIS 2004 Proceedings. Twenty-Fifth. *International Conference on Information Systems*, 657-670.

Kurtessis, J. N., Eisenberger, R., Ford, M. T., Buffardi, L. C., Stewart, K. A., & Adis, C. S. (2017). Perceived organizational support: A meta-analytic evaluation of organizational support theory. *Journal of Management*, 43(6), 1854-1884.

Kwok, W. C., & Sharp, D. J. (1998). A review of construct measurement issues in behavioral accounting research. *Journal of Accounting Literature*, 17(1), 137-174.

Lakshman, C., & Parente, R. C. (2008). Supplier-focused knowledge management in the automobile industry and its implications for product performance. *Journal of Management Studies*, 45(2), 317-342.

Levitt, B., & March, J. G. (1988). Organizational learning. *Annual Review of Sociology*, 14(1), 319-338.

Lewis, E.F., Hardy, M., & Snaith, B. (2013). An analysis of survey reporting in the imaging professions: is the issue of non-response bias being adequately addressed?. *Radiography*, 19(3), 240-245.

Li, S., Ragu-Nathanb, B., Ragu-Nathanb, T.S. Raob, S. (2006). The impact of supply chain management practices on competitive advantage and organizational performance, *Omega: The International Journal of Management Science*, 34, 107-124.

Liao, S., Fei, W., Liu, C. (2008). Relationships between knowledge inertia, organizational learning and organization innovation. *Technovation*, 28(4), 183-195.

Lin, H. (2011), Antecedents of the stage-based knowledge management evolution, *Journal of Knowledge Management*, 15(1), 136-155.

Lin, C. Y. Y., & Liu, F. C. (2012). A cross-level analysis of organizational creativity climate and perceived innovation. *European Journal of Innovation Management*, 15(1), 55-76.

Lindell, M. K., & Whitney, D. J. (2001). Accounting for common method variance in cross-sectional research designs. *Journal of Applied Psychology*, 86(1), 114-121.

Lindner, J. R., Murphy, T. H., & Briers, G. E. (2001). Handling Nonresponse In Social Science Research. *Journal of Agricultural Education*, 42(4), 43-53.

Liu, H., Song, D., & Cai, Z. (2014). *Knowledge Management Capability and Firm Performance: the Mediating Role of Organizational Agility*. Retrieved February 12, 2020, from https://core.ac.uk/download/pdf/301362785.pdf.

Liu, P. L., Chen, W. C., & Tsai, C. H. (2004). An empirical study on the correlation between knowledge management capability and competitiveness in Taiwan's industries. *Technovation*, 24(12), 971-977.

Liu, S., & Deng, Z. (2015). Understanding knowledge management capability in business process outsourcing: a cluster analysis. *Management Decision*, 53(1), 124-138.

López-Nicolás, C., & Meroño-Cerdán, Á. L. (2011). Strategic knowledge management, innlvation and performance. *International Journal of Information Management*, 31(6), 502-509.

Lumpkin, T.G., Dess, G.G., 1996. Clarifying the entrepreneurial orientation construct and linking it to performance. *Academy of Management Journal*, 21(1), 135-172.

Luthans, F., & Stewart, T. I. (1977). A general contingency theory of management. *Academy of Management Review*, 2(2), 181-195.

Ma, H., Peng, Y., & Shi, Y. (2009). The Effect of Information Technology and Knowledge Management Capability on R&D Process Performance. *Journal of Knowledge-Based Innovation in China*, 1(1), 43-55.

Mabey, C., Kulich, C., & Lorenzi-Cioldi, F. (2012). Knowledge leadership in global scientific. *The International Journal of Human Resource Management*, 23(12), 2450-2467.

Madhoushi, M., Sadati, A., Delavari, H., Mehdivand, M., & Mihandost, R. (2011). Entrepreneurial orientation and innovation performance: The mediating role of knowledge management. *Asian Journal of Business Management*, 3(4), 310-316.

Mafabi, S., Munene, J., & Ntayi, J. (2012). Knowledge management and organisational resilience. *Journal of Strategy and Management*, 5(1), 57-80.

Manning, P. (2010). Explaining and developing social capital for knowledge management purposes. *Journal of Knowledge Management*, 14(1), 83-99.

Mao, H., Liu, S., Zhang, J., & Deng, Z. (2016). Information technology resource, knowledge management capability, and competitive advantage: The moderating role of resource commitment. *International Journal of Information Management*, 36(6), 1062-1074.

Ma, H., Peng, Y., & Shi, Y. (2009). The effect of information technology and knowledge management capability on R&D process performance. *Journal of Knowledge-based Innovation in China*, 1(1) : 43-55.

March, J., & Simon, H., (1958). *Organizations.* New York: Jonh Wiley and Sons.

Martinez-Conesa, I., Soto-Acosta, P., & Carayannis, E. G. (2017). On the path towards open innovation: Assessing the role of knowledge management capability and environmental dynamism in SMEs. *Journal of Knowledge Management*, 21(3), 553-570.

Martins, E.C., Terblanche, F., 2003. Building organisational culture that stimulates creativity and innovation. *European Journal of Innovation Management*, 6(1), 64-74.

Masa'deh R, Obeidat BY and Tarhini A (2016) A Jordan empirical study of the association among transformational leadership, transactional leadership, knowledge sharing, job performance and firm performance: A structural equation modeling approach. *Journal of Management Development*, 35(6), 681-705.

Más-Machuca, M. (2014). The role of leadership: the challenge of knowledge management and learning in knowledge-intensive organizations. *International Journal of Educational Leadership and Management*, 2(1), 97-116.

Massaro, M., Dumay, J., & Garlatti, A. (2015). Public sector knowledge management: a structured literature review. *Journal of Knowledge Management*, 19(3), 530-558.

Matsuo, M. (2006). Customer orientation, conflict, and innovativeness in Japanese sales departments. *Journal of Business Research*, 59(2), 242-250.

McDonough III, E. F. (2000). Investigation of factors contributing to the success of cross-functional teams. *Journal of Product Innovation Management: An International Publication of the Product Development & Management Association*, 17(3), 221-235.

McEvoy, P. J., Arisha, A., & Ragab, M. (2015*). A Review of Knowledge Management in the Public Sector: A Taxonomy*. Retrieved February 12, 2020, from *https://arrow.tudublin.ie/cgi/viewcontent.cgi?article=1017&context=buschgracon.*

McEvoy, P., Ragab, M. A., & Arisha, A. (2017). Review on the KM applications in public organisations. *Electronic Journal of Knowledge Management*, 15(1), 37-48.

Menguc, B., Auh, S., & Shih, E. (2007). Transformational leadership and market orientation: Implications for the implementation of competitive strategies and business unit performance. *Journal of Business Research*, 60(4), 314-321.

Meso, P., & Smith, R. (2000). A resource-based view of organizational knowledge management systems. *Journal of Knowledge Management*, 4(3), 224-234.

Miles, J., & Shevlin, M. (2001). *Applying Regression and Correlation: A Guide for Students and Researchers*. London: Sage.

Miller, L., & Smith, K. (1983). Handling Nonresponse Issues. *Journal of Extension*, 21, 45-50.

Miller, P. H. (2002). *Theories of Developmental Psychology*. Macmillan.

Mingaine, L. (2013). Leadership Challenges in the Implementation of ICT in Public Secondary Schools, Kenya. *Journal of Education and Learning*, 2(1), 32-43.

Miranda, S. M., Lee, J. N., & Lee, J. H. (2011). Stocks and flows underlying organizations' knowledge management capability: Synergistic versus contingent complementarities over time. *Information & Management*, 48(8), 382-392.

Mládková, L. (2012). Leadership in management of knowledge workers. *Procedia-Social and Behavioral Sciences*, 41, 243-250.

Montes, F. J. L., Moreno, A. R., & Fernández, L. M. M. (2004). Assessing the organizational climate and contractual relationship for perceptions of support for innovation. *International Journal of Manpower*, 25(2), 167-180.

Montes, F. J. L., Moreno, A. R., & Morales, V. G. (2005). Influence of support leadership and teamwork cohesion on organizational learning, innovation and performance: an empirical examination. *Technovation*, 25(10), 1159-1172.

Moon, M. J., & Norris, D. F. (2005). Does managerial orientation matter? The adoption of reinventing government and e-government at the municipal level. *Information Systems Journal*, 15(1), 43-60.

Moradi, S., Nima, A. A., Rapp Ricciardi, M., Archer, T., & Garcia, D. (2014). Exercise, character strengths, well-being, and learning climate in the prediction of performance over a 6-month period at a call center. *Frontiers in Psychology*, 5, 497.

Morse, R. S. (2010). Integrative public leadership: Catalyzing collaboration to create public value. *The Leadership Quarterly*, 21(2), 231-245.

Mossholder, K. W., Bennett, N., Kemery, E. R., & Wesolowski, M. A. (1998). Relationships between bases of power and work reactions: The mediational role of procedural justice. *Journal of Management*, 24(4), 533-552.

Mostafa, M. M., & El-Masry, A. (2008). Perceived barriers to organizational creativity. Cross Cultural Management: *An International Journal*, 15(1), 81-93.

Mouritsen, J. (1998). Driving growth: economic value added versus intellectual capital. *Management Accounting Research*, 9(4), 461-482.

Mustafid, Q. Y. (2013). Determining innovation aspect in the performance of public service sector. *Journal of Social and Development Sciences*, 4(8), 361-368.

Nahapiet, J., & Ghoshal, S. (1998). Social capital, intellectual capital, and the organizational advantage. *Academy of Management Review*, 23(2), 242-266.

Najmi, K., Kadir, A. R., & Kadir, M. I. A. (2018). Mediation effect of dynamic capability in the relationship between knowledge management and strategic leadership on organizational performance accountability. *International Journal of Law and Management*, 60(2), 517-529.

