



The effects of organizational ambidexterity on innovation performance: The mediating role of social media strategic capability

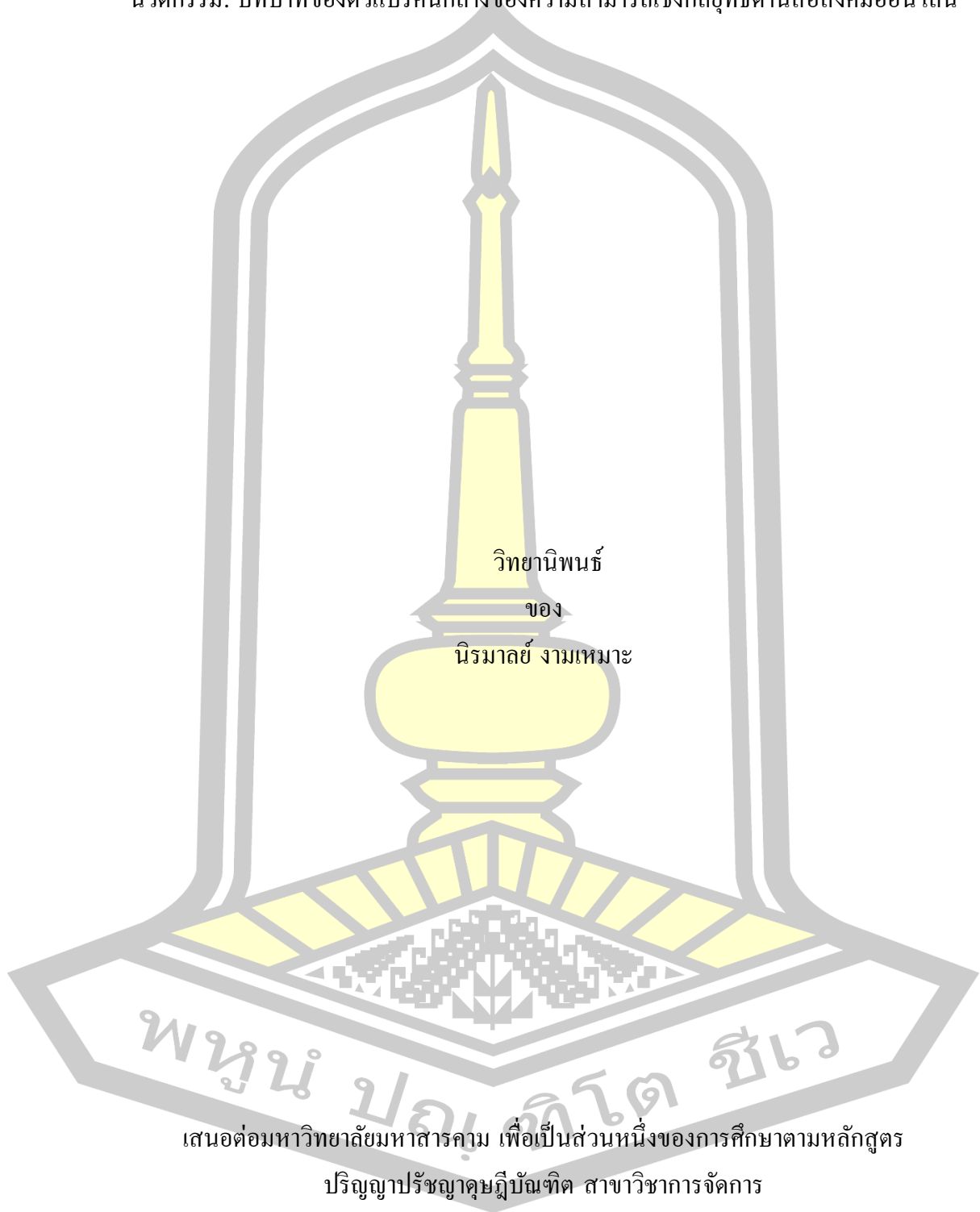
Niramarn Ngammoh

A Thesis Submitted in Partial Fulfillment of Requirements for  
degree of Doctor of Philosophy in Management

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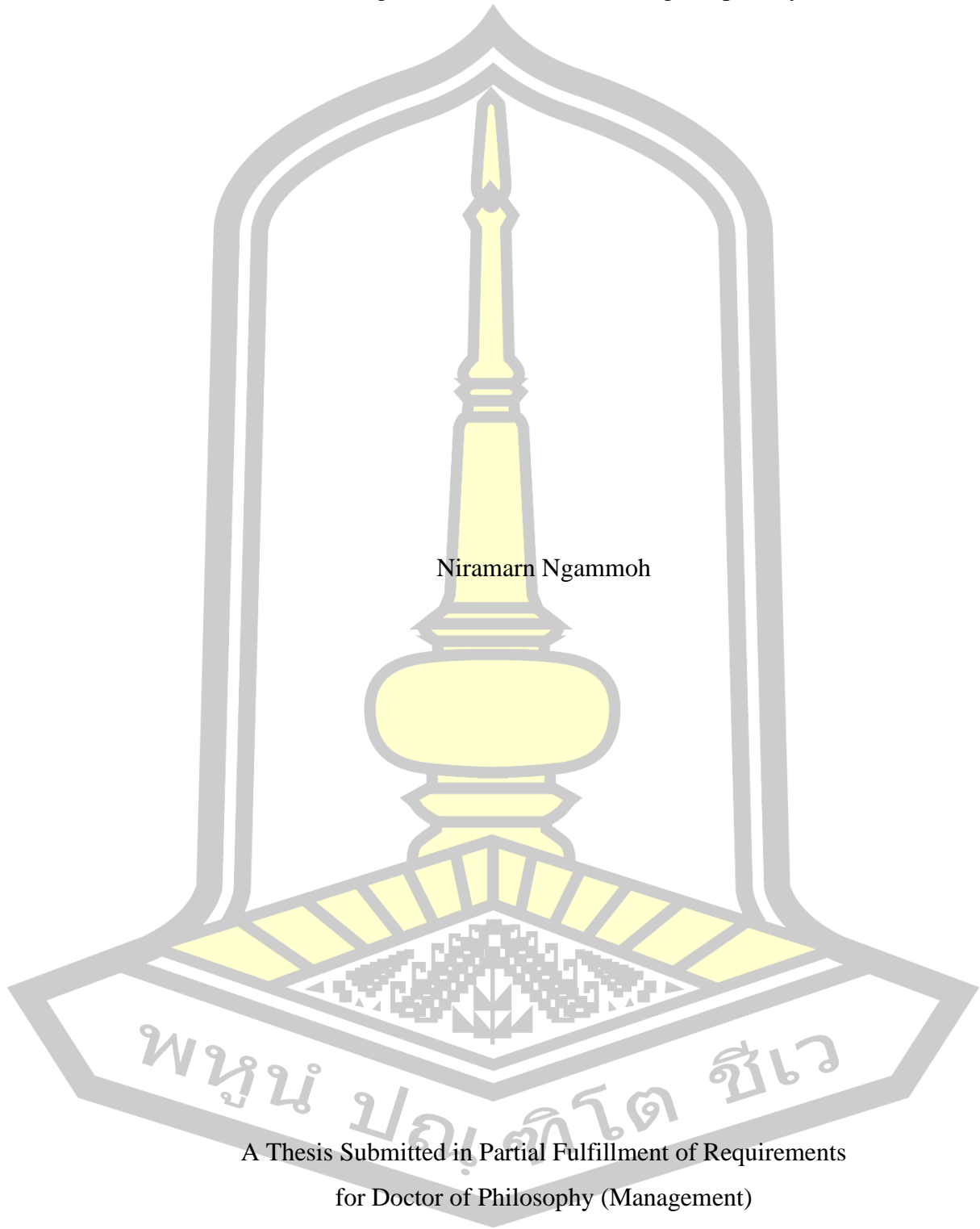
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### ABSTRACT

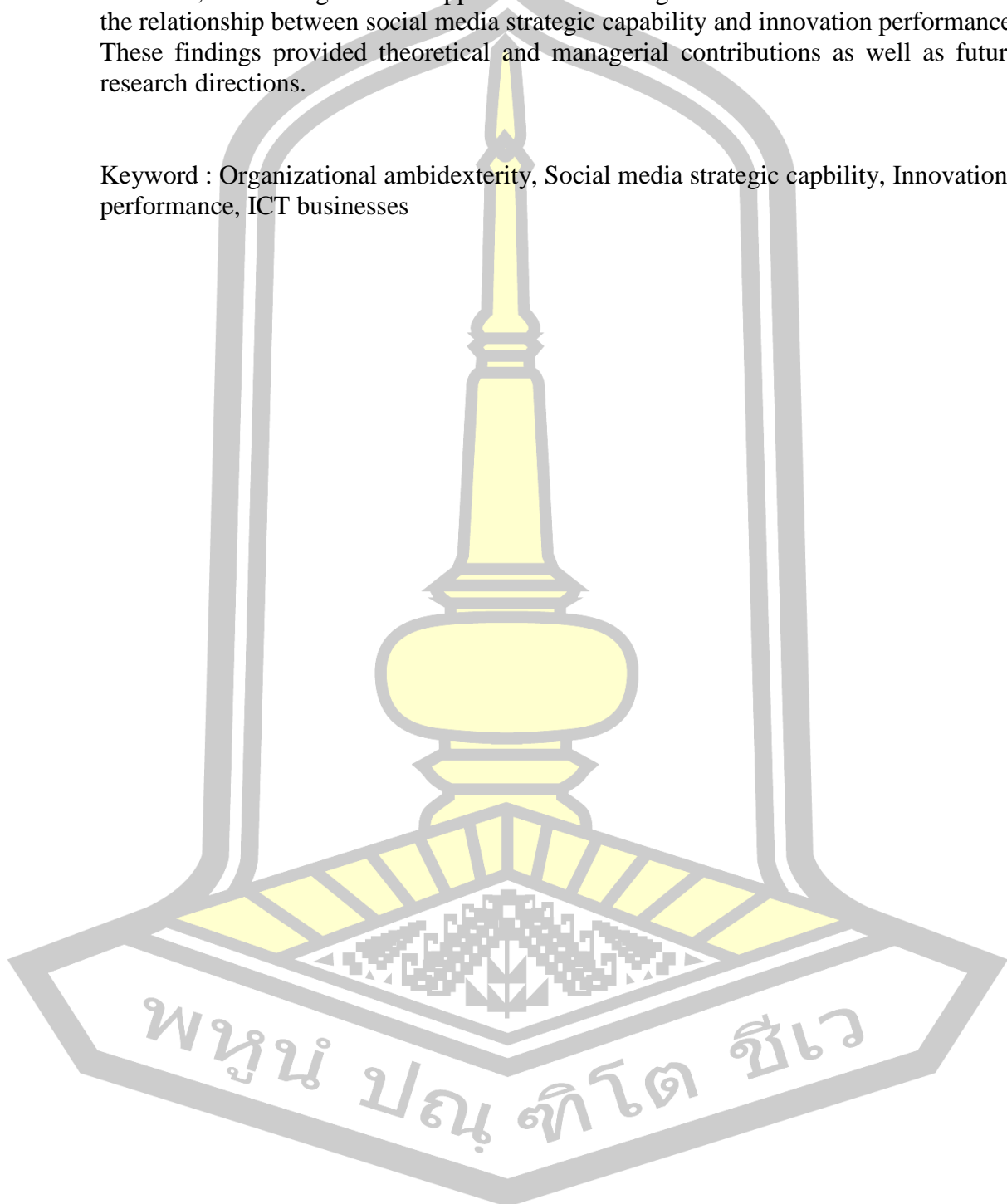
There is an increasing interest in organizations for the use of social media relating to innovation, yet current literature reveals limited studies in the context of developing strategic uses of social media by small and medium-sized enterprises (SMEs). The purpose of this research was to investigate the direct effects of two components of organizational ambidexterity, social media strategic capability, and innovation performance as well as the moderating effects of environmental dynamism in the relationship between the two components of organizational ambidexterity and social media strategic capability, the moderating effect of entrepreneurial orientation, effectual orientation in the relationship between social media strategic capability and innovation performance, and to investigate the mediating effect of social media strategic capability in the relationship between the two components of organizational ambidexterity and innovation performance.

This research used survey research. Data for the study is based on the data from 221 small and medium-sized enterprises as information and communication technology (ICT) businesses in Thailand. The literature's existing scales were used to operationalize the constructs proposed in this research. Based on the responses to the questionnaire, this research applied the structural equation modeling technique to test the hypotheses. The marker variable technique had been implemented to confirm the minimal risk of common method variance. Moreover, data were validated and passed the convergent and discriminant validity tests through various analyses.

The empirical results showed that the two components of organizational ambidexterity (both exploitation and exploration) played significant roles in affecting social media strategic capability and innovation performance. Particularly, social media strategic capability significantly played in critical role a mediating between two components of organizational ambidexterity (both exploitation and exploration) and innovation performance. Moreover, environmental dynamism was not a moderator in the relationship between two components of organizational ambidexterity (both

exploitation and exploration) and social media strategic capability. Furthermore, the finding supported the moderating effect of entrepreneurial orientation in the relationship between social media strategic capability and innovation performance. However, the finding did not support the moderating effect of effectual orientation in the relationship between social media strategic capability and innovation performance. These findings provided theoretical and managerial contributions as well as future research directions.