Naqshbandi, M. M., & Jasimuddin, S. M. (2018). Knowledge-oriented leadership and open innovation: Role of knowledge management capability in France-based multinationals. *International Business Review*, 27(3), 701-713.

Narasimha, S. (2000). Organizational knowledge, human resource management, and sustained competitive advantage: Toward a framework. *Competitiveness Review: An International Business Journal*, 10(1), 123-135.

Nawaz, Z. A. K. D. A., & Khan_ Ph.D., I. (2016). Leadership theories and styles: A literature review. *Leadership*, 16(1), 1-7.

Nelson, R. R., & Winter, S. G. (1982). The Schumpeterian tradeoff revisited. *The American Economic Review*, 72(1), 114-132.

NESDB: National Economic and Social Development Board. (2017). The 12th National Economic and Social Development Plan (2017-2021).

Neuman, W. L. (2006). *Social Research Methods Qualitative and Quantitative Approaches.* USA: Pearson.

Nguyen, H. N., & Mohamed, S. (2011). Leadership behaviors, organizational culture and knowledge management practices. *Journal of Management Development*, 30(2), 206-221.

Nickerson, J. A., & Zenger, T. R. (2004). A knowledge-based theory of the firm—The problem-solving perspective. *Organization Science*, 15(6), 617-632.

Nilakanta, S., Miller, L., Peer, A., & Bojja, V. M. (2009). *Contribution of Knowledge and Knowledge Management Capability on Business Processes Among Healthcare Organizations*. In 2009 42nd Hawaii international conference on system sciences, 1-9.

Nonaka, I. (1994). A dynamic theory of organizational knowledge creation. *Organization Scie*nce, 5(1), 14-37.

Nonaka, I., & Takeuchi, H. (1995). *The Knowledge-Creating Company: How Japanese Companies Create the Dynamics of Innovation*. London : Oxford University.

Northouse, P. G. (2010). *Leadership: Theory and Practice*. 5th ed. Thousand Oaks, CA: *Sage*.

Noruzy, A., Dalfard, V. M., Azhdari, B., Nazari-Shirkouhi, S., & Rezazadeh, A. (2013). Relations between transformational leadership, organizational learning, knowledge management, organizational innovation, and organizational performance: an empirical investigation of manufacturing firms. *International Journal of Advanced Manufacturing Technology*, 64(5-8), 1073-1085.

Nunnally, J. C., & Bernstein, I. H. (1978). *Psychometric Theory*. 2nd ed. New York : McGraw-Hill.

Nunnally, J.C., & Bernstein, I. H. (1994). *Psychometric Theory*. New York : McGraw-Hill.

Obeidat, B. Y., & Zyod, D. S. (2015). The associations among transformational leadership, transactional leadership, knowledge sharing, job performance, and firm performance: A theoretical model. *Journal of Social Sciences (COES&RJ-JSS)*, 4(2), 848-866.

O'Brien, J. A. (2001). *Introduction to Information Systems*. Boston : McGraw-Hill.

Oluikpe, P. (2012), Developing a corporate knowledge management strategy, *Journal of Knowledge Management*, 16(6), 862-878.

Olum, Y. (2004). *Modern Management Theories and Practices*. Uganda: Makerere University.

Omerzel, D. G., & Gulev, R. E. (2011). Knowledge resources and competitive advantage. *Managing Global Transitions*, 9(4), 335-354.

Örtenblad, A. (2002). A typology of the idea of learning organization. *Management Learning*, 33(2), 213-230.

Osborne, S. P. (2018). From public service-dominant logic to public service logic: are public service organizations capable of co-production and value co-creation?. *Public Management Review*, 20(2), 225–231.

Osborne, J. W., & Waters, E. (2002). Four assumptions of multiple regression that researchers should always test. *Practical Assessment, Research & Evaluation*, 8(2), 1-5.

Özbağ, G. K., Esen, M., & Esen, D. (2013). The impact of HRM capabilities on innovation mediated by knowledge management capability. *Procedia-Social and Behavioral Sciences*, 99, 784-793.

Park, S., & Kim, E. J. (2018). Fostering organizational learning through leadership and knowledge sharing. *Journal of Knowledge Management*, 22(6), 1408-1423.

Pebrianto, A., & Djamhur, S., K. (2013). The Influence of Information Technology Capability, Organizational Learning, and Knowledge Management Capability on Organizational Performance (A Study of Banking Branches Company in Southern Kalimantan Province). *Information and Knowledge Management*, 3(11), 112-120.

Pee, L. G., & Kankanhalli, A. (2009). A model of organisational knowledge management maturity based on people, process, and technology. *Journal of Information & Knowledge Management*, 8(02), 79-99.

Pemberton, J. D., & Stonehouse, G. H. (2000). Organisational learning and knowledge assets–an essential partnership. *The learning Organization*, 7(4), 184-194.

Penin, J. (2005). Patents versus ex post rewards: A new look. *Research Policy*, 34(5), 641-656.

Pérez-López, S., & Alegre, J. (2012). Information technology competency, knowledge processes and firm performance. *Industrial Management & Data Systems*, 112(4), 644-662.

Petkovšek, V., & Cankar, S. S. (2013). *Public sector Innovation in the European Union and Example of Good Practice*. In active citizenship by knowledge management & innovation: Proceedings of the management, knowledge and learning international conference 2013, 1329-1336.

Pini, P., & Santangelo, G. D. (2010). The underlying internal learning processes of incremental and radical innovations: An analysis in the Emilia-Romagna region. *Economia Politica*, 27(1), 55-82.

Piercy, N. F., & Morgan, N. A. (1994). The marketing planning process: Behavioral problems compared to analytical techniques in explaining marketing plan credibility. *Journal of Business Research*, 29(3), 167-178.

Podsakoff, P. M., & MacKenzie, S. B. Jeong-Yeon Lee, & Podsakoff, NP (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, 88(5), 879-903.

Podsakoff, P. M., & Organ, D. W. (1986). Self-reports in organizational research: Problems and prospects. *Journal of Management*, 12(4), 531-544.

Polanyi, M. (1966). The logic of tacit inference. *Philosophy*, 41(155), 1-18.

Pucciarelli, F., & Kaplan, A. (2016). Competition and strategy in higher education: Managing complexity and uncertainty. *Business Horizons*, 59(3), 311-320.

Putnam, R. (1993). The prosperous community: Social capital and public life. *The American Prospect*, 4(13), 1-11.

Rahimli, A. (2012). Knowledge management and competitive advantage. *Information and Knowledge Management*, 2(7), 37-43.

Rahman, A. B. A., & Hassani, S. (2011). Knowledge Management Capabilities Rubrics. *American Journal of Economics and Business Administration*, 3(3), 439-443.

Ramezani, Y., Safari, Z., Hashemiamin, A., & Karimi, Z. (2017). The impact of knowledge-oriented leadership on innovative performance through considering the mediating role of knowledge management practices. *Industrial Engineering & Management Systems*, 16(4), 495-506.

Rashid, K., & Ahmad, R.A. (2016). The social democratization of knowledge: some critical reflections on e-learning. *Multicultural Education & Technology Journal*, 1(1), 64-74.

Ravishankar, M. N., & Pan, S. L. (2008). The influence of organizational identification on organizational knowledge management (KM). *Omega*, 36(2), 221-234.

Rhoades, L., & Eisenberger, R. (2002). Perceived organizational support: a review of the literature. *Journal of Applied Psychology*, 87(4), 698-714.

Roberts, N., & Grover, V. (2012). Leveraging information technology infrastructure to facilitate a firm's customer agility and competitive activity: An empirical investigation. *Journal of Management Information Systems*, 28(4), 231-270.

Rogelberg, S. & Stanton, J. (2007). Understanding and dealing with organizational survey nonresponse. *Organizational Research Methods*, 10(2), 195-209.

Rogers, E.M., (2003). *Diffusion of Innovations*. 5th ed. New York : Free Press.

Roper, S., & Hewitt-Dundas, N. (2015). Knowledge stocks, knowledge flows and innovation: Evidence from matched patents and innovation panel data. *Research Policy*, 44(7), 1327-1340.

Rosenfeld, R. (1990). *Innovation and Creativity at Work: Psychological and Organizational Strategies*. England: Wiley.

Rosier, E. R., Morgan, R. E., & Cadogan, J. W. (2010). Marketing strategy and the efficacy of procedural justice: The mid-level marketing manager in industrial service firms. *Industrial Marketing Management*, 39(3), 450-459.

Rothberg, H. N., & Erickson, G. S. (2005). From knowledge to intelligence: Creating competitive advantage in the next economy. *Routledge*: Butterworth-Heinemann.

Sadeghi, A., & Rad, F. (2018). The role of knowledge-oriented leadership in knowledge management and innovation. *Management Science Letters*, *8*(3), 151-160.

Sahni, N. R., Wessel, M., & Christensen, C. M. (2013). Unleashing breakthrough innovation in government. *Stanford Social Innovation Review*, *11*(3), 27-31.

Salleh, K., Chong, S. C., Ahmad, S. N. S., & Ikhsan, S. O. S. S. (2013). The extent of influence of learning factors on tacit knowledge sharing among public sector accountants. *VINE: The Journal of Information and Knowledge Management Systems*, 43(4), 424-441.

Samad, A. (2004). Performance of Interest-free Islamic banks vis-à-vis Interest-based Conventional Banks of Bahrain. *International Journal of Economics, Management and Accounting*, 12(2), 1-15.

Samad, S. (2010). *The role of Creative Organizational Climate on Learning Organization-A Key Component of Knowledge Management*. In 2010 Second International Conference on Computer Engineering and Applications, *2*, 404- 409.

Sandhawalia, B. S., & Dalcher, D. (2011). Developing knowledge management capabilities: a structured approach. *Journal of Knowledge Management*, 15, 313- 328.