Keyword : Organizational ambidexterity, Social media strategic capability, Innovation performance, ICT businesses



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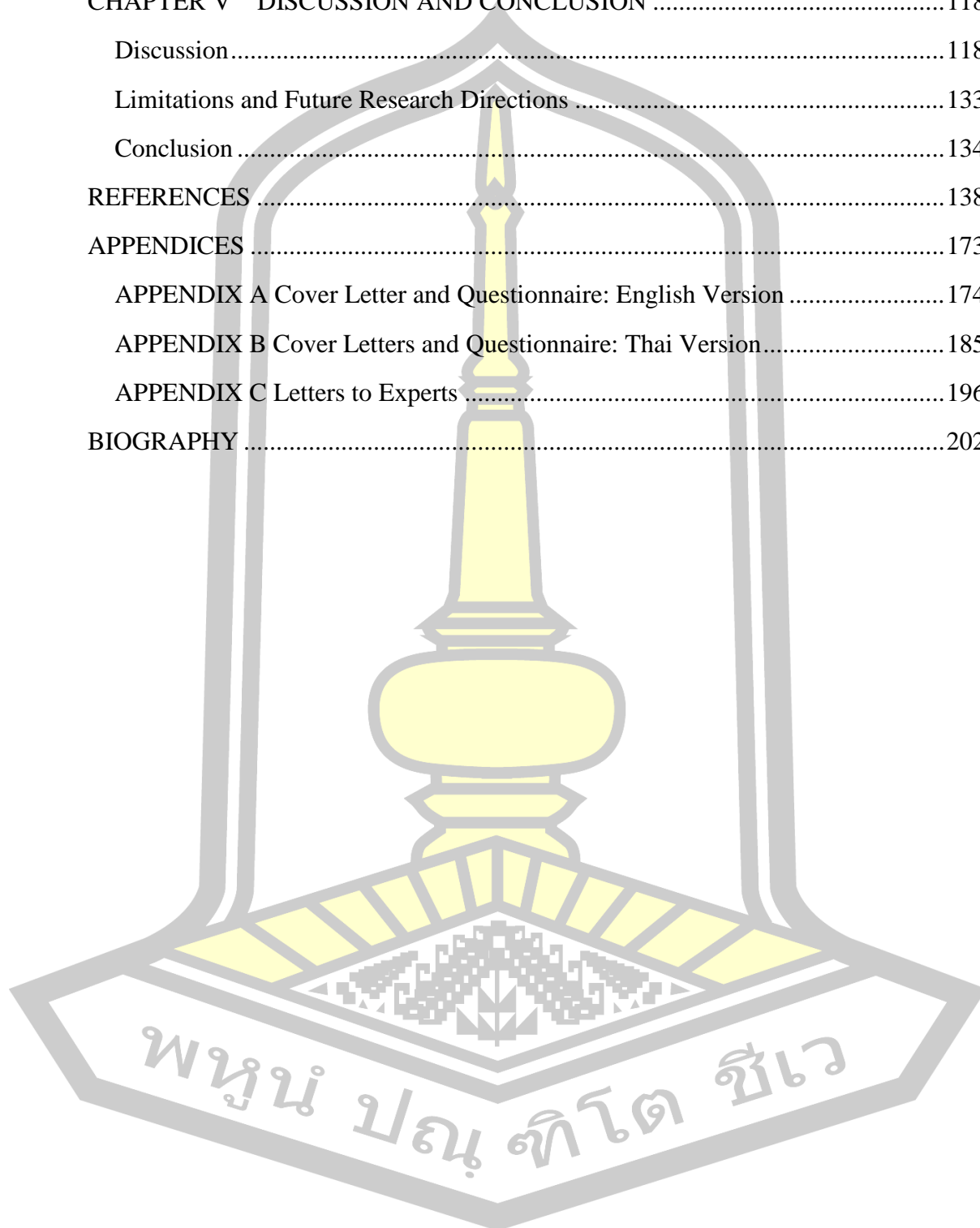
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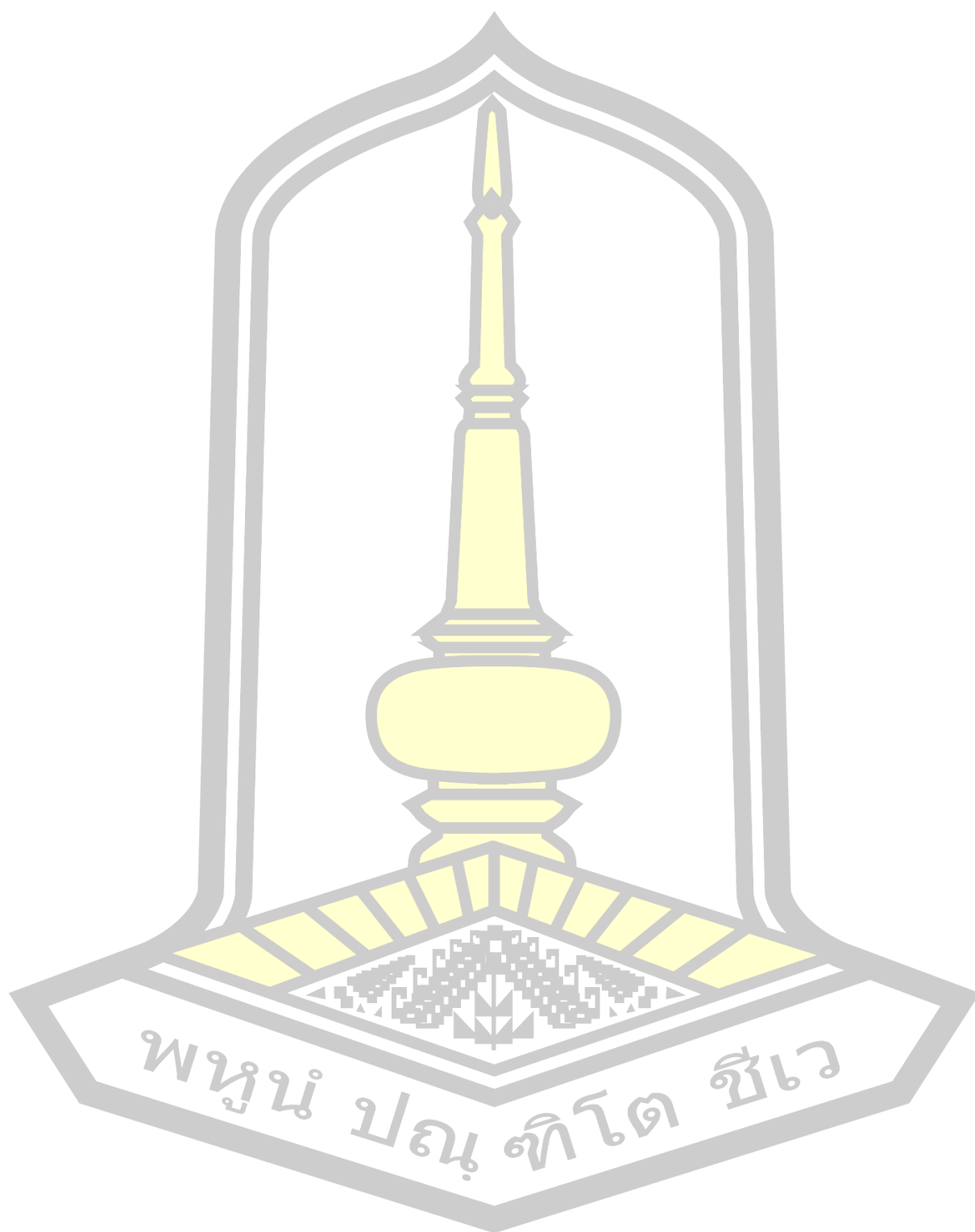
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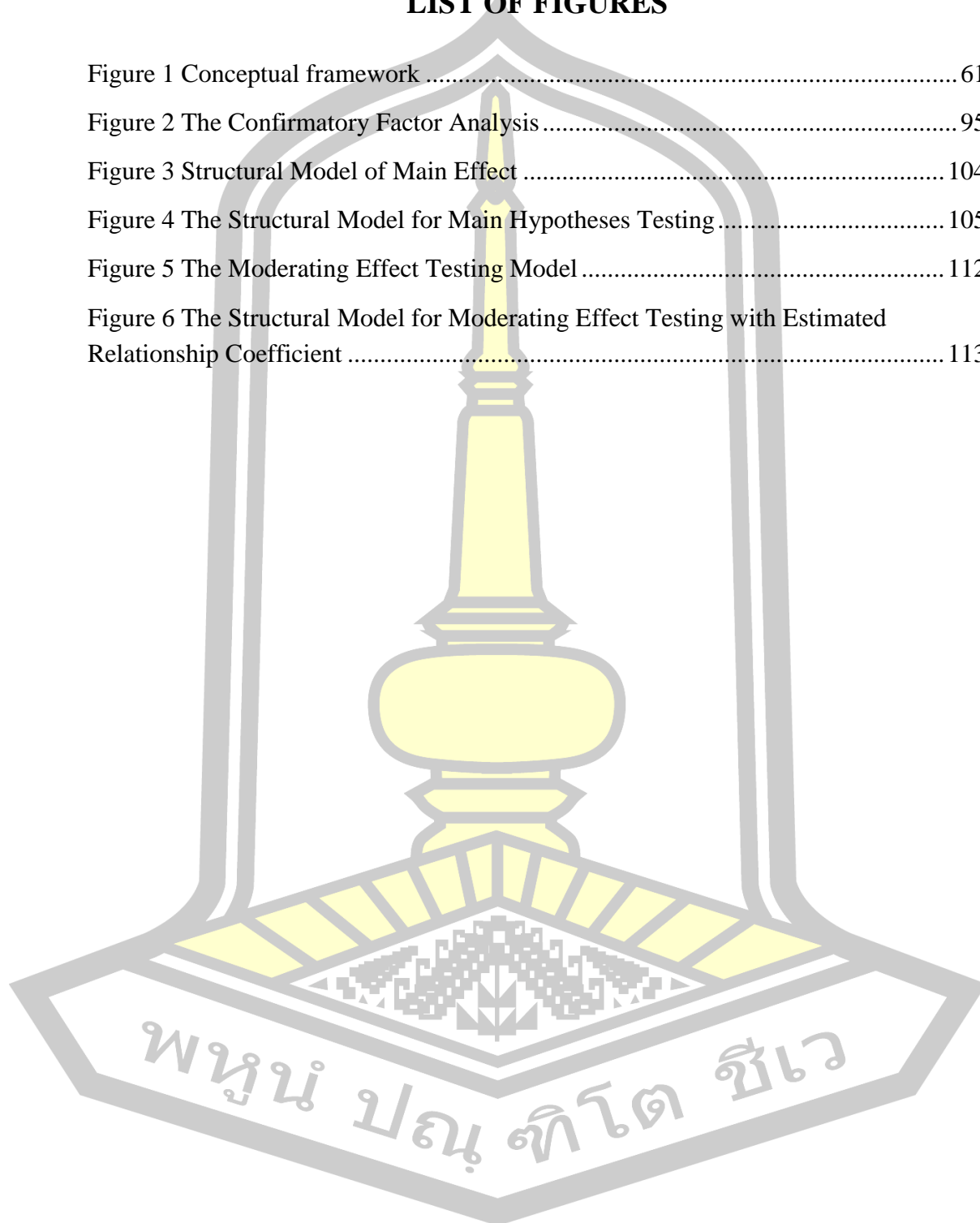
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## CHAPTER I

### INTRODUCTION

#### **Background and Rational of this Research**

In today's highly connected global marketplace, disruptions and competitive intensity are becoming threats to long-term success and survival. That can hazard their ability to perform effectively. This is the driving force for firms to develop and maintain a competitive advantage (Ho, Plewa, & Lu, 2016). Particularly, firms have to select the most appropriate strategy to reach a competitive advantage in the increasingly complex and rapidly changing business environment. Therefore, firms may try to enhance their innovation capability and performance in order to be competitive. According to the type of knowledge and capabilities applied to the innovation performance, organization ambidexterity both exploitation current knowledge in the firm and exploration new knowledge (Ricciardi, Zardini, & Rossignoli, 2016). At the same time, firms are affected by external change such as social media of significantly modifying the patterns to support communication, creating, sharing in the organization, stakeholders, including important customers that have increasing roles in new products and services (De Oliveira, Indulska, Steen, & Verreynne, 2020), which to affect innovation performance.

From the innovation literature, innovation is increasingly important to the success of firms that can lead to the superior of firm performance (Camison & Villar-López, 2012; 2014). With the growing complexity and uncertainty of innovation, it becomes more difficult for firms to achieve all the information and knowledge require for innovation within the organization (Escribano, Fosfuri, & Tribó, 2009). The strategic status that enables a firm to operate on an entrepreneurial project is considered an important catalyst to innovation capabilities (Pérez-Luño, Wiklund, & Cabrera, 2011; Messersmith & Wales, 2013). Particularly, small and medium-sized enterprises (SMEs), which innovation is increasingly being considered as one of the key factors in driving SMEs to succeed in the competitive advantage because when firms dominate

the capability to innovate, they can respond to environmental challenges faster and progressive than firms that are not innovative (Brown & Eisenhardt, 1995; Love & Roper, 2015).