Sandhu, M. S., Jain, K. K., & bte Ahmad, I. U. K. (2011). Knowledge sharing among public sector employees: evidence from Malaysia. *International Journal of Public Sector Management*, 24(3), 206-226.

Santamaría, L., Nieto, M. J., & Barge-Gil, A. (2009). Beyond formal R&D: Taking advantage of other sources of innovation in low-and medium-technology industries. *Research Policy*, 38(3), 507-517.

Sarin, S., & McDermott, C. (2003). The effect of team leader characteristics on learning, knowledge application, and performance of cross-functional new product development teams. *Decision Sciences*, 34, 707-739.

Schepers, J., Wetzels, M., & de Ruyter, K. (2005). Leadership styles in technology acceptance: do followers practice what leaders preach?. *Managing Service Quality*, 15(6), 496-508.

Schermelleh-Engel, K., & Moosbrugger, H. (2003). Evaluating the fit of structural equation models: Tests of significance and descriptive goodness-of-fit measures. *Methods of Psychological Research Online*, 8(2), 23-74.

Schiuma, G., Andreeva, T., & Kianto, A. (2012). Does knowledge management really matter? Linking knowledge management practices, competitiveness and economic performance. *Journal of Knowledge Management*. 6(4), 617-636.

Schumpeter, J. A. (1991). *Essays: On Entrepreneurs, Innovations, Business Cycles, and the Evolution of Capitalism*. New York: Routledge.

Schulz, M. (2003). Pathways of relevance: Exploring inflows of knowledge into subunits of multinational corporations. *Organization Science*, 14(4), 440-459.

Schweitzer, J., & Gudergan, S. (2010). Leadership behaviours as ongoing negotiations and their effects on knowledge and innovation capabilities in alliances. *International Journal of Knowledge Management Studies*, 4(2), 176-197.

Schwaer, C., Biemann, T., & Voelpel, S. (2012). Antecedents of employee's preference for knowledge-sharing tools. *The International Journal of Human Resource Management*, 23(17), 3613-3635.

Seba, I., & Rowley, J. (2010). Knowledge management in UK police forces. *Journal of Knowledge Management*, 14(4), 611-626.

Seba, I., Rowley, J., & Delbridge, R. (2012). Knowledge sharing in the Dubai police force. *Journal of Knowledge Management*, 16(1), 114-128.

Seleim, A. A., & Khalil, O. E. (2011). Understanding the knowledge management-intellectual capital relationship: a two-way analysis. *Journal of Intellectual Capital*, 12(4), 586-614.

Senge, P. M., Kleiner, A., Roberts, C., Ross, R., & Smith, B. (1994). *The Fifth Discipline Fieldbook: Strategies and Tools for Building a Learning Organization*. New York: Currency.

Senge, P. M. (2014). *The Fifth Discipline Fieldbook: Strategies and Tools for Building a Learning Organization*. New York: Currency.

Sethibe, T., & Steyn, R. (2015). The relationship between leadership styles, innovation and organisational performance: A systematic review. *South African Journal of Economic and Management Sciences*, 18(3), 325-337.

Shah, J., & Ali, B. (2011). Organizational climate: Stimulating creativity and idea generation for discovery of innovative solutions. *Interdisciplinary Journal of Contemporary Research in Business*, 3(1), 429-447.

Shahzad, K., Bajwa, S. U., Siddiqi, A. F. I., Ahmid, F., & Sultani, A. R. (2016). Integrating knowledge management (KM) strategies and processes to enhance organizational creativity and performance. *Journal of Modelling in Management*, 11(1), 154-179.

Shamim, S., Cang, S., Yu, H., & Li, Y. (2016). *Management Approaches for Industry 4.0: A Human Resource Management Perspective*. In 2016 IEEE Congress on Evolutionary Computation (CEC), 5309-5316.

Shanker, R., Bhanugopan, R., Van der Heijden, B. I., & Farrell, M. (2017). Organizational climate for innovation and organizational performance: The mediating effect of innovative work behavior. *Journal of Vocational Behavior*, 100, 67-77.

Shih, H. A., & Chiang, Y. H. (2005). Strategy alignment between HRM, KM, and corporate development. *International Journal of Manpower*, 26(6), 582-603.

Shoham, A., Vigoda-Gadot, E., Ruvio, A., & Schwabsky, N. (2012). Testing an organizational innovativeness integrative model across cultures. *Journal of Engineering and Technology Management*, 29(2), 226-240.

Shore, L. M., & Wayne, S. J. (1993). Commitment and employee behavior: Comparison of affective commitment and continuance commitment with perceived organizational support. *Journal of Applied Psychology*, 78, 774-780.

Shrivastava, P. (1983). A typology of organizational learning systems. *Journal of Management Studies*, 20(1), 7-28.

Singh, S. K. (2008). Role of leadership in knowledge management: a study. *Journal of Knowledge Management*, 12(4), 3-15.

Singh, C., Daron, J., Bazaz, A., Ziervogel, G., Spear, D., Krishnaswamy, J., & Kituyi, E. (2018). The utility of weather and climate information for adaptation decision-making: current uses and future prospects in Africa and India. *Climate and Development*, 10(5), 389-405.

Smith, P. A., Bakker, M., Leenders, R. T. A., Gabbay, S. M., Kratzer, J., & Van Engelen, J. M. (2006). Is trust really social capital? Knowledge sharing in product development projects. *The Learning Organization*, 13(6), 594-605.

Spender, J. C. (1989). *Industry Recipes*. Oxford: Basil Blackwell.

Spender, J. C. (1992). Limits to learning from the West: How Western management advice may prove limited in Eastern Europe. *The International Executive*, 34(5), 389-413.

Spender J.C. (1996). Making knowledge the basis of a dynamic theory of the firm. *Strategic Management Journal*, 17(Winter Special Issue), 45-62.

Stahl, G. K., Mäkelä, K., Zander, L., & Maznevski, M. L. (2010). A look at the bright side of multicultural team diversity. *Scandinavian Journal of Management*, 26(4), 439-447.

Stanley C. (2002). *Knowing and Acknowledging, Must We Mean What We Say?*. Cambridge : Harvard University, Massachusetts.

Sundgren, M., Dimenäs, E., Gustafsson, J. E., & Selart, M. (2005). Drivers of organizational creativity: a path model of creative climate in pharmaceutical R&D. *R&D Management*, 35(4), 359-374.

Suwannarat. P. (2016a). The study of export intermediary performance determinants. *Multinational Business Review*, 24(2) 123-143.

Suwannarat. P. (2016b). Export intermediaries and their competency to reduce transaction costs: examining the moderating role of learning orientation. *Asian Journal of Business and Accounting*, 9(2), 181-217.

Swink, M., & Song, M. (2007). Effects of marketing-manufacturing integration on new product development time and competitive advantage. *Journal of Operations Management*, 25(1), 203-217.

Tajdini, J., & Tajeddini, O. (2018). Innovativeness and knowledge management in public sector enterprises. *Middle East Journal of Management*, 5(3), 271-295.

Tajeddini, K. (2016). Analyzing the influence of learning orientation and innovativeness on performance of public organizations. *Journal of Management Development*, 35(2), 134-153.

Tanriverdi, H. (2005). Information technology relatedness, knowledge management capability, and performance of multibusiness firms. *MIS Quarterly*, 29(2), 311-334.

Tanzi, V., & Shome, P. (1992). The role of taxation in the development of east asian economies. *In The Political Economy of Tax Reform*, 1, 31-65.

Tavakol, M., & Dennick, R. (2011). Making sense of Cronbach's alpha. *International Journal of Medical Education*. 2, 53–55.

Teece, D. (1998). Capturing value from knowledge assets: the new economy, markets for know-how and intangible assets. *California Management Review*, 40(3), 55-79.

Templeton, G.F., Lewis, B.R., & Snyder, C.A. (2002). Development of a measure for the organizational learning construct. *J Manag Inf Syst*, 19(2), 175-218.

Terry, P. (1995). The efficacy of mood state profiling with elite performers: A review and synthesis. *The Sport Psychologist*, 9(3), 309-324.

Thenint, H. (2010). *Mini Study 10 Innovation in the Public Sector*. New York : Free Press.

Theriou, G. N., & Chatzoglou, P. D. (2008). Enhancing performance through best HRM practices, organizational learning and knowledge management. *European Business Review*, 20(3), 185-207.

Theriou, N. G., Aggelidia, V., & Theriou, G. (2009). A theoretical framework contrasting the resource-based perspective and the knowledge-based view. *European Research Studies*, 7(3), 178-190.

Thoumrungroje, A., & Racela, O. (2013). The contingent role of customer orientation and entrepreneurial orientation on product innovation and performance. *Journal of Strategic Marketing*, 21(2), 140-159.

Torugsa, N., & Arundel, A. (2016). Complexity of innovation in the public sector: A workgroup-level analysis of related factors and outcomes. *Public Management Review*, 18(3), 392-416.

Tripon, C., & Dodu, M. (2005). *Change Management and Organization Development*. New Jersey : Pranctice Hall.

Tuan, L. T.,(2017). Knowledge sharing in public organizations: The roles of servant leadership and organizational citizenship behavior. *International Journal of Public Administration*, 40(4), 361-373.

Turner, R. C., & Carlson, L. (2003). Indexes of Item-Objective Congruence for Multidimensional Items. *International Journal of Testing*, 3(2), 163-171.

Ugwu, C. I., & Okore, A. M. (2020). Transformational and transactional leadership influence on knowledge management activities of librarians in university libraries in Nigeria. *Journal of Librarianship and Information Science*, 52(3), 864-879.

Ulku, H. (2007). R&D, innovation, and growth: evidence from four manufacturing sectors in OECD countries. *Oxford Economic Papers*, 59(3), 513-535.

Urbancova, H. (2013). Competitive advantage achievement through innovation and knowledge. *Journal of Competitiveness*, 5(1), 82-96.

Van Wart, M. (2013). Lessons from leadership theory and the contemporary challenges of leaders. *Public Administration Review*, 73(4), 553-565.

Vargas, M.I.R. (2015). Determinant factors for small business to achieve innovation, high performance and competitiveness: organizational learning and leadership style. *Procedia-Social and Behavioral Sciences*, 169, 43-52.

Voon, M. L., Lo, M. C., Ngui, K. S., & Ayob, N. B. (2011). The influence of leadership styles on employees' job satisfaction in public sector organizations in Malaysia. *International Journal of Business, Management and Social Sciences*, 2(1), 24-32.

Von Krogh, G., Nonaka, I., & Rechsteiner, L. (2012). Leadership in organizational knowledge creation: A review and framework. *Journal of Management Studies*, 49(1), 240-277.

Vroom, V. H., & Yetton, P. W. (1973). *Leadership and Decision-Making*. London: Feffer and Simuns.

Wainer, H., & Kiely, G. L. (1987). Item clusters and computerized adaptive testing: A case for testlets. *Journal of Educational Measurement*, *24*(3), 185-201.

Wahyuningsih, A., Astuti, E. S., & Musadieq, M. A. (2013). The Effect of Organizational Learning on Knowledge Management, Capability and Performance of Organization. *Journal of Basic and Applied Scientific Research*, 3(5), 159-169.

Walker, R. M. (2008). An empirical evaluation of innovation types and organizational and environmental characteristics: Towards a configuration framework. *Journal of Public Administration Research and Theory*, 18(4), 591-615.

Wang, C. L., & Ahmed, P. K. (2004). The development and validation of the organisational innovativeness construct using confirmatory factor analysis. *European journal of Innovation Management*, 7(4), 303-313.

Weill, P., Broadbent, M., & Butler, C. (1996). *Exploring How Firms view IT Infrastructure*. Melbourne Business School University of Melbourne.

Wellma, J. (2009). *Organizational Learning: How Companies and Institutions Manage and Apply Knowledge*. London : Springer.

Werlang, N. B., & Rossetto, C. R. (2019). The effects of organization learning and innovativeness on organizational performance in the service provision sector. *Gestão & Produção*, 26(3), 1-18.

Wernerfelt B. 1984. A resource-based view of the firm. *Strategic Management Journal*, 5(2), 171-180.

Wiig, K. M. (1997). Integrating intellectual capital and knowledge management. *Long Range Planning*, 30(3), 399-405.

Willem, A., & Buelens, M. (2007). Knowledge sharing in public sector organizations: The effect of organizational characteristics on interdepartmental knowledge sharing. *Journal of Public Administration Research and Theory*, 17(4), 581-606.

Williams, K. Y., & O'Reilly III, C. A. (1998). Demography and diversity in organizations: A review of 40 of research. *Research in organizational behavior*, 20, 77-140.

Williams, P., & Sullivan, H. (2011). Lessons in leadership for learning and knowledge management in multi-organisational settings. *International Journal of Leadership in Public Services*, 7, 6-20.

Wojnicka-Sycz, E., & Sycz, P. (2016). Public innovation policy and other determinants of innovativeness in Poland. *The Innovation Journal*, 21(3), 1- 23.

Wong, W. P., & Wong, K. Y. (2011). Supply chain management, knowledge management capability, and their linkages towards firm performance. *Business Process Management Journal*, 17(6), 940-964.

Wood, S. (1979). A reappraisal of the contingency approach to organization. *Journal of Management Studies*, 16(3), 334-354.

Woodward, J. (1965). *Industrial Organization: Theory and Practice*. London: Oxford University Press.

Wu, J., & Shanley, M. T. (2009). Knowledge stock, exploration, and innovation: Research on the United States electromedical device industry. *Journal of Business Research*, 62(4), 474-483.

Wu, W. Y., & Tsai, H. J. (2005). Impact of social capital and business operation mode on intellectual capital and knowledge management. *International Journal of Technology Management*, 30(1-2), 147-171.

Xie, X., Wang, L., & Zeng, S. (2018). Inter-organizational knowledge acquisition and firms' radical innovation: A moderated mediation analysis. *Journal of Business Research*, 90, 295-306.

Yang, K., H., Lee, S., M., & Lee, S. (2007). Adoption of Information and Communication Technology, *Industrial Management & Data Systems*, 107 (9), 1257-1275.

Yang, H. L., & Lai, C. Y. (2011). Understanding knowledge-sharing behaviour in Wikipedia. *Behaviour & Information Technology*, 30(1), 131-142.

Yang, T. M., & Maxwell, T. A. (2011). Information-sharing in public organizations: A literature review of interpersonal, intra-organizational and inter-organizational success factors. *Government Information Quarterly*, 28(2), 164-175.

Yang, L. R., Huang, C. F., & Hsu, T. J. (2014). Knowledge leadership to improve project and organizational performance. *International Journal of Project Management*, 32(1), 40-53.

Yamane, T. (1973). *Statistics: An Introduction Analysis*. 2nd ed. New York: Harper & Row.

Yström, A., Aspenberg, H., & Kumlin, A. (2015). Exploring the creative climate in an open innovation arena: Identifying challenges and possibilities. *European Journal of Innovation Management*, 18(1), 70-85.

Yu, C., Yu, T. F., & Yu, C. C. (2013). Knowledge sharing, organizational climate, and innovative behavior: A cross-level analysis of effects. *Social Behavior and Personality: an International Journal*, 41(1), 143-156.

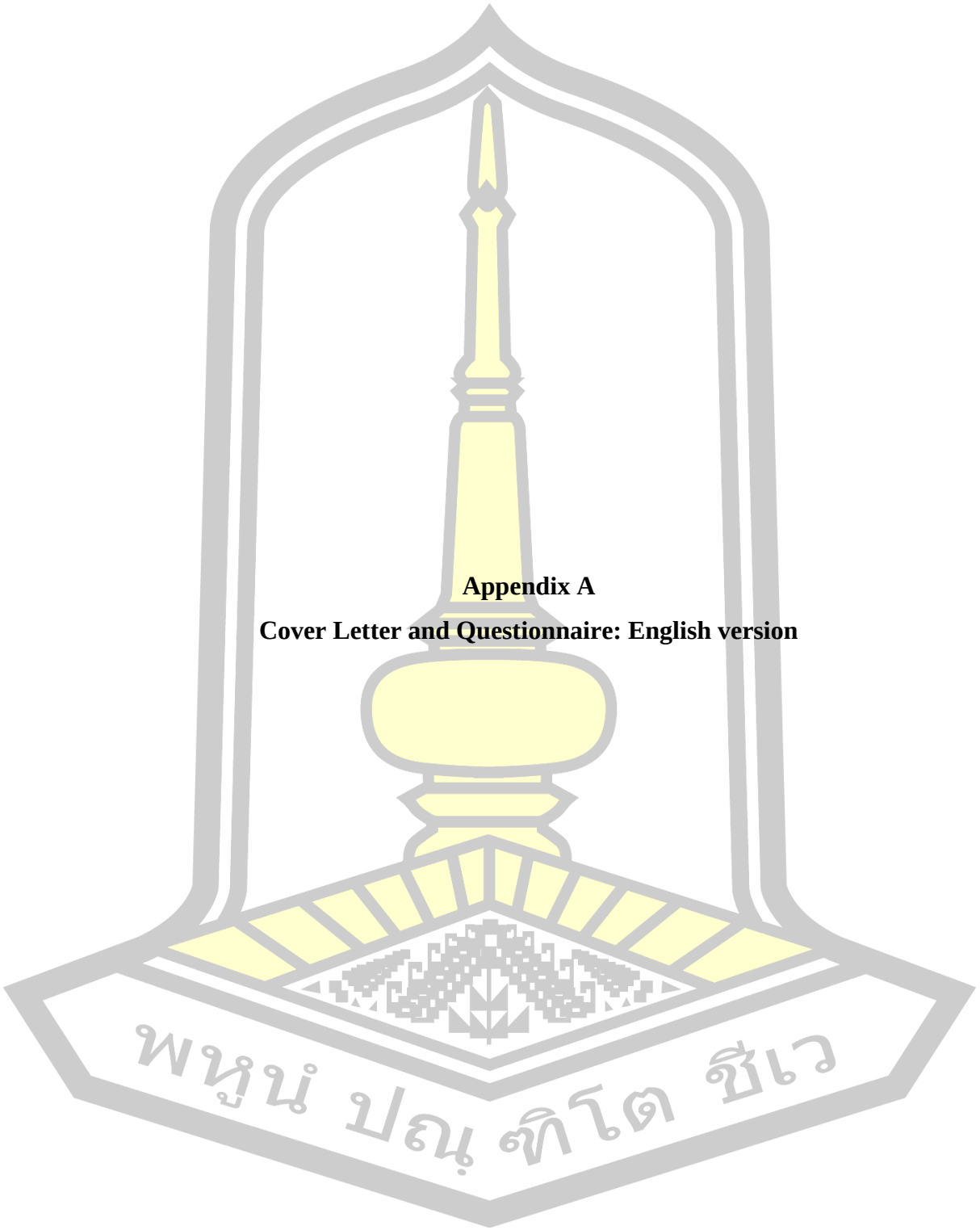
Zack, M. (1999), Developing a knowledge strategy. *California Management Review*, 41(3), 125-145.

Zeithaml, V. A., Berry, L. L., & Parasuraman, A. (1988). Communication and control processes in the delivery of service quality. *Journal of Marketing*, 52(2), 35-48.

Zhang, Y., Liu, S., Tan, J., Jiang, G., & Zhu, Q. (2018). Effects of risks on the performance of business process outsourcing projects: The moderating roles of knowledge management capabilities. *International Journal of Project Management*, 36(4), 627-639.

Zollo, M., & Winter, S.G. (2002). Deliberate learning and the evolution of dynamic capabilities. *Organ Sci*, 13(6), 339-351.