Meanwhile, competition intensifies and the pace of change speedily, firms need to renew themselves by both exploiting existing resources and exploring new ones (Floyd & Lane, 2000), including recombining knowledge elements (Wang & Ahmed, 2013). Likewise, social media is likely to be appropriate strategic tools that are essential to the survival of firms, which the emergence of social media has transform innovation and entrepreneurship in important ways (Fischer & Reuber, 2011). Moreover, the expansion of open innovation paradigm coincides with the pervading of social media (Muninger, Hammedi, & Mahr, 2019), it influence the organization to seek new insights and acquire additional knowledge from internal and external sources, and collaborate with various stakeholders (Kazadi, Lievens, & Mahr, 2016). Beyond simply opening new opportunities for innovators and entrepreneurs, social media have wider significance for value creation and value acquisition (Nambisan, Wright, & Feldman, 2019). Particularly for SMEs, social media has become the crucial tools in identifying new opportunities (Mumi, 2020) in which enhance the effective entrepreneurial process, especially for SMEs when adapting to the rapid growth.

Social media has led to altered in the way entrepreneurs fulfill their day-to-day activities and changes in how people interact with each other (Olanrewaju, Hossain, Whiteside, & Mercieca, 2020). It is known as “a group of Internet-based applications that build on the ideological and technological foundations of Web 2.0, and that allow the creation and exchange of User Generated Content” (Kaplan & Haenlein, 2010, p.61). By predicting will be a continuous usage trend in the future. Particularly, social media can even be deployed by small and medium-sized enterprises (SMEs) due to its low cost and it permits communications to go beyond a private one-to-one conversation to become many-to-many (Siamagka, Christodoulides, Michaelidou, & Valvi, 2015), including to entry markets outside their immediate geographical area. Yet, the literature still lacks a better understanding regarding link of innovation performance based on social media which is rare in the literature (Leonardi & Vaast, 2017; Muninger et al., 2019; Nguyen, Melewar, & Chen, 2015). However, given the emphasis on SMEs, it

would be helpful to develop greater strategic insight into use of technology specifically social media strategic capability.

The term “social media strategic capability” is the study of the firm’s ability to strategically use social media to acquire, integrate, communicate, share and apply current knowledge and new knowledge. It has become critical communication channels for firms to reach various stakeholder groups such as customers, employees, or creditors, it occurs on social media (Kietzmann, Hermkens, McCarthy, & Silvestre, 2011). With several benefits from using social media such an effective communications ease of use, facilitating conditions, perceived usefulness, and enjoyment resulting in scholars studying social media for information and expert advice search (Kuhn, Galloway, & Collins-Williams, 2016).

Especially, prior literature emphasizes social media as being the stimulating platforms for knowledge transfer mechanism (Jespersen, 2011; Piller, Vossen, & Ihl, 2012), information facilitation and distribution (Joo & Normatov, 2013), as well as it facilitates firms to link customer resources and capabilities to improve products, reduce costs, and support continuous innovation (Ye & Kankanhalli, 2018). Therefore, there is a consensus among scholars and practitioners that social media strategic capability greatly benefits entrepreneurial activities. However, despite the drastic increase of social media studies for entrepreneurship, the literature still lacks a better understanding regarding the influential factors of strategic use of social media for SMEs (Olanrewaju et al., 2020). This study, therefore, responds to the call for more studies that explore the potential determinants that impact the decisions regarding social media within the domain of entrepreneurship, especially in the context of SMEs.

Previous literature also suggests that firms innovate as well as differentiate from others through knowledge exploration and exploitation (Chandler & Lyon, 2009; March, 1991; Shane & Venkataraman, 2000). The crucial decisions related to their ventures, such as social media strategic implementation, derived from the experience as well as knowledge accumulation. In relation to organizational learning of small businesses, this study, therefore, relies on the theoretical lens of the organizational ambidexterity (Mom, Chang, Cholakova, & Jansen, 2019; O’Reilly & Tushman, 2013) in proposing that SMEs may utilize both exploration and exploitation simultaneously when making the strategic decision regarding social media strategy. The organizational

ambidexterity literature manifests firm's ability to concurrently apply the exploration and exploitation of knowledge and capabilities (Mom et al., 2019; O'Reilly & Tushman, 2013). The ambidextrous approach regarding knowledge acquisition enhances firm's innovation and capability (Andriopoulos & Lewis, 2009), involving various strategic decisions that also influence social media strategic capability (Muninger et al., 2019). This study, therefore, emphasizes the importance of ambidexterity for SMEs that affect the capability for social media by applying knowledge exploration and exploitation (Raisch & Birkinshaw, 2008).

Moreover, prior studies are alluding to enabling the exploration and exploitation activities of internal and external knowledge transfer for innovation performance (Benitez, Castillo, Llorens, & Braojos, 2018; Garcia-Morales, Martín-Rojas, & Lardón-López, 2018). Thus, this research will allow a basis for further development in merging these concepts that ambidexterity both exploitation and exploration may positively impact social media strategic capability, and affect innovation performance. Besides, this study emphasizes the contingent influences of environmental or other factors that may deviate the potential effects of an organization's, social media strategic capability and innovation performance.

Thus, it is also possible that these relationships can be moderated by environmental dynamism, entrepreneurial orientation, and effectual orientation. Due to prior studies that suggest the impact of environmental dynamism on knowledge absorptive capacity and information search of the focal organizations (Cohen & Levinthal, 1990; Halevi, Carmeli, & Brueller, 2015). It is also possible that the relationship between organizational ambidexterity and social media strategic capability can be moderated by environmental dynamism. Moreover, entrepreneurship researchers have a consensus that entrepreneurial orientation (EO) strongly influences performance (Lumpkin & Dess, 2001; Wiklund & Shepherd, 2003; 2005). The succeeding literature has provided different perspectives on the EO construct apart from EO represent independent variables (Patel, Kohtamäki, Parida, & Wincent, 2015). In order to contribute to the EO literature differently, this study has presented a conceptual framework that is different from prior studies with the aim of proving that three dimensions of EO have a moderating effect on the relationship between social media strategic capability and innovation performance. Finally, it is also possible that these



relationships will be strengthened in firms with effectual orientation. Due to a rapidly changing environment, the inclusion of the effectual orientation in the model is justified. It demonstrates a strategic mindset fostering entrepreneurial behavior (Werhahn, Mauer, Flatten, & Brettel, 2015), by is an important enabler of innovation.

In this research, dynamic capability and social capital theory have explained the relevance of the conceptual framework. Drawing from a dynamic capability perspective is the ability of the organization to integrate, create and modify capabilities, both internal and external, according to a rapidly-changing environment (Teece, Pisano, & Shuen, 1997). According to O'Reilly and Tushman (2008) see ambidexterity as a dynamic capability. It illustrates the role of organizational ambidexterity in creating long-term competitive advantages that are subject to technological uncertainty. Furthermore, Teece et al. (1997) position innovation development as an important outcome underlying a firm's dynamic capability. Meanwhile, social capital theory according to Burt' view (1997), the diversity of specific benefits that arise from the information flow and mutual cooperation related to social networks as the theoretical framework of research model which focuses on the ability of SMEs to integrate their knowledge garnered from social media which leads to innovation. Therefore, for this research, dynamic capability can be applied for explaining the relationship of organizational ambidexterity and its consequences. Meanwhile, social capital theory explains the relationship between social media strategic capability influence on innovation performance.

This research focuses on information and communication technology (ICT) business in Thailand. The reason is Thailand is one of the fastest-growing countries facing the challenges pertaining to becoming technology industry, including the current economic environment and government support affect this industry, particularly the features of this business have involved technology, creativity, and innovation. Furthermore, the technology sector is strategic for the nation, includes activities the require a high level of knowledge and research efforts to create high levels of value and employment (Martín-Rojas, García-Morales, Garrido-Moreno, & Salmador-Sánchez, 2020). From significant technological advances at the global level, the number of internet users has grown exponentially. Southeast Asia is considered the world's fastest-growing internet zone, with the ASEAN's digital economy expected to reach a

value of USD 2 trillion by 2025 (Thailand BOI, 2019). Following the widespread proliferation of the Internet, the country is moving to a digital economy. This has opened up new revenue streams of revenue for several industries in Thailand, including information and communication technology business. ICT businesses impact on both the business environment and the lives of ordinary peoples has been profound. Numerous steps have been taken to boost overall productivity and economic development in ICT businesses as part of the country's drive to achieve an economy propelled by digital and cutting-edge technologies. Main key drivers for such growth are the high internet penetration and large number of social media users, namely, Mobile Users 55.6 Million (80% of Population), Internet Users 57 Million (82% of Population) and use of Social Media (51 Million), which average daily time spent on social media through any device such as Youtube, Twitter, Instagram, and Facebook (3 H: 10 M per person) (Thailand BOI, 2019).

Based on the above, social media can even be used by small and medium-sized enterprises (SMEs) such as ICT businesses due to its low cost and low technical requirements (Ferrer, Bousoño, Jorge, Lora, Miranda, & Natalizio, 2013). As a result, social media use continues to continue growth among businesses (Mourtada & Alkhatib, 2014) and it is rapidly becoming a critical business management phenomenon (Trainor, Andzulis, Rapp, & Agnihotri, 2014). In addition, various studies have examined the use of social media in businesses and found that it has a number of advantages (e.g., Ahmad, Bakar, & Ahmad, 2019; Siamagka, et al., 2015; Venkataraman & Das, 2013). This builds outstanding and competitive advantages that lead to successful innovation performance in information and communication technology business.

This research generates a significant study of the literature on social media strategic capability. First, this research expands the theoretical contributions to previous knowledge and literature on social media strategic capability. Second, the two theory namely, dynamic capability theory, and social media theory are explained to back up the relationships of a conceptual framework in this research. Finally, this research tests relationship between the antecedents and consequences of social media strategic capability including role of moderator and mediator. In addition, the results of this research are beneficial contributing to managerial practice concentrating on social

media strategic capability to enhance innovation performance in ICT businesses in Thailand.

### **Problem Statement**

As discussed in the previous section, this research illustrates the problem statement of social media strategic capability, organizational ambidexterity, environmental dynamism, entrepreneurial orientation, and effectual orientation influence innovation performance.

First, the research on social media and innovation are relatively new and should be investigated within this area (Olanrewaju et al., 2020). Because social media is proliferating (Leonardi & Vaast, 2017), which is vehicles to generate rich data created with unprecedented multi-faceted insights and demonstrate one of the greatest assets for data-driven innovation, which is important to business growth and competitive advantage (Bhimani, Mention, & Barlatier, 2019). Furthermore, social media promote encourages real-time collaborations that build on the collective intelligence of online communities (Du, Yalcinkaya, & Bstieler, 2016). In essence, this has lead to a significant effect on enhancing the firm's innovation enhancement being the important outcomes (Olanrewaju et al., 2020).

Second, innovation is studied in multi-disciplines and has been defined from assorted points of view (Damanpour & Wischnevsky, 2006). This has lead to a rather confusing definition of innovation performance in the literature (Forés & Camisón, 2016), includes mechanisms social media impacts innovation remains unclear (Kastelle & Ohr, 2013). Thus, additional empirical research is needed to better understand how firms can leverage social media resources to create innovation performance. Moreover, the need to innovate is a necessary postulate in a competitive market and a rapidly changing business environment (Archer-Brown & Kietzmann, 2018).

Third, despite the drastic increase of social media studies, yet the literature still lacks a better understanding regarding the influential factors of strategic use of social media for SMEs (Olanrewaju et al., 2020). This study, therefore, responds to the call for more studies that explore the potential determinants that impact the decisions regarding social media within the domain of entrepreneurship, especially in the context

of SMEs. Moreover, this study identifying the key aspects to develop innovation performance based on organizational ambidexterity (March, 1991), social media strategic capability (Nguyen et al., 2015). Likewise, the ongoing combination of discovering and exploiting intensively will drive entrepreneurs in creating innovation (Malerba, 2010).

Fourth, previous studies have the tendency to consider social media use in business-to-consumer contexts, for example, investigated the impact of social media firm's usage on the execution of marketing activities (e.g., Goh, Heng, & Lin, 2013; Rishika, Kumar, Janakiraman, & Bezawada, 2013), its use in boosting brand recognition or obtaining feedback from customers (Siamagka et al., 2015), generate word-of-mouth recommendations (Chang, Shen, & Liu, 2016) and empirical studies that have compared the impacts of social media versus online ordinary media on the stock market performance (Luo, Zhang, & Duan, 2013; Yu, Duan, & Cao, 2013). Despite its increasing relevance and perceived value for ICT businesses contexts, there are still very few studies on the way in which ICT businesses in using and leveraging social media for businesses activities, particularly improve innovation performance, in which social media strategic capability maybe can vary among firms. However, prior research has not paid attention to explain how ICT businesses learn to develop social media strategic capabilities. This research attempts to address this research gap.

Finally, this research has presented a conceptual framework that is different from prior studies by possessing investigated the combined effects of the moderating role of environmental dynamism, entrepreneurial orientation, and effectual orientation includes the mediating role of social media strategic capability, namely; First, this research considers the potential moderating effect of environmental dynamism on the organizational ambidexterity (exploitation and exploration) and social media strategic capacity. According to the dynamic capability theory have suggested that environmental dynamism may be a determinant of the appropriate application of dynamic capability (Peng & Lin, 2019). Halevi et al. (2015) demonstrate that there is a more extensive information search in situations of high environmental dynamism, which is closely related to social media. Second, entrepreneurship researchers have a consensus that entrepreneurial orientation strongly influences performance (Lumpkin & Dess, 2001). The succeeding literature has provided different perspectives on the

entrepreneurial orientation construct apart from represent independent variables (e.g., Patel et al., 2015). To contribute to the entrepreneurial orientation literature differently, this research aims to prove that entrepreneurial orientation has a moderating role. Finally, according to the effectuation theoretical framework. Sarasvathy (2001) suggests that expert entrepreneurs utilize the available means to identify all possible goals. Following the same logic, this research proposes has effectual orientation as a moderator in innovation context, because evidence of this role is few.