APPENDICES



Appendix A

Cover Letter and Questionnaire: English version

Questionnaire to the Ph.D. Dissertation Research
"The Influences of Knowledge Management Capability and Knowledge-Oriented Leadership on Public Organizational Innovativeness: An Empirical Study from the Tax Administrative Organizations in Thailand"

Dear Sir**,**

This research is a part of doctoral dissertation of Miss. Panissara Naowakhoaksorn at the Mahasarakham Business School, Mahasarakham University, Thailand. The objective of this research is to examine the tax administrative organizations in Thailand. The questionnaire is divided into 7 parts

Part 1: Demographic data of informant,

Part 2: General information of the tax administrative organizations

Part 3: Opinion on knowledge-oriented leadership of the tax administrative organizations in Thailand,

Part 4: Opinion on knowledge management capability of the tax administrative organizations in Thailand,

Part 5: Opinion on social capital of the tax administrative organizations in Thailand,

Part 6: Opinion on creative organizational climate of the tax administrative organizations in Thailand,

Part 7: Opinion on organizational innovativeness of the tax administrative organizations in Thailand,

Your answer will be kept as confidentiality and your information will not be shared with any outsider party without your permission.

Thank you for your time answering all the questions. I have no doubt that your answer will provide valuable information for academic advancement. If you have any questions with respect to this research, please contact me directly.

Cell phone: 085-122-7432 E-mail: snaowakho@gmail.com

Sincerely yours,

(Panissara Naowakhoaksorn)
Ph.D. Student Mahasarakham Business School
Mahasarakham University, Thailand

<u>Part 1</u> Demographic data of informant

1. Gender

( ) Male ( ) Female

2. Age

( ) Less than 30 years old ( ) 30 - 40 years old

( ) 41 - 50 years old ( ) More than 50 years

3. Educational level

( ) Lower than bachelor's degree ( ) Bachelor's degree

( ) Master's degree ( ) Higher than master's degree

4. Working experience

( ) Less than 10 years ( ) 10 - 15 years

( ) 16 - 20 years ( ) More than 20 years

<u>Part 2</u> General information of the tax administrative organizations

1. Your organization is under.....

( ) Revenue Department ( ) Excise Department ( ) Customs Department

2. Location of office

( ) Central area ( ) Regional area

3. Organizational level

( ) Bureau/division/group/center ( ) Sector/region office

( ) Province/Area office ( ) Branch office

( ) Customs house

4. Number of officers

( ) Less than 30 officers ( ) 31 - 50 officers

( ) 51 - 100 officers ( ) More than 100 officers

5. Has your organization ever received an award for knowledge management or innovation from the head quarter?

( ) Yes. ( ) No.

<u>Part 3</u> Opinion on knowledge-oriented leadership of the tax administrative organizations in Thailand

Knowledge-oriented leadership	Levels of agreement				
	Strongly Disagree ◄——► Strongly Agree				
1. Your leader has been creating an environment to promote responsible officer behavior.	1	2	3	4	5
2. Your leader encourages officers to be teamwork.	1	2	3	4	5
3. Your leader used to play the role of knowledge leadership, which is mainly characterized by openness and tolerance of mistakes.	1	2	3	4	5
4. Your leader focuses on a compromise to reduce conflicts and to accomplish organizational goals.	1	2	3	4	5
5. Your leader promotes learning from experiences or mistakes.	1	2	3	4	5
6. Your leader is always advising and controlling the evaluation of results to achieve organizational objectives.	1	2	3	4	5
7. Your leader stimulates the acquisition of external knowledge.	1	2	3	4	5
8. Your leader rewards officers who share and apply their knowledge.	1	2	3	4	5

<u>Part 4</u> Opinion on knowledge management capability of the tax administrative organizations in Thailand

Knowledge management capability	Levels of agreement						
	Strongly Disagree ◄——► Strongly Agree						
1. Your organization has effective management processes for knowledge workers such as selecting, staffing, educating/ training, and maintaining continuity.	1	2	3	4	5	6	7
2. Your organization has an adequate performance appraisal of knowledge workers.	1	2	3	4	5	6	7
3. Your organization has an adequate system for measurement and reward for knowledge workers.	1	2	3	4	5	6	7

<u>Part 4</u> Opinion on knowledge management capability of the tax administrative organizations in Thailand (continued)

Knowledge management capability	Levels of agreement						
	Strongly Disagree ⟷ Strongly Agree						
4. Your organization has appropriate knowledge repository and map architectures.	1	2	3	4	5	6	7
5. Your organization has appropriate engine architecture to access information and knowledge search that is up to date and fair.	1	2	3	4	5	6	7
6. Your organization has a suitable knowledge index/directory.	1	2	3	4	5	6	7
7. Your organization has a clear vision and goals for knowledge management.	1	2	3	4	5	6	7
8. Your organization has effective knowledge management planning.	1	2	3	4	5	6	7
9. Your organization has an integration of administrative planning, IT strategic planning, and knowledge management planning.	1	2	3	4	5	6	7
10. Your organization has a policy on knowledge management that is consistent throughout the organization.	1	2	3	4	5	6	7
11. Officers of the organization are interested in and committed to implementing knowledge management projects.	1	2	3	4	5	6	7
12. Officers of the organization have effective communication in knowledge management.	1	2	3	4	5	6	7
13. Officers of the organization effectively collaborate in knowledge management.	1	2	3	4	5	6	7
14. Your organization has effective knowledge management processes such as creating, acquiring, filtering, validating, sharing, and applying knowledge.	1	2	3	4	5	6	7
15. Your organization has an effective process for updating outdated knowledge through feedback.	1	2	3	4	5	6	7

<u>Part 4</u> Opinion on knowledge management capability of the tax administrative organizations in Thailand (continued)

Knowledge management capability	Levels of agreement						
	Strongly Disagree ⟷ Strongly Agree						
16. Your organization has knowledge-based links with customers/service receiver and external network organizations.	1	2	3	4	5	6	7
17. Your organization focuses on knowledge by cooperating with partners or external networks.	1	2	3	4	5	6	7
18. Your organization acquires knowledge from other agencies in the government sector.	1	2	3	4	5	6	7
19. Your organization acquires knowledge from the best practice of both public and private organizations.	1	2	3	4	5	6	7

<u>Part 5</u> Opinion on social capital of the tax administrative organizations in Thailand

Social capital	Levels of agreement						
	Strongly Disagree ⟷ Strongly Agree						
1. In general, members of your organization understand each other very clearly when they discuss work.	1	2	3	4	5	6	7
2. In general, members of your organization share a very similar understanding of how work is done.	1	2	3	4	5	6	7
3. In general, each member of your organization always acts in an organization's best interests.	1	2	3	4	5	6	7
4. In general, members of your organization trust each other.	1	2	3	4	5	6	7
5. In general, members of your organization are always sincere.	1	2	3	4	5	6	7
6. There is a strong norm of cooperation and collaboration in your organization.	1	2	3	4	5	6	7

<u>Part 5</u> Opinion on social capital of the tax administrative organizations in Thailand (continued)

Social capital	Levels of agreement						
	Strongly Disagree ↔ Strongly Agree						
7. In general, members of your organization offer assistance to each other.	1	2	3	4	5	6	7
8. In general, members of your organization are very proud to be employees of the organization.	1	2	3	4	5	6	7
9. In general, members of your organization feel a strong sense of belonging to the organization.	1	2	3	4	5	6	7

<u>Part 6</u> Opinion on creative organizational climate of the tax administrative organizations in Thailand

Creative organizational climate	Levels of agreement						
	Strongly Disagree ↔ Strongly Agree						
1. To what degree do you feel that the climate in the organization is positive and encourages new ideas? (trust/openness)	1	2	3	4	5	6	7
2. How often do you feel that people in the organization can bring up new ideas and opinions without quickly being criticized? (idea support)	1	2	3	4	5	6	7
3. To what degree do you feel that the organization allows you to solve problems and take actions that you think are most suitable in a given situation? (freedom)	1	2	3	4	5	6	7
4. To what degree do you feel that there is a free atmosphere in the organization, where the seriousness of the task can be mixed with unusual ideas and humor? (playfulness)	1	2	3	4	5	6	7
5. How often do you experience that different opinions, ideas, experience, and knowledge can be discussed in projects? (debates)	1	2	3	4	5	6	7

<u>Part 6</u> Opinion on creative organizational climate of the tax administrative organizations in Thailand (continued)

Creative organizational climate	Levels of agreement						
	Strongly Disagree ◄——► Strongly Agree						
6. To what degree do you feel that the organization has a dynamic atmosphere? (dynamism/liveliness)	1	2	3	4	5	6	7

<u>Part 7</u> Opinion on organizational innovativeness of the tax administrative organizations in Thailand

Organizational innovativeness	Levels of agreement				
	Strongly Disagree ◄——► Strongly Agree				
1. Creativity has emerged in your organization.	1	2	3	4	5
2. Your organization has stimulated members to be resourceful problem solvers.	1	2	3	4	5
3. Your organization has constantly looked to develop and offer new or improved service formation.	1	2	3	4	5
4. Your organization has always moved toward the development of new answers.	1	2	3	4	5
5. Your organization has advocated and assisted in developing new ideas that are readily available.	1	2	3	4	5
6. Your organization has been open and responsive to changes.	1	2	3	4	5
7. Your organization has established a realistic set of future goals for itself.	1	2	3	4	5
8. The organization's leader and members understand and aware of the organizational vision in aiming for the future.	1	2	3	4	5
9. Your organization believes that higher risks are worth taking for high payoffs.	1	2	3	4	5
10. Your organization has continuously encouraged innovative strategies, although some time may be unsuccessful.	1	2	3	4	5
11. Your organization has constantly sought new opportunities for itself.	1	2	3	4	5
12. Your organization has taken initiative in the adjustment of the environment to members' advantage.	1	2	3	4	5

Opinion and suggestions in operation of the tax administrative organizations in Thailand

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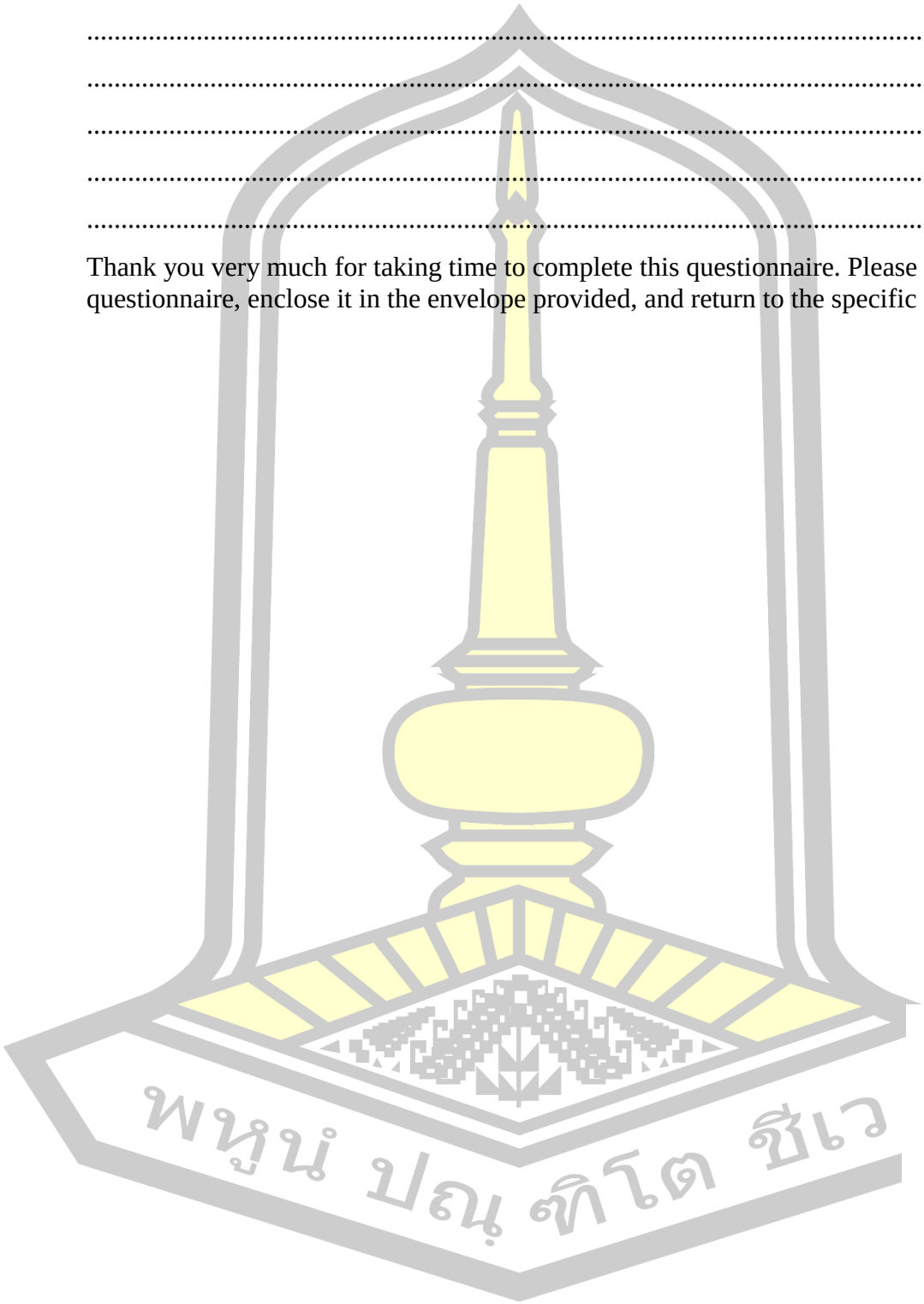
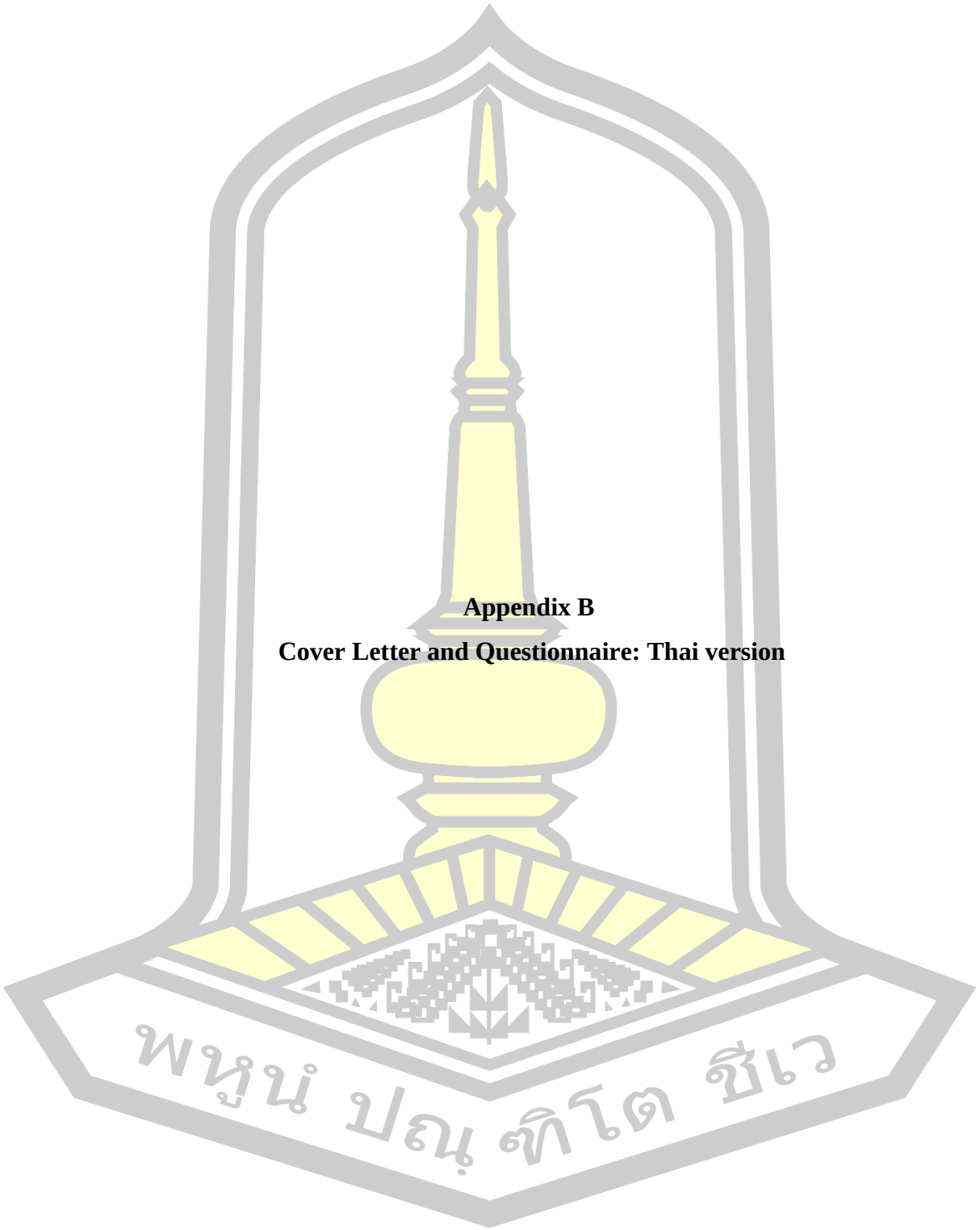
Thank you very much for taking time to complete this questionnaire. Please fold the questionnaire, enclose it in the envelope provided, and return to the specific address.





Appendix B

Cover Letter and Questionnaire: Thai version

ที่ อว 0605.10/ ง85

คณะการบัญชีและการจัดการ
มหาวิทยาลัยมหาสารคาม
ตำบลขามเรียง อำเภอกันทรวิชัย
จังหวัดมหาสารคาม
44150

22 มิถุนายน 2563

เรื่อง ขอความอนุเคราะห์กรอกแบบสอบถาม

เรียน หัวหน้าส่วน/หัวหน้าฝ่าย/หัวหน้างาน (อำนวยการ, จัดเก็บภาษี, หรืออื่นๆ)

ด้วย นางสาวปาณิสรา เนาวโคอักษร รหัสนิสิต 60010961003 นิสิตระดับปริญญาเอก หลักสูตรปรัชญาดุษฎีบัณฑิต (ปร.ด.) สาขาวิชาการจัดการ คณะการบัญชีและการจัดการ มหาวิทยาลัยมหาสารคาม กำลังศึกษาวิทยานิพนธ์ เรื่อง "อิทธิพลของความสามารถในการจัดการความรู้และภาวะผู้นำแบบมุ่งเน้นความรู้ที่มีต่อนวัตกรรมองค์กรภาครัฐ: การศึกษาเชิงประจักษ์จากองค์กรด้านการบริหารภาษีในประเทศไทย" ซึ่งเป็นส่วนหนึ่งของการทำวิทยานิพนธ์หลักสูตรปรัชญาดุษฎีบัณฑิตและการศึกษาในครั้งนี้ได้เน้นให้นิสิตศึกษาข้อมูลด้วยตนเองดังนั้น เพื่อให้การจัดทำวิทยานิพนธ์เป็นไปด้วยความเรียบร้อยและบรรลุวัตถุประสงค์ คณะการบัญชีและการจัดการ มหาวิทยาลัยมหาสารคาม จึงใคร่ขอความอนุเคราะห์ให้ นางสาวปาณิสรา เนาวโคอักษร ศึกษาและเก็บรวบรวมในรายละเอียดตามแบบสอบถามที่แนบมาพร้อมนี้

คณะการบัญชีและการจัดการ มหาวิทยาลัยมหาสารคาม หวังเป็นอย่างยิ่งว่าคงได้รับความอนุเคราะห์จากท่านในการให้ข้อมูลในครั้งนี้เป็นอย่างยิ่ง และขอขอบคุณมา ณ โอกาสนี้

ขอแสดงความนับถือ

(ผู้ช่วยศาสตราจารย์ ดร.นิติพงษ์ ส่งศรีโรจน์)
คณบดีคณะการบัญชีและการจัดการ
มหาวิทยาลัยมหาสารคาม

ฝ่ายวิชาการระดับบัณฑิตศึกษา
คณะการบัญชีและการจัดการ มหาวิทยาลัยมหาสารคาม
โทรศัพท์ 0-4375-4333 ต่อ 3431
โทรสาร 0-4375-4422

แบบสอบถามเพื่อการวิจัย

เรื่อง “อิทธิพลของความสามารถในการจัดการความรู้และภาวะผู้นำแบบมุ่งเน้นความรู้ที่มีต่อนวัตกรรมองค์กรภาครัฐ: การศึกษาเชิงประจักษ์จากองค์กรด้านการบริหารภาษีในประเทศไทย”

.....