In addition, this research extends Nguyen et al. (2015) argument by proposing and testing the relationships of social media strategic capability as a mediator between organizational ambidexterity and innovation performance. Because today's world, firms need to use social media to favor their management of the new forms of innovation processes that emerge in the digital world (Martín-Rojas et al., 2020; Nylén & Holmström, 2015) to achieve a competitive advantage.

### **Research Questions**

The key research questions to address the above problem statement are as follows:

1. What is the relationship among two components of organizational ambidexterity, and social media strategic capability, and innovation performance?
2. To what extent does environmental dynamism moderate the relationship between two components of organizational ambidexterity and social media strategic capability?
3. To what extent do entrepreneurial orientation, effectual orientation moderate the relationship between social media strategic capability and innovation performance?
4. To what extent do social media strategic capability mediates the relationship between two components of organizational ambidexterity and innovation performance?

## **Objectives of the Research**

The specific research purposes are as follows:

1. to examine the direct effects of two components of organizational ambidexterity, social media strategic capability, and innovation performance,
2. to investigate the moderating effect of environmental dynamism in the relationship between two components of organizational ambidexterity and social media strategic capability,
3. to examine the moderating effect of entrepreneurial orientation, effectual orientation in the relationship between social media strategic capability and innovation performance, and
4. to investigate the mediating effect of social media strategic capability in the relationship between two components of organizational ambidexterity and innovation performance.

## **Significance of the Research**

This research explores the variance in firms' innovation performance from organizational ambidexterity both exploitation and exploration through using social media strategic capability. Social media strategic capability has a clear mediator role in the relationship between organizational ambidexterity (exploitation and exploration) and innovation performance. It also investigates the moderating effects of environmental dynamism, entrepreneurial orientation, effectual orientation in the relationship between the two components of organizational ambidexterity (both exploitation and exploration), social media strategic capability, and innovation performance. This research provides insights that theoretical and managerial contributions as follows. This research can help to make the following theoretical contributions.

First, drawing on dynamic capability perspective (Teece, 2007; Teece et al., 1997) helps to clarify findings of the effects of organizational ambidexterity. By examining organizational ambidexterity resulting from firms' current knowledge and new knowledge will leads to innovation performance. Furthermore, this research

framework a firm's strategic decision making to pursue organizational ambidexterity as a dynamic capability aiming at helps the firm reallocate and reconfigure organizational resources to permit the firm to exploit current capabilities and develop new ones to address rapidly changing environments (Taylor & Helfat, 2009).

Second, this research amplifies the current understanding of social capital theory (e.g., Adler & Kwon, 2002) by providing empirical support for the mediating role of social media strategic capability as a special type of value-creating resource (Makadok, 2001) in the relationship between organizational ambidexterity (both exploitation and exploration) and innovation performance. In the context of ICT businesses, this research highlights that social media strategic capability supports transform certain types of information and resources, enhancing firms' internal competitive advantages. On the other hand, this allows firms the ability to utilize their dynamic resource management capabilities to realize and gain full potential of their knowledge emerging from social networks and increase social capital, which along these lines facilitates the firms' innovation performance.

Third, this research offers new evidence on how exploration and exploitation activity enable social media strategic capability to enhance innovation performance. Unlike prior empirical research, which this research emphasizes on social media strategic capability in ICT businesses, drawing on previous literature on social media to conceptualize social media strategic capability, maybe an even more critical capability for ICT businesses due to their greater challenge to survive in the long run.

Fourth, this research expands on the concept of social media strategic capacity for business activities other than marketing and theorizes how this capability mediates the relationships between organizational ambidexterity (both exploitation and exploration) and innovation performance. Moreover, the study of firms' utilize of social media for business activities is in the initial stages (Braojos-Gomez, Benitez-Amado, & Montes, 2015). The empirical studies demonstrate how social media strategic capability promotes firms to create business value.

Finally, this research argues that environmental dynamism that constitutes a complementary capability relationship between exploitation and social media strategic capability. Complementary capabilities refer to the reciprocal reinforcement of two activities such that the existence of one increases the value of the other (Ennen

& Richter, 2010). Exploitation and environmental dynamism reinforce each other to social media strategic capability. Furthermore, the entrepreneurial orientation that constitutes a complementary capability relationship between social media strategic capability and innovation performance. Which social media strategic capability and entrepreneurial orientation reinforce each other to innovation performance and social media strategic capability. This argument has clear theoretical implications for the development of both organizational capability perspectives (e.g., Tanriverdi, 2005) and complementary capability literature (e.g., Ennen & Richter, 2010).

In addition, this research provides various managerial contributions as follows:

First, the findings of this research will redound to the benefit of ICT businesses in Thailand considering that organizational ambidexterity both exploitation current knowledge in the firm and exploration new knowledge (Ricciardi et al., 2016) that plays an important role on social media strategic capability and innovation performance today. This research recommends that managers may utilize both exploration and exploitation simultaneously when dealing with social media-related decisions.

Second, firms can differentiate if they invest in and leverage Facebook, Twitter, YouTube, Instagram, and blogs for business activities, that is, if they develop social media strategic capability improves coordination internal and external the firm such as employees, partner, customer, and other which in turn facilitates the firm's ability to apply current knowledge and new knowledge for innovation performance.

Third, this study sheds light on the insights that firms can use social media strategic capability as a mechanism to enhance their proactivity towards innovation, reducing complexity operations, coordination, and flow of knowledge as well as would enhance an understanding of the social media phenomenon, demonstrating that firms with social media strategic capability can help them increase awareness of new opportunities and innovations performance.

Finally, this research focus of empirical analysis on ICT businesses results in significant implications for managers of high-tech firms, which operate in rapidly changing environments under intense radical time pressure and conditions of rapid technological change and uncertainty (Han & Mckelvey, 2008). Because this business is characterized by increased complexity, the framework developed is useful to explain



the importance of using social media systems as a mechanism in favoring effective knowledge transfer between different actors in this context.

### **Scope of the Research**

This research purposes to explore the relationship between social media strategic capability, organizational ambidexterity, environmental dynamism, entrepreneurial orientation, effectual orientation and their impact on innovation performance. This research uses two theories to describe phenomena occurring in this research. These include dynamic capability theory (Teece et al., 1997) and social capital theory (Adler & Kwon, 2002; Burt, 1997). All theorizations are constructed to reveal the relationship between organizational ambidexterity, its antecedent, and consequences. Additionally, social media strategic capability is hypothesized as the mediator of the effect between the two dimensions of organizational ambidexterity (exploitation and exploration) and innovation performance. However, environmental dynamism is hypothesized as the moderators of the effect between innovation performance, and innovation performance. Entrepreneurial orientation and effectual orientation are hypothesized as the moderators of the effect of social media strategic capability and innovation performance.

In essence, the scope of this research is at the unit level of ICT businesses in Thailand. The key informants are the CEO, managing directors, IT manager, or the persons in charge of high levels who had a full understanding of the overall firms as well as the use of social media for firm. The ICT businesses in Thailand was selected as the target group for data investigation because the features of this business have involved innovation technology and new creation which requires knowledge development for work as well as new ways of working to drive greater productivity.

This research used the deductive approach, the participants were selected from the database in this research is drawn from the Department of business development 2020 under the Ministry of Commerce on their website: <https://www.moc.go.th>. The data were collected using the internet-based survey, the advantages such as lower cost, more timely data collection, reliable data, and anonymity of participants (Rice, Winter, Doherty, & Milner, 2017). In addition, the data were collected using a questionnaire

mailed to each firm. To ascertain the quality of the questionnaire, validity and reliability were tested using factor analysis and Cronbach's alpha. In this research, structural equation modeling (SEM) was employed as the main statistical technique to test the relationships between the constructs and determine the predictive power of the model, because it is a multivariate technique combining aspects of multiple regression and also factor analysis to estimate a series of interrelated dependence relationships simultaneously (Hair, Anderson, Tatham, & Black, 1995).

### **Structure of the Research**

This research is organized into five chapters:

Chapter 1 provides the introduction of this research. It comprises the background and rationale for this research, problem statement, questions and objectives of the research, significance of the research, the scope of the research, and the structure of the research.

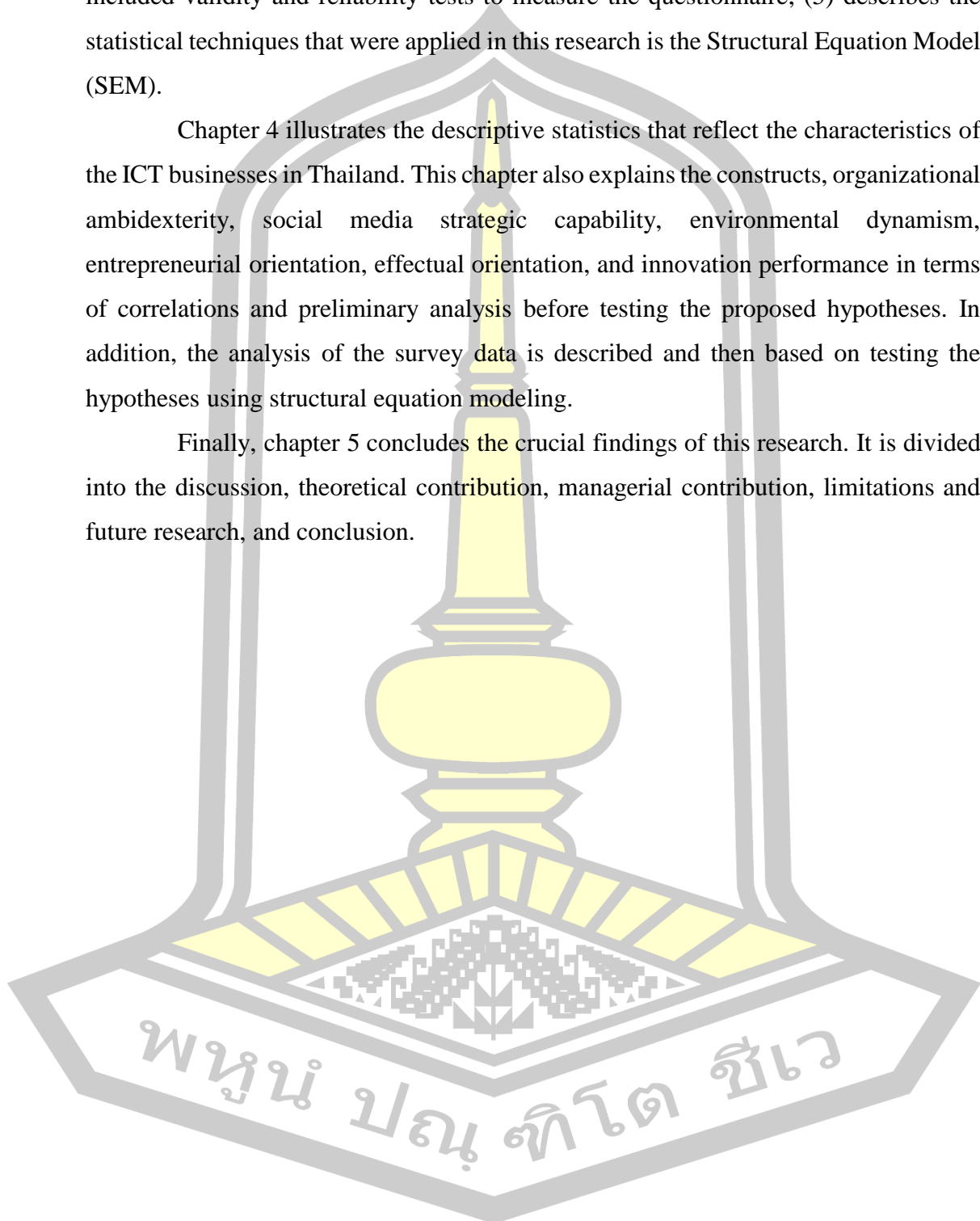
Chapter 2 provides a review of relevant literature, which is divided into nine sections. As such, the literature was intensively reviewed in the following areas: (1) theoretical foundation (dynamic capability and social capital perspective); (2) organizational ambidexterity and social media strategic capability; (3) organizational ambidexterity and innovation performance; (4) moderating role of environmental dynamism; (5) social media strategic capability and innovation performance; (6) moderating role of entrepreneurial orientation; (7) moderating role of effectual orientation and (8) mediating role of social media strategic capability. In addition, the conceptual framework based on the relevant literature was reviewed according to the six main constructs, among the relationship of key constructs, and the hypotheses are included. Finally, the conceptual model and the hypotheses and definitions are proposed in this chapter.

Chapter 3 describes the way in which this research was operationalized to answer the research in the following areas: (1) explains the detail ICT businesses in Thailand; (2) describes the research method, explains the source of population and sample selection, and developing questionnaires; (3) discusses the measurement of all constructs in the context of the dependent variable, independent variable, moderating

variable and mediating variable; (4) explains the methods useful in this research included validity and reliability tests to measure the questionnaire; (5) describes the statistical techniques that were applied in this research is the Structural Equation Model (SEM).

Chapter 4 illustrates the descriptive statistics that reflect the characteristics of the ICT businesses in Thailand. This chapter also explains the constructs, organizational ambidexterity, social media strategic capability, environmental dynamism, entrepreneurial orientation, effectual orientation, and innovation performance in terms of correlations and preliminary analysis before testing the proposed hypotheses. In addition, the analysis of the survey data is described and then based on testing the hypotheses using structural equation modeling.

Finally, chapter 5 concludes the crucial findings of this research. It is divided into the discussion, theoretical contribution, managerial contribution, limitations and future research, and conclusion.



## CHAPTER II

### LITERATURE REVIEW AND CONCEPTUAL FRAMEWORK

The purpose of the chapter is to elaborate on the relationship linkage of social media strategic capability, its antecedents and consequences, the theoretical foundation, the literature review, and the hypotheses development. The contents are divided into three sections. In the first section, two theoretical foundations have explained the phenomenon dynamic capability theory and social capital theory. The second section provides a literature review and hypotheses development which is used to formalize the theoretical arguments on the relationships among the constructs in the conceptual model. The final section of this chapter provides the conceptual model of this research, a summary of all hypothesized relationships, and operational definitions of all variables in this research.

#### Theoretical Foundation

This research attempts to states the theoretical foundation that supports the relationship linkage of the conceptual model. The two theories promoting this research are the dynamic capability and social capital theory. The dynamic capability theory illustrates the ability of the firm to recreate and integrate its resources to suitable with changing business environmental pressures (Teece et al., 1997). Likewise, the social capital theory explains highlights a variety of utility that occurs from the information flow and reciprocal participation associated with social networks as the theoretical framework of research.

Indeed, the dynamic capability theory is highlighted to demonstrate the likelihood of relationships between organizational ambidexterity, and the consequence variables. Whereas, the social capital theory is employed to describe the relationships between social media strategic capability and innovation performance. Therefore, each theoretical framework is described as follows:

### Dynamic capability theory

The concept of dynamic capability theory is important and has been a popular theoretical framework in strategic management research (Zahra, Sapienza, & Davidsson, 2006). The introduction of dynamic capability originates from Teece et al. (1997, p.516), who define dynamic capability as “the firm’s ability to integrate, build, and reconfigure internal and external competences to address rapidly changing environments”. In other words, the organizational and strategic procedures that empower firms to coordinated and reconfigure their skills and abilities to their environment in order to sustain competitive advantage (Eisenhardt & Martin, 2000), as well as, the organizational ability to continuously upgrade, create, extend, protect, and keep relevant the unique asset base of the enterprise (Teece, 2007). In the same vein, the resource-based view of the firm (RBV) centers on the idea that an organization has access to bundles of resources that form the basis for competitive advantage (Barney, 1986), which highlights the importance of resources (valuable, rare, inimitable, and non-substitutable) to competitive advantage (Barney, 1991). The RBV of the firm illustrates how competitive advantage within a firm is archived and sustained over time (Barney, 1991), this perspective emphasizes on the internal resources of the firm, while dynamic capability extends the RBV to dynamic markets (Eisenhardt & Martin, 2000; Teece et al., 1997).

Furthermore, researchers have defined a variety of perspectives. According to the definition of Zahra et al. (2006) defined dynamic capability as abilities to reconfigure a firm’s resources and routines according to the manner envisioned and deemed appropriate by its principal decision-makers. Wang and Ahmed (2007) defined dynamic capability as the organization’s behavioral orientation constantly to renew, recreate, reconfigure, and integrate its capabilities and resources, by identification of three-component factors i.e., absorptive capability, innovative capability, and adaptive capability, which reflects the common features of dynamic capability across firms. Helfat, Finkelstein, Mitchell, Peteraf, Singh, Teece, and Winter (2007, p.7) defined dynamic capability as “the capacity of an organization to purposefully extend, create, or modify (i.e., reconfigure) its resource base”. Besides, Pavlou and El Sawy (2011) proposed a formative model of dynamic capability that has four components including sensing, learning, coordinating, and integrating capability. The overall various

definition perspective of dynamic capability offers the ability to create, expand, and improve the value of resources and capabilities, especially focusing on change (Winter, 2003; Zollo & Winter, 2002) and assisting in contributing to sustainable competitive advantage at a later time (Helfat et al., 2007).

Teece et al. (1997) indicated that the term “dynamic capabilities” is a combination of two terms which are “dynamic” and “capability”. The term “dynamic” indicates that the ability to renew competences to be suitable with the changing business environment such as innovative reactions are required, change in technology is rapid (Wu, 2010), competition in the future, and sophisticated markets to identify (e.g., King & Tucci, 2002; Teece, 1998). While, the term “capability” emphasized on the role of strategic management in flexibility, reconfiguration, and integration of both internal and external firm abilities, resources, and the responsibility to right the situation of a shifting environment (e.g., Capron & Mitchell, 2009; Trainor, Rapp, Beitelspacher, & Schillewaert, 2011). Therefore, the term dynamic capability facilitates the ability to innovate (Hill & Rothaermel, 2003; Teece, 2007), which focuses on a firm’s ability to align resources and capabilities with environmental changes (Wang & Ahmed, 2007).

Teece (2007, p.1319) indicated that there are three challenges for which business must be agile, i.e., 1) to sense and shape opportunities and threats, 2) to seize opportunities, and 3) to conserve competitiveness through enhancing, combining, protecting; and, when necessary, reconfiguring the intangible and tangible resources of the business enterprise. Schreyögg and Kliesch-Eberl (2007) suggest that are three approaches to dynamic capabilities, i.e., 1) radical dynamization approach, 2) integrative approach, and 3) innovative routine approach. In addition, Protogerou, Caloghirou, and Lioukas (2012) suggest that the core elements of dynamic capability have three processes as follows: 1) coordinating/integrating, 2) learning and 3) strategic competitive response processes.

The highlight of dynamic capability as follows. The first issue, dynamic capability addresses are the ability and method of effectively managing resources, which are difficult for competitors to imitate because they are built on the idiosyncratic characteristics of entrepreneurial managers and the organizational routines - learned and organizational culture (Teece, 2014). Second, dynamic capability extends a resource-based view to emphasize the importance of continuously improving and

refining resources and capabilities to achieve and sustain competitive advantage and its antecedents (Eisenhardt & Martin, 2000), such as organizational ambidexterity. Third, dynamic capability helps the firm reallocate and reconfigure organizational assets to permit the firm to capitalize on existing capabilities and create modern ones (Taylor & Helfat, 2009). Fourth, O'Reilly and Tushman (2011) argue that the capability of a firm to be ambidextrous is core to its dynamic capabilities. Finally, when necessary, these capabilities favor the organization's ability to reconfigure current resources and develop the new skills necessary to adapt to emerging opportunities and threats (Sheng & Hartmann, 2019).

However, numerous scholars are still doubtful about the role of conceptualizations advanced about dynamic capability (Winter, 2003; Zahra et al., 2006). They have often been criticized for being tautological, vague and not operational (Eisenhardt & Martin, 2000). This is consistent with Arend and Bromiley (2009) indicate that, tautological or circular definition are the problems in defining the dynamic capability that limit the potential contribution of this theory. On the other hand, the problems in the measurement of dynamic capability are the lack and do not specify the exact element of the assumption (Galunic & Eisenhardt, 2001; Pavlou & El Sawy, 2011).

Several studies have verified the influence of key dynamic capabilities. Researchers have found that dynamic capability can be utilized in several contexts in organizational science theory such as learning theory (Zahra & George, 2002). Winter (2003) found that the dynamic capacity of the firm uses asset advantage as indicated by the occasion and time. Zahra et al. (2006) found that dynamics capabilities can produce superior performance in dynamic environments. Besides, Khavul, Peterson, Mullens, and Rasheed (2010) recommended that dynamic abilities are the procedure through which the firm uses the assets that are hard to emulate and substitute. Moreover, Eriksson, Nummela, and Saarenketo (2014) studied dynamic capability in a small global factory in which the SMEs segment of the businesses group should be managed through dynamic capability needs that include awareness, management, and organizational ability.

The success of innovation performance will increase, depending on knowledge and capability to seek essential information for firms in dynamic environments. Therefore, dynamic capability can be applied to describe the relationship in two components of organizational ambidexterity. Moreover, the foundation of dynamic capability and organizational ambidexterity can also cover creation, integration, and modification of company resources and functions to develop appropriate practices in the rapid change of an environment that leads to outcomes and ultimately to success for innovation performance. However, dynamic capability also encompasses the firm's ability to leverage external networks and ecosystems to adapt to a changing business environment (Eisenhardt & Martin, 2000; Teece, 2007; Teece et al., 1997). Likewise, the literature on network capabilities explains how firms find, involve, and reconfigure external partners (Ritter, Wilkinson, & Johnston, 2004).

It is thus contended that in this research the dynamic capability theory is relevant to this research because at present firms are faced with a range of dynamic phenomena from their external environments such as technology disruption, aggressive competition, and government pressures. The dynamic capability perspective emphasizes that a firm's long-term competitive advantages occur from the resources the firm owns as well as how the firm integrates and transforms those resources through appropriate firm-specific capabilities. With dynamic capabilities, a firm renews and changes its resource base, assets, and capabilities in order to address the changing demands in the rapid environment and to achieve a long-term achievement (Helfat et al., 2007; Teece, 2007; Teece et al., 1997).

In addition, today's ICT businesses, firms should be sensitive and continually monitor feedback from the dynamic environment. A key attribute of a successful firm is its ability to be flexible in its strategic directions (Li, 2012; Shimizu & Hitt, 2004). Which improving capabilities in terms of strategic directions include decisions to focus on exploring new opportunities (Gedajlovic, Cao, & Zhang, 2012) or exploiting existing products and the seeking of opportunities in areas in which the firm currently operates (Andriopoulos & Lewis, 2009). Social media strategic capability may be considered, due to the dynamic capability that allows the enhancement of resource management, a defining aspect of such a capability (Yu, Chen, Nguyen, & Zhang, 2014). For example, capability provides essential information for the resource



acquisition and integration of firms (Conner & Prahalad, 1996), which in turn enhances innovation (Cai, Hughes, & Yin, 2014). As a result, dynamic capabilities are required to allow organizations to accomplish in changing circumstances (Helfat & Winter, 2011). Moreover, Eriksson et al. (2014) studied dynamic capability in a small global factory in which the SME segment of the business group should be managed through dynamic capability needs that include awareness, management and organizational ability. In conclusion, dynamic capability theory is applied to explain the relationships of ambidexterity (both exploitation and exploration) with respect to the routes of social media strategic capability and innovation performance.

### Social capital Theory

Social capital theory was introduced since 1890 and has become increasingly prevailing in a wide range of social science disciplines. (Adler & Kwon, 2002; Ferragina & Arrigoni, 2017). A growing number of scholars have appealed the concept of social capital in the search for answers to a broadening range of questions being encounter in their fields (Adler & Kwon, 2002; Andriani & Christoforou, 2016). It has been applied to interpret a wide range of social phenomena (Horng & Wu, 2020).

Social capital demonstrates the “sum of the actual and potential resources embedded within, available through, and derived from the network of relationships possessed by an individual or social unit,” (Nahapiet & Ghoshal, 1998, p. 243). Coleman (1990) indicates that social capital demonstrates the resources, real or potential, gained from relationships. Putnam (2001) describes it as the connections among individuals – social networks and the norms of reciprocity and trustworthiness that arise from them. In addition, according to Flap's (1991) view, emphasized that social capital is a combination of (1) the number of relationships; (2) strength of relationships in a network; and (3) resources acquired by participants.

According to Fukuyama (2001), demonstrates the shared values or norms that facilitate social participation, instantiated in real social connection. It may be regarded as a pool of resources that should be tapped through social ties, which allow access to and use of resources embedded in a social network (Lin, 2017). In particular, the actors in the relationship network may benefit from fine-grained information exchange and joint problem-solving, which may foster innovation (Lundberg & Andresen, 2012).

These connections result in a common public good (Gil de Zúñiga, Jung, & Valenzuela, 2012). Hence, actors can benefit from their social capital (Burt, 1992). Likewise, the concept of social capital proves to be a powerful factor to illustrate actors' relative success in a number of areas of central concern to organizational researchers (Adler & Kwon, 2002). Besides, it is widely recognized as a fundamental resource for firms (Inkpen & Tsang, 2005; Partanen, Möller, Westerlund, MRajala, & Rajala, 2008).

However, even if a social capital concept has been considerably discovered and acknowledged, there is a prevailing irresolution on its definitions and consequences (Koka & Prescott, 2002). Scholars are still skeptical about the notion of as mentioned, because of its ambiguity and multidimensionality, a variety of different operationalizations and variables have contributed to the representations of social capital (Coleman, 1988). While the concept emerged, according to Burt (1992) and others' work, a consensus occurred when social capital stood for actors' ability to ensure advantages because of membership in either social networks or other social structures (Portes, 1998). Advantages, at the organizational level, contained prerogative access to favored opportunities for businesses, persuasion, reputation, knowledge, information, and a heightened understanding of network norms as well as favored knowledge access might flow through the firms.

Social capital cites that a major contributor to its accomplishment in the form of a firm's external networks. Firms deal with suppliers and other partners to gain external resources that will be used to generate products and services, along with the competition in terms of price, and adopt the quality to attract and maintain their customers (Burt, 1992; Pennings, Lee, & Witteloostuijn, 1998; Uzzi, 1997). It builds channels of communications that support the exchange, creation, and recombination of knowledge among individuals, groups and business partners (Tsai & Ghoshal, 1998). In addition, according to Andriani and Christoforou (2016) indicate that trust, cooperation, and reciprocity have a positive impact on the wealth of the society. To an extent, social media could link to trust, cooperation, and reciprocity, its potential impact on social capital. It fosters mutual enrichment through conversation, exchange, and participation (Zhang, Johnson, Seltzer, & Bichard, 2010). Social media platforms proved to generate all types of social capital (Ellison, Steinfield, & Lampe, 2007). Moreover, social media are often framed within a context of social capital formation

(Fieseler & Fleck, 2013) because platforms such as social network websites favor discursive communication (Pasek, More, & Romer, 2009).