<u>คำชี้แจง</u>

โครงการวิจัยนี้มีวัตถุประสงค์เพื่อศึกษาวิจัยเรื่อง “อิทธิพลของความสามารถในการจัดการความรู้และภาวะผู้นำแบบมุ่งเน้นความรู้ที่มีต่อนวัตกรรมองค์กรภาครัฐขององค์กรด้านการบริหารภาษีในประเทศไทย” เพื่อใช้เป็นข้อมูลในการจัดทำวิทยานิพนธ์ในระดับปริญญาเอกของผู้วิจัยในหลักสูตรปรัชญาดุษฎีบัณฑิต สาขาวิชาการจัดการ คณะการบัญชีและการจัดการ มหาวิทยาลัยมหาสารคาม

ข้าพเจ้าใคร่ขอความอนุเคราะห์จากท่านผู้ตอบแบบสอบถามได้โปรดตอบแบบสอบถามชุดนี้ โดยรายละเอียดของแบบสอบถามประกอบด้วยส่วนคำถาม 7 ตอน ดังนี้

ตอนที่ 1 ข้อมูลทั่วไปของผู้ตอบแบบสอบถาม

ตอนที่ 2 ข้อมูลทั่วไปขององค์กร

ตอนที่ 3 ความคิดเห็นเกี่ยวกับความเป็นผู้นำแบบมุ่งเน้นความรู้

ตอนที่ 4 ความคิดเห็นเกี่ยวกับความสามารถในการจัดการความรู้ขององค์กร

ตอนที่ 5 ความคิดเห็นเกี่ยวกับทุนทางสังคม

ตอนที่ 6 ความคิดเห็นเกี่ยวกับบรรยากาศองค์กร

ตอนที่ 7 ความคิดเห็นเกี่ยวกับการสร้างนวัตกรรมองค์กร

คำตอบของท่านจะถูกเก็บไว้เป็นความลับและจะไม่มีการใช้ข้อมูลใด ๆ ที่เกี่ยวกับตัวท่านในการรายงานข้อมูล รวมทั้งข้อมูลของท่านจะไม่มีการเปิดเผยกับบุคคลภายนอกโดยไม่ได้รับอนุญาตจากท่าน

ผู้วิจัยขอขอบคุณท่านที่ได้สละเวลาในการให้ข้อมูลที่เป็นประโยชน์อย่างยิ่งต่อการวิจัย หากท่านมีข้อสงสัยประการใด โปรดติดต่อผู้วิจัย นางสาวปาณิสรา เนาวโคอักษร โทรศัพท์มือถือ: 085-122-7432 หรือ E-Mail: snaowakho@gmail.com

ขอขอบพระคุณสำหรับข้อมูล ไว้ ณ โอกาสนี้

(นางสาวปาณิสรา เนาวโคอักษร)

นิสิตปริญญาเอก สาขาวิชาการจัดการ

คณะบัญชีและการจัดการ มหาวิทยาลัยมหาสารคาม

<u>ตอนที่ 1</u> ข้อมูลทั่วไปของผู้ตอบแบบสอบถาม

<u>คำชี้แจง</u> กรุณาใส่เครื่องหมาย (✓) ในช่องตัวเลือกสำหรับคำตอบของท่านในแต่ละข้อ

1. เพศ

○ชาย ○หญิง

2. อายุ

○น้อยกว่า 30 ปี ○30 - 40 ปี

○41 - 50 ปี ○มากกว่า 50 ปี

3. ระดับการศึกษา

○ปวช./ปวส. ○ปริญญาตรี

○ปริญญาโท ○ปริญญาเอก

4. ประสบการณ์ในการทำงาน

○น้อยกว่า 10 ปี ○10 - 15 ปี

○16 - 20 ปี ○มากกว่า 20 ปี

<u>ตอนที่ 2</u> ข้อมูลทั่วไปขององค์กร

<u>คำชี้แจง</u> กรุณาใส่เครื่องหมาย (✓) ในช่องตัวเลือกสำหรับคำตอบของท่านในแต่ละข้อ

1. องค์กรของท่านสังกัด

○กรมสรรพากร ○กรมสรรพสามิต ○กรมศุลกากร

2. ที่ตั้งสำนักงาน

○ส่วนกลาง

○ส่วนภูมิภาค

3. ระดับขององค์กร

○สำนัก/กอง/กลุ่ม/ศูนย์ ○สำนักงานภาค

○สำนักงานพื้นที่ ○สำนักงานพื้นที่สาขา

○ด่าน

4. จำนวนพนักงาน

○น้อยกว่า 30 คน ○31 - 50 คน

○51 - 100 คน ○101 คนขึ้นไป

5. องค์กรของท่านเคยได้รับรางวัลด้านการจัดการความรู้หรือนวัตกรรมจากองค์กรต้นสังกัดหรือไม่

○เคย ○ไม่เคย

<u>ตอนที่ 3</u> ความคิดเห็นเกี่ยวกับความเป็นผู้นำแบบมุ่งเน้นความรู้

<u>คำชี้แจง</u> กรุณาใส่เครื่องหมาย (✓) ทับตัวเลขสำหรับระดับความคิดเห็นของท่านในแต่ละข้อ

ความเป็นผู้นำแบบมุ่งเน้นความรู้	ไม่เห็นด้วยอย่างยิ่ง ⟷ เห็นด้วยอย่างยิ่ง				
1. ผู้นำของท่านได้สร้างสภาพแวดล้อมที่ส่งเสริมพฤติกรรมความรับผิดชอบของพนักงาน	①	②	③	④	⑤
2. ผู้นำของท่านส่งเสริมให้พนักงานมีการทำงานเป็นทีม	①	②	③	④	⑤
3. ผู้นำของท่านแสดงบทบาทความเป็นผู้นำที่มุ่งเน้นความรู้ โดยการแสดงออกถึงการเปิดกว้างและการยอมรับความผิดพลาด	①	②	③	④	⑤
4. ผู้นำของท่านมุ่งเน้นการประนีประนอม เพื่อลดความขัดแย้งและให้สามารถบรรลุเป้าหมายขององค์กร	①	②	③	④	⑤
5. ผู้นำของท่านส่งเสริมการเรียนรู้จากประสบการณ์หรือความผิดพลาด	①	②	③	④	⑤
6. ผู้นำของท่านคอยเป็นที่ปรึกษาและควบคุมการประเมินผลเพื่อให้บรรลุวัตถุประสงค์องค์กร	①	②	③	④	⑤
7. ผู้นำของท่านส่งเสริมการได้มาซึ่งความรู้จากภายนอกองค์กร	①	②	③	④	⑤
8. ผู้นำของท่านให้รางวัลแก่พนักงานที่แบ่งปันและประยุกต์ใช้ความรู้	①	②	③	④	⑤

<u>ตอนที่ 4</u> ความคิดเห็นเกี่ยวกับความสามารถในการจัดการความรู้ขององค์กร

<u>คำชี้แจง</u> กรุณาใส่เครื่องหมาย (✓) ทับตัวเลขสำหรับระดับความคิดเห็นของท่านในแต่ละข้อ

ความสามารถในการจัดการความรู้	ไม่เห็นด้วยอย่างยิ่ง ⟷ เห็นด้วยอย่างยิ่ง						
1. องค์กรมีกระบวนการจัดการเกี่ยวกับผู้ปฏิบัติงานด้านความรู้ที่มีประสิทธิภาพ เช่น การคัดเลือก การสอนงาน การให้ความรู้/การฝึกอบรม และการรักษา	①	②	③	④	⑤	⑥	⑦
2. องค์กรมีการประเมินประสิทธิภาพของผู้ปฏิบัติงานด้านความรู้อย่างเพียงพอ	①	②	③	④	⑤	⑥	⑦
3. องค์กรมีระบบการวัดและให้รางวัลผู้ปฏิบัติงานด้านความรู้อย่างเพียงพอ	①	②	③	④	⑤	⑥	⑦
4. องค์กรมีโครงสร้างระบบฐานข้อมูลและระบบการเชื่อมโยงข้อมูลที่เหมาะสม	①	②	③	④	⑤	⑥	⑦

ความสามารถในการจัดการความรู้	ไม่เห็นด้วยอย่างยิ่ง						เห็นด้วยอย่างยิ่ง
5. องค์กรมีเครื่องมือที่เหมาะสมในการเข้าถึงแหล่ง ข้อมูลและการค้นหาความรู้ที่ทันสมัยและเป็นธรรม	①	②	③	④	⑤	⑥	⑦
6. องค์กรมีการจัดทำคู่มือหรือดัชนีความรู้ที่เหมาะสม	①	②	③	④	⑤	⑥	⑦
7. องค์กรมีวิสัยทัศน์และเป้าหมายในการจัดการความรู้ที่ชัดเจน	①	②	③	④	⑤	⑥	⑦
8. องค์กรมีการวางแผนเกี่ยวกับการจัดการความรู้ที่มีประสิทธิภาพ	①	②	③	④	⑤	⑥	⑦
9. องค์กรมีการบูรณาการร่วมกันระหว่างการจัดทำแผนการบริหาร แผนกลยุทธ์ด้านเทคโนโลยีสารสนเทศ และแผนการจัดการความรู้	①	②	③	④	⑤	⑥	⑦
10. องค์กรมีนโยบายเกี่ยวกับการจัดการความรู้ที่สอดคล้องกันทั้งองค์กร	①	②	③	④	⑤	⑥	⑦
11. พนักงานในองค์กรมีความสนใจและมุ่งมั่นในการดำเนินโครงการเกี่ยวกับการจัดการความรู้	①	②	③	④	⑤	⑥	⑦
12. พนักงานในองค์กรมีการสื่อสารด้านการจัดการความรู้ที่มีประสิทธิภาพ	①	②	③	④	⑤	⑥	⑦
13. พนักงานในองค์กรให้ความร่วมมือในการจัดการความรู้เป็นอย่างดี	①	②	③	④	⑤	⑥	⑦
14. องค์กรมีกระบวนการจัดการความรู้ที่มีประสิทธิภาพ เช่น การสร้างความรู้ การได้มา การคัดกรอง การตรวจสอบความถูกต้อง การแบ่งปัน และการนำความรู้ไปปรับใช้	①	②	③	④	⑤	⑥	⑦
15. องค์กรมีกระบวนการที่มีประสิทธิภาพในการปรับปรุงความรู้ให้มีความทันสมัยโดยการรับฟังข้อเสนอแนะต่าง ๆ	①	②	③	④	⑤	⑥	⑦
16. องค์กรมีการเชื่อมโยงฐานความรู้กับลูกค้า/ผู้รับบริการ และองค์กรเครือข่ายภายนอก	①	②	③	④	⑤	⑥	⑦
17. องค์กรมุ่งเน้นความรู้โดยการให้ความร่วมมือกับพันธมิตรหรือเครือข่ายภายนอก	①	②	③	④	⑤	⑥	⑦
18. องค์กรได้รับความรู้จากหน่วยงานอื่น ๆ ที่อยู่ในภาครัฐด้วยกัน	①	②	③	④	⑤	⑥	⑦
19. องค์กรได้รับความรู้จากแนวปฏิบัติที่ดีที่สุด (best practice) ของทั้งองค์กรภาครัฐและเอกชน	①	②	③	④	⑤	⑥	⑦

<u>ตอนที่ 5</u> ความคิดเห็นเกี่ยวกับทุนทางสังคม

<u>คำชี้แจง</u> กรุณาใส่เครื่องหมาย (✓) ทับตัวเลขสำหรับระดับความคิดเห็นของท่านในแต่ละข้อ

ทุนทางสังคม	ไม่เห็นด้วยอย่างยิ่ง						เห็นด้วยอย่างยิ่ง
โดยทั่วไป.....	①	②	③	④	⑤	⑥	⑦
1. พนักงานในองค์กรมีความเข้าใจกันเมื่อมีการพูดคุยถึงเรื่องงาน							
2. พนักงานในองค์กรมีการแบ่งปันเกี่ยวกับแนวทางใน การทำงาน	①	②	③	④	⑤	⑥	⑦
3. พนักงานในองค์กรต่างทำหน้าที่เพื่อผลประโยชน์สูงสุดขององค์กร	①	②	③	④	⑤	⑥	⑦
4. พนักงานในองค์กรมีความไว้วางใจกัน	①	②	③	④	⑤	⑥	⑦
5. พนักงานในองค์กรมีความจริงใจต่อกัน	①	②	③	④	⑤	⑥	⑦
6. การทำงานร่วมกันและความร่วมมือของพนักงานถือเป็นบรรทัดฐานที่แข็งแกร่งขององค์กร	①	②	③	④	⑤	⑥	⑦
7. พนักงานในองค์กรให้ความช่วยเหลือซึ่งกันและกัน	①	②	③	④	⑤	⑥	⑦
8. พนักงานในองค์กรมีความภูมิใจที่ได้เป็นสมาชิกขององค์กร	①	②	③	④	⑤	⑥	⑦
9. พนักงานในองค์กรรู้สึกถึงความเป็นเจ้าขององค์กร	①	②	③	④	⑤	⑥	⑦

<u>ตอนที่ 6</u> ความคิดเห็นเกี่ยวกับบรรยากาศองค์กร

<u>คำชี้แจง</u> กรุณาใส่เครื่องหมาย (✓) ทับตัวเลขสำหรับระดับความคิดเห็นของท่านในแต่ล**ะข้อ**

บรรยากาศองค์กร	ไม่เห็นด้วยอย่างยิ่ง						เห็นด้วยอย่างยิ่ง
1. องค์กรสร้างบรรยากาศเชิงบวกและสนับสนุนความคิดใหม่ ๆ	①	②	③	④	⑤	⑥	⑦
2. พนักงานในองค์กรสามารถเสนอความคิดและข้อคิดเห็นใหม่ ๆ โดยไม่ถูกวิพากษ์วิจารณ์ในทันที	①	②	③	④	⑤	⑥	⑦
3. องค์กรช่วยให้พนักงานได้แก้ไขปัญหาและดำเนินการด้วยตนเองตามวิธีที่เหมาะสมที่สุดในสถานการณ์นั้น ๆ	①	②	③	④	⑤	⑥	⑦
4. บรรยากาศในองค์กรทำให้พนักงานรู้สึกถึงความสนุก- สนาน สามารถผ่อนคลายความเครียดจากการทำงาน	①	②	③	④	⑤	⑥	⑦

บรรยากาศองค์กร (ต่อ)	ไม่เห็นด้วยอย่างยิ่ง						เห็นด้วยอย่างยิ่ง
5. พนักงานสามารถเสนอความคิด ข้อเสนอแนะประสบการณ์ และความรู้เกี่ยวกับโครงการต่าง ๆ ขององค์กร	①	②	③	④	⑤	⑥	⑦
6. องค์กรสร้างบรรยากาศที่พนักงานรับรู้ได้ถึงพลังขับเคลื่อนและความมีชีวิตชีวา	①	②	③	④	⑤	⑥	⑦

ตอนที่ 7 ความคิดเห็นเกี่ยวกับการสร้างนวัตกรรมองค์กร

คำชี้แจง กรุณาใส่เครื่องหมาย (✓) ทับตัวเลขสำหรับระดับความคิดเห็นของท่านในแต่ละข้อ

การสร้างนวัตกรรมองค์กร	น้อยที่สุด				มากที่สุด
1. ความคิดสร้างสรรค์เกิดขึ้นในองค์กร	①	②	③	④	⑤
2. องค์กรได้ส่งเสริมพนักงานให้เป็นนักแก้ปัญหาที่ดี	①	②	③	④	⑤
3. องค์กรได้พัฒนา ปรับปรุง และนำเสนอรูปแบบการให้บริการใหม่ ๆ อย่างต่อเนื่อง	①	②	③	④	⑤
4. องค์กรได้มุ่งเน้นการพัฒนาหาคำตอบใหม่ ๆ อยู่เสมอ	①	②	③	④	⑤
5. องค์กรได้สนับสนุนและช่วยเหลือในการพัฒนาแนวคิดใหม่ๆ	①	②	③	④	⑤
6. องค์กรได้เปิดกว้างและตอบสนองต่อการเปลี่ยนแปลง	①	②	③	④	⑤
7. องค์กรสร้างเป้าหมายที่เป็นจริงได้ในอนาคต	①	②	③	④	⑤
8. ผู้นำและพนักงานทุกคนเข้าใจและตระหนักถึงวิสัยทัศน์องค์กรในการมุ่งสู่อนาคต	①	②	③	④	⑤
9. องค์กรเชื่อว่าความเสี่ยงที่สูงขึ้นนั้นคุ้มค่าสำหรับการได้รับผลตอบแทนที่สูงขึ้นด้วย	①	②	③	④	⑤
10. องค์กรส่งเสริมกลยุทธ์ด้านนวัตกรรมอย่างต่อเนื่อง แม้ว่าบางครั้งอาจไม่ประสบความสำเร็จก็ตาม	①	②	③	④	⑤
11. องค์กรมองหาโอกาสใหม่ ๆ อย่างต่อเนื่อง	①	②	③	④	⑤
12. องค์กรได้ริเริ่มในการปรับสภาพแวดล้อมเพื่อประโยชน์ของสมาชิกในองค์กร	①	②	③	④	⑤

ข้อคิดเห็นและข้อเสนอแนะของท่านต่อองค์กร

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ขอขอบพระคุณที่ท่านช่วยสละเวลาอันมีค่าต่อการมีส่วนร่วมในการวิจัยครั้งนี้

BIOGRAPHY

NAME	Panissara Naowakhoaksorn
DATE OF BIRTH	7 December 1978
PLACE OF BIRTH	Nakhon Si Thammarat
ADDRESS	190 Khamchai-Mukdahan Road, Muang, Mukdahan 49000, Thailand
POSITION	General Administration Officer, Professional Level
PLACE OF WORK	190 Khamchai-Mukdahan Road, Muang, Mukdahan 49000, Thailand
EDUCATION	2001 Bachelor of Art (English) Ramkhamhaeng University Bangkok, Thailand
	2009 Master of Business Administration (Marketing) Ramkhamhaeng University Bangkok, Thailand
	2021 Doctor of Philosophy (Management) Mahasarakham University Mahasarakham, Thailand