In previous studies, Zhao (2006) demonstrates that people using the Internet frequently possess extensive networks than others not using it or even using it periodically. In addition, Ali, Azab, Sorour, and Dora (2019) indicate that a number of studies confirmed the Internet value such as social media increasing social capital (e.g., Hampton, 2003; Wang & Wellman, 2010). Moreover, Bharati Zhang, and Chaudhury (2015) indicate that overall social media and the enhanced social capital do help promote organizational efforts in knowledge management. Which may subsequently lead to innovation.

The rapid growth of social media networking sites suggests that firms are creating a virtual network consisting of bonding, thus expanding social capital. If the firm manipulates social media appropriately, it can become a golden source of data (Benitez et al., 2018). Thus, to identify and shape innovation performance, firms must use social media networks to constantly develop relationships from which they can scan, search, explore, and collect information both inside and outside to advanced their social capital. However, social media strategic capability emphasizes the rapid commitment of new resources in response to changes and disruptions where are unquantifiable threats to long-term success and survival (Colicchia & Strozzi, 2012).

Thus, this research used social capital theory, which highlights a variety of specific benefits that arise from the information flow, their proficiency to assemble extramural resources, and reciprocal cooperation associated with social networks as the theoretical framework of the research model. Firm's social media strategic capabilities can be enhanced and innovation performance can be obtained as a consequence of the value generated from social media networks. The important premise of social capital demonstrates that social networks have value e.g., social media give rise to norms of reciprocity (Smith, Giraud-Carrier, & Purser, 2009), such as information exchange, cooperation, and trust (Blyler & Coff, 2003). Hence, in accordance with the above-mentioned discussion, social capital theory is imperative to this research. It is applied to explain the relationships between social media strategic capability and innovation performance.

## Relevant Literature Reviews and Research Hypotheses

This section indicates the literature review that is relevant to the conceptual framework and the linkage of the relationship between antecedents and consequences to social media strategic capability. In addition, it is also possible that these relationships can be moderated by environmental dynamism, entrepreneurial orientation, and effectual orientation. In order to comprehend all relationships, literature reviews are demonstrated as follows.

### Social media strategic capability

Social media have changed the way organizations interact with their internal and external environment (Kaplan & Haenlein, 2010). It allows anyone to create, circulate, share, and exchange information in multi-way, immediate, contingent communications and diversity communities (Schjoedt, 2018; VanMeter, Grisaffe, & Chonko, 2015), as well as allow more fluid and interactive means of communication (Chang, Yu, & Lu, 2015; Culnan, McHugh, & Zubillaga, 2010). Social media can generate further exchange, is a powerful tool to spread one's network of sources, and facilitate connecting with familiar and strangers (Chang et al., 2015).

Social media tools used for interactions, communication, and exchange information such as Facebook, Twitter, Line, Blog, Wiki, and YouTube. These tools based on participation, creativity, and interaction between users (Bhimani et al., 2019), which provide a continuum of social exchange over time (Wu, 2016). These platforms facilitate enterprises' interactions with their stakeholders (Carayannis & Rakhmatullin, 2014; Hvas & Munar, 2012). As a result, social media are highly interactive platforms in which individuals, collectives and firms constantly interact and communicate in arrange to share, co-create, exploit and explore new user-generated innovation opportunities (Kaplan & Haenlein, 2010; Piller et al., 2012).

More firms are aware that social media provide a means to communicate and change the business model creating new opportunities (Kim & Ko, 2012; Sashi, 2012). Furthermore, firms have also increasingly use social media for their activities such as enhancing organizational internal cohesiveness (Toombs & Harlow, 2014), marketing, information search, business networking, crowdfunding (Olanrewaju et al., 2020), and

therefore have developed it's on capability toward the use of social media. Literature has also emphasized this phenomenon and argues that firms should develop the so-called "social media strategic capability" (Nguyen et al., 2015).

Strategic capability is to a firm's ability to integrate firm resources and skills to align with its strategic directions (Teece, 2007; Teece et al., 1997). Hence, social media strategic capability implies that Strategic capability is to a firm's ability to integrate firm resources and skills to align with its strategic directions (Teece, 2007; Teece et al., 1997). Hence, social media strategic capability implies that firm's ability to strategically use social media to acquire, integrate, communicate, share and apply current knowledge and new knowledge. These firms can recognize new business opportunities and threat possibilities, as well as maintain a competitive advantage (Nguyen et al., 2015). On social media, swift and flexible decision making is essential in allowing firms to commit resources and behaviors to novel innovations (e.g., Shimizu & Hitt, 2004), and social media could stimulate entrepreneurial thinking and behavior (Fischer & Reuber, 2011). Furthermore, social media strategic capability reflects a firm's ability to make connections with key stakeholders (suppliers, customers, partners) who utilize platforms to share, create, and modify the content, purchase products as seeking the investment of potential customers (Kietzmann et al., 2011). Likewise, firms with better social media strategic capability will enjoy better access and employ critical technology and other information. Also, Table 1 summary of social media types. Table 2 summary of the definition of social media. Table 3 summary of the key literature reviews on social media.

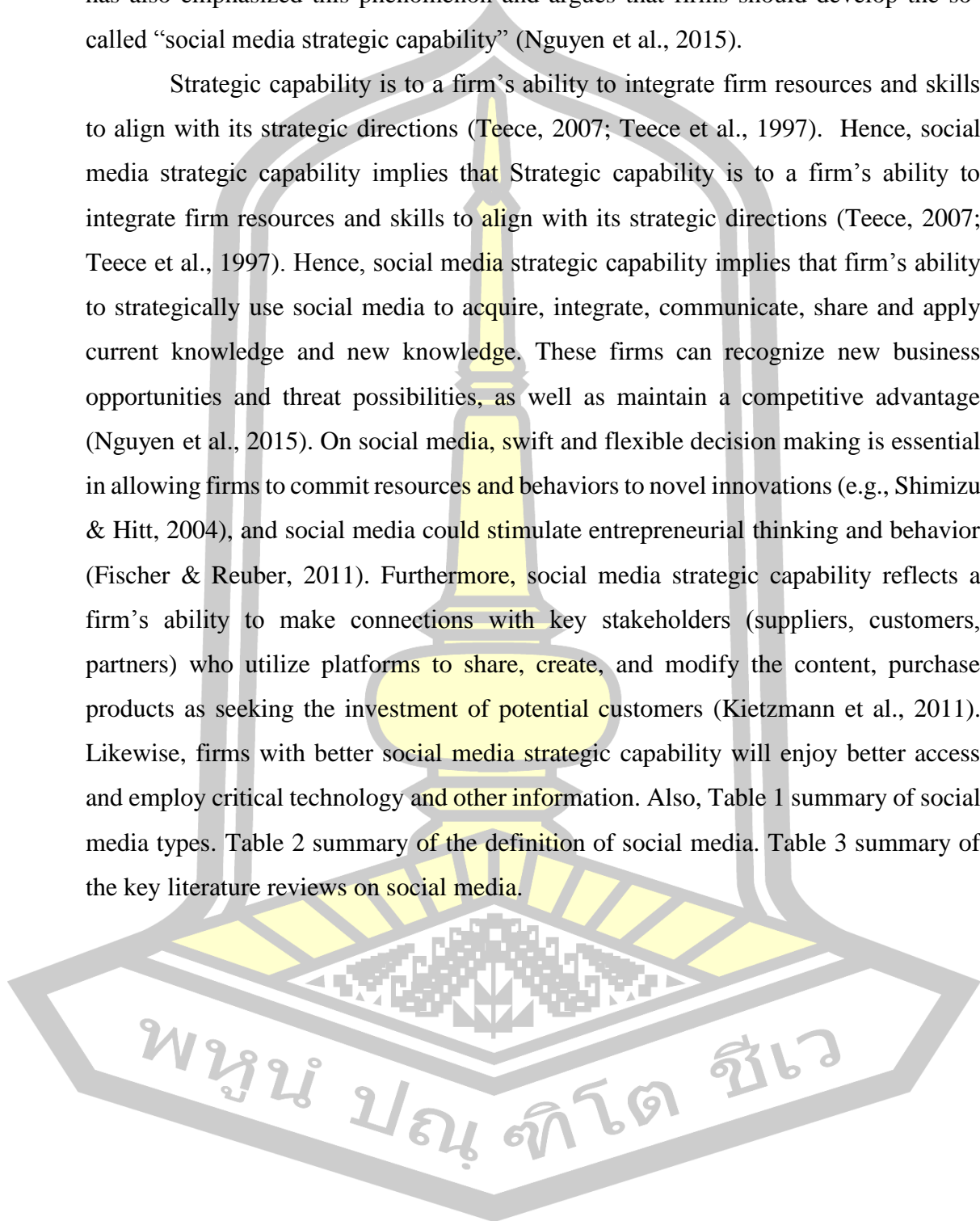


Table 1 Summary of Social Media Types

<b>Social media Types</b>	<b>Key purpose</b>	<b>Advantage of social media types</b>
Twitter	Micro blogging Service	Twitter is a social networking service that allows users to post messages and associated through its micro-blogging site. It is one of the most popular websites on the internet. For SMEs, Twitter offers a very cost-effective way to reach a worldwide gathering of people in a very short period of time.
Facebook	Social networking Sites	Facebook is one of the world's most popular social networking sites. Facebook for many SMEs, Facebook provides a valuable channel to market and sell their products and services to maximize the effectiveness of a limited marketing budget of most SMEs. Drawing on this, customers would have access to products in real-time and will pose questions about products.
Line	Social networking Sites	For the SMEs, can display not only product and service features and open discussions, but also pull the customer participate in an on-air activity.
YouTube	Video sharing sites	The firm can share content, make product and service presentations, bookmarking, rating, follower, and commenting in all collaboration of social network. YouTube's revenue model relies on advertising through Google AdSense.
Instagram	Photos and short video sharing	Instagram is the most popular photo and video-sharing platform, and firms may use it to promote their brand and company by posting activity images or videos.

Table 1 Summary of Social Media Types (Continued)

<b>Social media Types</b>	<b>Key purpose</b>	<b>Advantage of social media types</b>
Google	Social networking Sites	Google as social media is essential for connecting with customers for SMEs. Google allows users to make and update a customized profile, which offers the advantage of connectivity to a spread of other Google products and services. Consequently signaling the clear potential for conducting its business this platform offers an increased reach through search engine optimization.
Blogs	Share and exchange contents	SMEs can share product and service features, open discussions, and review.

Source: Crammond, Omeihe, Murray, and Ledger (2018); Garg Gupta, Dzever, Sivrajah, and Kumar (2020)

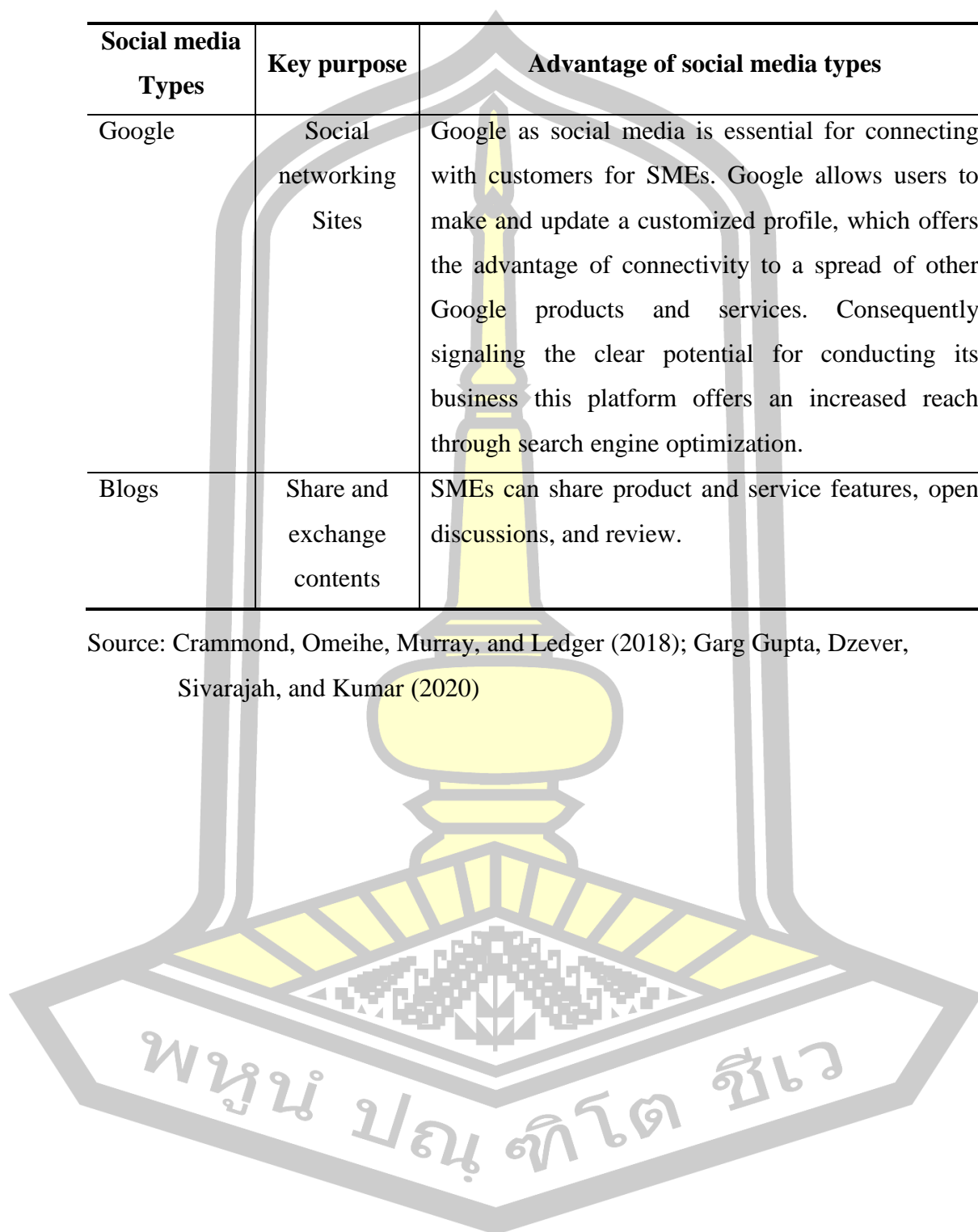


Table 2 Summary of the Definition of Social Media

Author(s) (year)	Definitions
Peña (2012)	Social media enables innovation by seeking information from diverse group of individuals – in varied virtual social formats.
Daj (2013)	The term commonly given to websites, online tools, and other interactive communication technologies which allow users to interact with each other in some way, either by sharing information, opinions, knowledge, or interests.
Simula, H., Töllinen, and Karjaluoto (2013)	Social media represents platforms and tools of digital marketing that enable social interaction between business and customer networks.
Frutos, Giones, and Miralles (2014)	A group of Internet-based applications built on the Web 2.0 technology that allows the creation and exchange of User Generated Content.
Carr, Decreton, Qin, Rojas, Rossochacki, and wen Yang (2015)	An array of platforms that allow people to interact, create, share, and/or exchange information and ideas in virtual communities and networks.
Chang et al. (2015); Kaplan and Haenlein (2010)	A group of Internet-based applications that build on the ideological and technological foundations of Web 2.0, and that allow the creation and exchange of User Generated Content.
Lin, Li, and Wang (2017)	Social media is the platform where social commerce activities occur, focused on information sharing and increasing competitive advantage.



Table 3 Summary of the Key Literature Reviews on Social Media

Author (s)	Research Types	Title of the article	Results
Braojos-Gomez et al. (2015)	Empirical	How do small firms learn to develop a social media competence?	The empirical analysis indicates that IT infrastructure capability, social competitor pressure, marketing management, and innovation management are important mechanisms through which small firms learn to develop a social media competence.
Nguyen et al. (2015)	Empirical	Brand innovation and social media: Knowledge acquisition from social media, market orientation, and the moderating role of social media strategic capability	The findings that brand innovation is affected by both knowledge acquisition from social media and market orientation. Social media strategic capability positively affects brand innovation and acts as a moderator between knowledge acquisition, market orientation, and brand innovation.
Wang and Kim (2017)	Empirical	Can social media marketing improve customer relationship capabilities and firm performance? DC Perspective	The findings demonstrating that social media usage plays a moderating role by amplifying the positive impact of social CRM capabilities on firm performance.

Table 3 Summary of the Key Literature Reviews on Social Media (Continued)

Author (s)	Research Types	Title of the article	Results
Benitez et al. (2018)	Empirical	IT-enabled knowledge ambidexterity and innovation performance in small U.S. firms: The moderator role of social media capability	The results show that IT infrastructure capability influences innovation performance through knowledge ambidexterity. In addition, the analysis also suggests that social media capability plays a moderator role in this equation: IT infrastructure and social media capabilities work together to enable knowledge ambidexterity.
Drummond McGrath, and O'Toole (2018)	Empirical	The impact of social media on resource mobilization in entrepreneurial firms	The findings demonstrate that the impact of social media extends that of a virtual communication platform to a resource layer in the creation and maintenance of activity structures in business-to-business relationships and networks.
Papa Santoro, Tirabeni, and Monge (2018)	Empirical	Social media as tool for facilitating knowledge creation and innovation in small and medium enterprises	The results indicate that social media influence positively three out of four knowledge creation processes and that they help to foster the innovation process.

Table 3 Summary of the Key Literature Reviews on Social Media (Continued)

Author (s)	Research Types	Title of the article	Results
Datta, Sahaym, and Brooks (2019)	Empirical	Unpacking the antecedents of crowdfunding campaign's success: the effects of social media and innovation orientation	The results of that innovation orientation alone does not fully account for crowdfunding campaign's success, but rather its effect is based on a firm's ability to SSM. In addition, this study contributes to the literature on strategic entrepreneurship, media strategy, and public policy.
De Oliveira et al. (2020)	Empirical	Towards a framework for innovation in retailing through social media	The findings indicate that social media positively relates to radical and incremental innovation, mediated by multiple digital channels and moderated by digital capabilities.
de Zubielqui, Fryges, and Jones (2019)	Empirical	Social media, open innovation & HRM: Implications for performance	A significant positive relationship exists between knowledge sourced via social media and innovativeness. Furthermore, shows that social media serves as a mediator for the effect of external knowledge flows on firm innovativeness when firms attach high importance to modern HRM practices.

Table 3 Summary of the Key Literature Reviews on Social Media (Continued)

Author (s)	Research Types	Title of the article	Results
de Zubielqui and Jones (2020)	Empirical	How and when social media affects innovation in start-ups. A moderated mediation model	The results demonstrate that social media has a significant positive impact on innovation outcomes. In addition, market and technological dynamism moderate positively the effect of social media on innovation, such that the effect is stronger when environments are dynamic.
Martín-Rojas, Garrido-Moreno, and García-Morales (2020)	Empirical	Fostering Corporate Entrepreneurship with the use of social media tools	The findings confirm that the use of Social Media tools impacted all dimensions of Corporate Entrepreneurship and enhanced firm performance and This paper contributes to the literature by empirically confirming how Social Media use helps to create business value.
Sahaym, Datta, and Brooks (2019)	Empirical	Crowdfunding success through social media: Going beyond entrepreneurial orientation in the context of small and medium-sized enterprises	The perceived contribution of social media mediates the relationship between EO and crowdfunding success. These findings contribute to the literature on strategic entrepreneurship, innovation, and media strategy.

Table 3 Summary of the Key Literature Reviews on Social Media (Continued)

Author (s)	Research Types	Title of the article	Results
Garg et al. (2020)	Empirical	Examining the relationship between social media analytics practices and business performance in the Indian Retail and IT Industries: The mediation role of customer engagement	Concludes that there is a significant positive relationship between social media analytic practices and business performance mediated by customer engagement in the Indian retail and IT industries.
Martín-Rojas et al. (2020)	Empirical	Social Media Use and the Challenge of Complexity: Evidence from the Technology Sector	Social Media platforms support interactions and connectivity with a wide range of heterogeneous agents, enabling firms to capture important knowledge. This knowledge can be leveraged not only to foster external innovativeness by developing new products and services, but also to self-renew internally. Furthermore, the results suggest that Social Media use and the resulting connectivity with different agents are important learning mechanisms that enable knowledge sharing and innovation in a digital ecosystem.

Table 3 Summary of the Key Literature Reviews on Social Media (Continued)

Author (s)	Research Types	Title of the article	Results
Zhang, Gupta, Sun, and Zou (2020)	Empirical	How social-media-enabled co-creation between customers and the firm drives business value? The perspective of organizational learning and social capital	The results indicate that the moderating effects of social media use level on the relationships between co-creation mechanisms and outcomes are largely supported. In addition, the study contributes to theory and practice by shedding light on the social media-based customer-firm co-creation in NPD at a process level.

Based on the literature review, social media is a dynamic field that has received considerable attention from both academics and management practitioners alike, which issues have a diverse perspective. Principally, most studies of social media focus on the advantage of the application of this social media platform in the business such as support interactions and connectivity with a wide range of heterogeneous agents, which are important learning mechanisms that enable knowledge sharing and innovation in a digital ecosystem.

An important number of scholarly research currently being conducted in social media, however, is conceptual. Industry experts know that social media creates new opportunities for organizations that want to most strongly engage with their customers and improve business performance. Yet, the relationship between organizational ambidexterity, social media strategic capability, and innovation performance has not yet been adequately examined from an empirical study. In order to gain a better understanding of the relationship between organizational ambidexterity and innovation performance and the mediation role of social media strategic capability in that process. Therefore, this research provides social media strategic capability and its antecedents

and consequences, based on the dynamic capability and social capital theory that is described in both the relevant literature review and provided hypotheses as below.

#### Organizational Ambidexterity

Organizational ambidexterity indicates to the firm's ability to manage tensions between exploitative and exploratory activity (Benner & Tushman, 2003; March, 1991). The accomplishment and long-term survival of a firm depend on its ability to exploitation and exploration (Gibson & Birkinshaw, 2004; Raisch, Birkinshaw, Probst, & Tushman, 2009). According to March's framework of exploration and exploitation has drawn interest from a researcher studying phenomena such as organizational learning, knowledge management, technological innovation, organizational design, strategic alliances, organizational adaptation and strategic management (Lavie, Stettner, & Tushman, 2010; Raisch & Birkinshaw, 2008).

According to March, (1991, p.71) defined exploitation as "refinement, choice, production, efficiency, selection, implementation and execution" contrasting it with exploration, which involves "search, variation, risk-taking, experimentation, play, flexibility, discovery, and innovation". Levinthal and March 1993) added that exploration involves "a pursuit of new knowledge," whereas exploitation involves "the use and development of things already known". Therefore, it can be proposed that exploitation and exploration are two different learning activities (March, 1991), which in accomplishes the competitive advantage, the manage of simultaneous exploitation and exploration is a central element that requires attention (Andriopoulos & Lewis, 2009; O'Reilly & Tushman, 2011).

On the one hand, exploitation is about an association with the challenges of today, whereas exploration is purposed to future options, new opportunities, and market or customer demands. Likewise, exploitation guarantees the viability in the existing business, while exploration pursues achievement in future business (Maijanen & Virta, 2017). In facing environmental dynamism and disruptive technologies, including market pressure, cultural and socio-economic structures, organizational ambidexterity is crucial for a sustainable competitive advantage (O'Reilly & Tushman, 2013; Raisch et al., 2009). In addition, the principal challenge for organizations lies in balancing these two realities, according to March (1991, p.71). Importantly, organizations have strong

predictive capabilities and readiness for change (Cegarra-Navarro, Jiménez-Jiménez, García-Pérez, & Del Giudice, 2018).

Previous studies, research on organizational ambidexterity has so call increasing interest in the past two decades (Maijanen & Virta, 2017). Some scholars acknowledge that exploitation may involve knowledge development (e.g., He & Wong, 2004). Vermeulen and Barkema (2001) referred to exploitation as the mere deployment of existing knowledge. The benefits of ambidexterity are thought to include superior financial performance (e.g., He & Wong, 2004), and increased organizational longevity (O'Reilly & Tushman, 2011). The contribution to organizational performance has shown (Junni, Sarala, Taras, & Tarba, 2013; O'Reilly & Tushman, 2013). Prior studies have demonstrated that organizational ambidexterity leads to organizational performance i.e. innovation (Katila & Ahuja, 2002; Rothaermel & Deeds, 2004), financial performance (Auh & Menguc, 2005; He & Wong, 2004) and overall firm performance (Cao, Gedajlovic, & Zhang, 2009; Gibson & Birkinshaw, 2004). Furthermore, recent research suggests that ambidexterity may well have a temporal element with short-term and long-term organizational implications (Wang, Luo, Maksimov, Sun, & Celly, 2019).

#### Organizational ambidexterity and social media strategic capability

According to March (1991) suggested that exploitation and exploration are two different learning activities. Organizational ambidexterity reflects the capability to exploring knowledge to identify new opportunities, while simultaneously exploiting knowledge to improve efficiencies in a firm's existing niches, which is key to competitiveness in a rapidly-changing environment (Huang, Newell, Huang, & Pan, 2014). Likewise, competitive pressure forces firms towards a presence on various social media channels as customers and stakeholders expect. They often attempt to adapt to increasingly consumer-stakeholder oriented communication including acquire information and communicate with each other via social media.

In essence, a consideration of the significance of information leads the firms to establish ways and means to facilitate knowledge sharing among the management team, employees, business alliances, customers and stakeholders (Marin, Cordier, & Hameed, 2016), which information sharing becomes even more important in a context



where multiple actors are engaged (Caputo, Giudice, Evangelista, & Russo, 2016). If firms do not have social media strategic capability, they can quickly lose competitive advantage and be left out of a world inhabited by their customers, suppliers, partners, and competitors (Cui, Gallino, Moreno, & Zhang, 2018; Paniagua & Sapena, 2014). Similarly, firms have responded to social media and sought ways to integrate its advantages into their business practices (Chae, McHaney, & Sheu, 2020). In particular, ambidextrous organizations strive to exploit the current business opportunities while maintaining steady growth and struggle to explore new opportunities that align with the demands (Tushman & O'Reilly, 2002).

Respectively, exploitation is the process of learning that comes from reusing, transforming, applying, and leveraging existing/new knowledge in the firm (March, 1991). Day (2011, p.187) suggested that exploitation maybe is from inside-out and function is primarily to exploit existing resources, emphasizes enhancing efficiency existing business. This leads to an emphasis on internal efficiency improvements and short-term cost reductions. Capabilities enable a firm to be adaptive (Teece, 2007). Thus, at a basic level, firms that focus on exploitation, entrepreneurs will also attempt to use social media strategic capability to communicate information with the management team, employees, business alliances to possess quality information to improve efficiency, maintain stability, and growth in the existing business. Exploitation typically purpose to improve established designs or existing product market position (He & Wong, 2004; Jansen, Van Den Bosch, & Volberda, 2006) including troubleshooting from its collaborators (Bjelland & Wood, 2008) may capitalize on accumulated firm's knowledge (Ngo, Bucic, Sinha, & Lu, 2019). At the advanced level, firms may adapt existing social media platforms for extended internal use, promote collaboration through knowledge sharing, such as using Facebook groups for official internal interaction or have even built their internal social media networks (Bhimani et al., 2019).

When comparing exploration to exploitation, exploration focuses mainly on search, discovery, risk-taking, experimentation, and pursue new knowledge (Levinthal & March, 1993). Day (2011, p.187) suggests that exploration maybe from outside-in and to explore new possibilities. This is consistent with the argument that exploration is a fundamentally external function (Auh & Menguc, 2005). The outside-in principle

is mainly seen from the perspective of the customer which capabilities enable an organization to be adaptive (Teece, 2007). Moreover, organizations that focus on exploration actively participate in external social media networks as a source of ideas and may even become an active part of the community (Ngo et al., 2019) which enables more effective business decisions to be made. Thus, we believe that exploration influences social media strategic capability as proposed in the next hypothesis.

However, according to past research suggests that exploitation and exploration are competitive strategies because learning theorists have indicated that are different learning activities, by exploitation strategies tend to limit the amount of firm exploration and that exploration strategies tend to limit the amount of firm exploitation, and therefore claimed that both must be fundamentally incompatible and will generally be mutually exclusive (e.g., March, 1991), and often compete for limited firm resources include compete for scarce organizational resources (e.g., Gupta, Smith, & Shalley, 2006; Miller & Friesen, 1983). Besides, the mindsets and organizational routines needed for exploration could be radically different from those needed for exploitation. That fact makes, as introduced by this stream of research, the simultaneous pursuit of both impossible (March, 1991).

Thus, all organizations are expected to have some levels of exploitation and some levels of exploration. In this study, we believe that exploration may impact higher levels of social media strategic capability than exploitation. Because in a dynamic environment, if organizations emphasized exploration strongly, it can explore new opportunities that align with the demands (Tushman & O'Reilly, 2002). Exploration allows organizations to acquire, create knowledge, and search for new information from different perspectives of the organization's surroundings (Jurksiene & Pundziene, 2016). This is associated with the possibilities of development beyond organizational limits, which organizations attempt to absorb new knowledge from external (Bierly, Damanpour, & Santoro, 2009) and it seems to be extremely important in the case of organizations attempt to adapt to acquire information and communicate with each other via social media. Therefore, this study proposes the hypothesis as follows:

***Hypothesis 1a: Exploitation is positively related to social media strategic capability.***

***Hypothesis 1b: Exploration is positively related to social media strategic capability.***

***Hypothesis 1c: Exploration would have higher positive effect in relating to social media strategic capability compared with exploitation.***

#### Innovation Performance

Innovation leads to new productivity, services, and procedure (Damanpour, 1991). Johannessen, Olsen, and Lumpkin (2001) indicated that innovation illustrates newness. Many scholars suggest that innovation has the power to transform existing markets, create new markets, and introduce entirely new technological and performance (Abetti, 2000). According to Nohria and Gulati (1996), innovation is composed of approach or process, structure, policy, and market opportunity that allow the management to innovate any units which contribute to novelty. Table 4 provides additional definitions of innovation performance from other scholars.

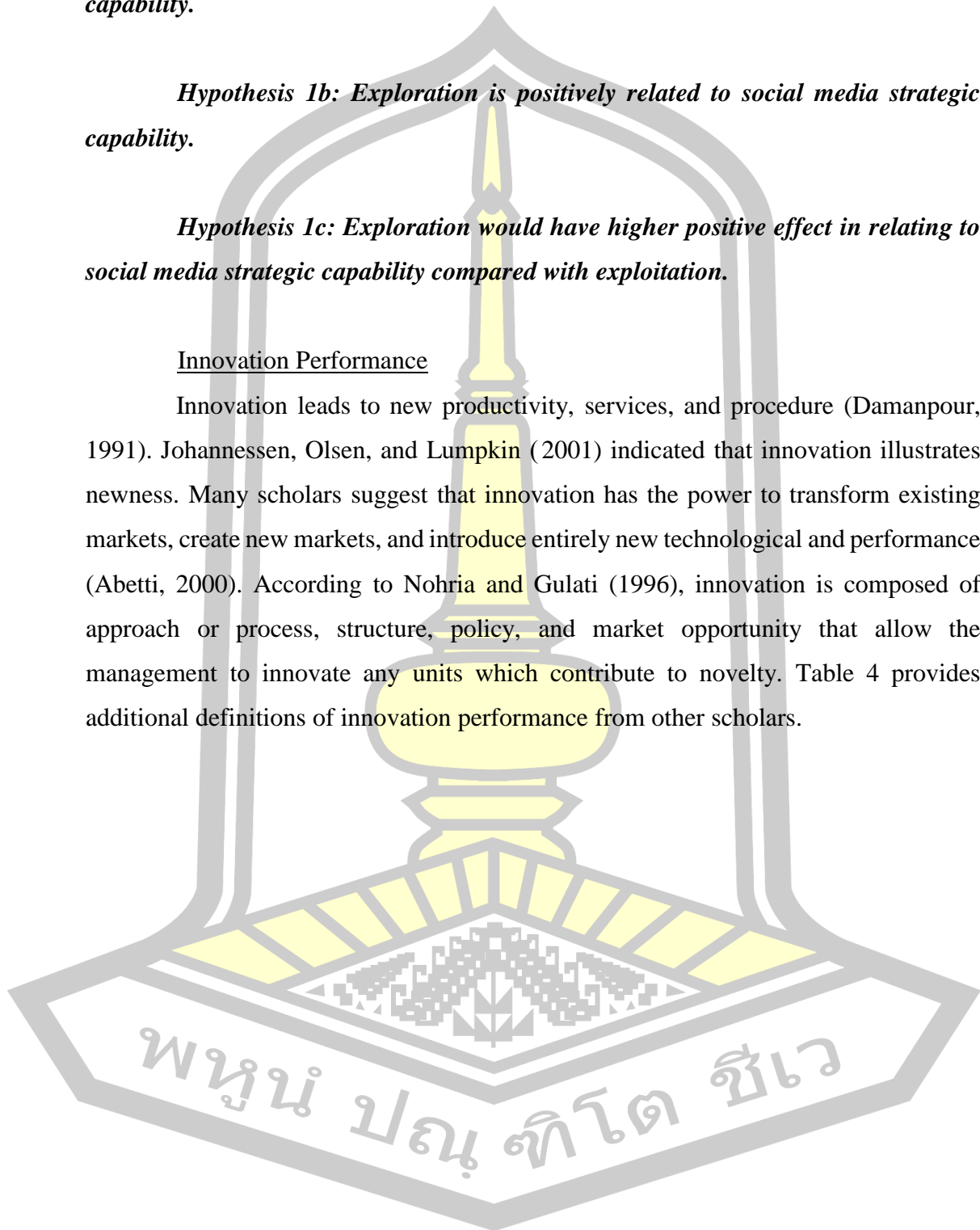


Table 4 Summary of the Definition of Innovation Performance

<b>Author(s) (year)</b>	<b>Definitions</b>
Schumpeter (1934)	“New products, new methods of production, new sources of supply, the exploitation of new markets, new ways to organize the business”
Zaltman, Duncan, and Holbeck (1973)	“ Innovation as an idea, practice, or material artifact perceived to be new by the relevant unit of adoption”
Damanpour and Gopalakrishnan (2001)	“The adoption of an idea or behavior pertaining to a product, service, device, system, policy or programmed that is new to the adopting organization”
Atuahene-Gima (2005)	“ Innovation performance refers to the number of new product innovations introduced by the firm, percentage of sales of new product innovations, and the relative frequency of introducing innovations compared with competitors”
Rosenbusch Brinckmann, and Bausch (2011)	“The process of the adoption of internally or externally generated devices, systems, policies, programs, processes, products, or services that are new to the adopting organization”
Pan, Song, Zhang, and Zhou (2019)	“ Innovation performance as the output or effect of enterprise’s technological innovation activities in the process of production and operation”

Innovation becomes a firm’s major mechanism to introduce new products, processes, or services to the marketplace (Danneels, 2002; Rosenbusch et al., 2011). Prior studies have identified different types of innovations, which include administrative and technical innovation, product and process innovation, technological and architectural innovation, and incremental and radical innovations (Atuahene-Gima, 2005; Chandy & Tellis, 2000). This research emphasizes examining innovation performance.

Incremental innovations performance the refinement and reinforcement of existing products and services and rely on firms' ability to exploit existing competencies. As for radical innovations performance, they disrupt existing technologies that are new to the firm and/ or industry (Chandy & Tellis, 2000). When compared to incremental innovations performance, it can be seen that radical innovations performance emphasizes harsh departures from existing products and services; therefore, firms are tapping into unknown areas and experimenting in a new process. In such cases, radical innovations performance involves uncertainties such as technical, market, firms, or resources include face external pressures (Kotabe, Jiang, & Murray, 2017). While, incremental innovation performance improves existing product-market domains by reciprocating to the needs of existing markets and customers (Lin, McDonough, Lin, & Lin, 2013).

The major difference captured by the labels radical and incremental innovation performance is the degree of new technological process content embodied in the innovation and consequently, the degree of new knowledge embedded in the innovation (Dewar & Dutton, 1986). Likewise, it plays a role in a firm's capability to cope, create, share, retain, and assimilate new knowledge, or engender new knowledge (Cohen & Levinthal, 1990). In particular, firms in a turbulent environment, innovation depends on developing, acquiring, and using new knowledge (Teece, 2007). It is associated with recombining knowledge achieving superior innovative performance (Cohen & Levinthal, 1990; Laursen & Salter, 2006; Zahra & George, 2002). Thus, firms must continuously innovate to overcome competition and survive in a rapidly-changing environment (Madden, Fehle, & Fournier, 2006). Table 5 summary of the key literature reviews on innovation performance.

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Table 5 Summary of the Key Literature Reviews on Innovation Performance

Author(s)	Research Types	Title of the article	Results
Atuahene-Gima (2005)	Empirical	Resolving the Capability: Rigidity Paradox in New Product Innovation	Regarding outcomes, competence exploitation and exploration have opposing relationships with incremental and radical innovation performance. However, the relationship between competence exploration and radical innovation performance positively moderated by inter-functional coordination.
Arnold, Fang, and Palmatier (2011)	Empirical	The effects of customer acquisition and retention orientations on a firm's radical and incremental innovation performance	The results suggest that the effect of customer acquisition and retention orientations on customer knowledge and investment decisions, and ultimately on innovation performance. Implementing a dual strategy by attempting to focus on both acquiring and retaining customers undermines resource configuration decisions, with diverse effects on both radical and incremental innovation.

Table 5 Summary of the Key Literature Reviews on Innovation Performance  
(Continued)

Author (s)	Research Types	Title of the article	Results
Forés and Camisón (2016)	Empirical	Does incremental and radical innovation performance depend on different types of knowledge accumulation capabilities and organizational size?	The results identified that incremental innovation performance is positively affected by both knowledge accumulation capabilities and size. However, results show that only absorptive capability has a positive direct effect on radical innovation performance, whereas size has a negative non-significant effect on it.
Sheng and Chien (2016)	Empirical	Rethinking organizational learning orientation on radical and incremental innovation in high-tech firms	The results show that a high-level learning orientation promotes myopic learning and incremental innovation, but constrains experimentation and radical innovation in emerging domains. In addition, for the high-tech industry and entrepreneurial ventures, superior capability in a particular area leads to exploitative learning and cultivate incremental innovation.

Table 5 Summary of the Key Literature Reviews on Innovation Performance  
(Continued)

Author (s)	Research Types	Title of the article	Results
Kotabe et al. (2017)	Empirical	Examining the Complementary Effect of Political Networking Capability with Absorptive Capacity on the Innovative Performance of Emerging-Market Firms	The findings that political networking capability complements absorptive capacity in overcoming resource constraints and organizational disadvantages in enhancing firms' innovations, and the result is more effective in improving radical rather than incremental innovations. Furthermore, the complementary effect becomes stronger for emerging-market firms' radical innovations when facing intense competition.
Xie, Wang, and Zeng (2018)	Empirical	Inter-organizational knowledge acquisition and firms' radical innovation: A moderated mediation analysis	The results demonstrate that inter-organizational knowledge acquisition has a significant positive impact on firms' radical innovation. Also find that RACAP mediates the relationship between inter-organizational knowledge acquisition and firms' radical innovation.



Table 5 Summary of the Key Literature Reviews on Innovation Performance  
(Continued)

Author (s)	Research Types	Title of the article	Results
Wang, Chen, and Fang (2018)	Empirical	A critical view of knowledge networks and innovation performance: The mediation role of firms' knowledge integration capability	The results show that two components of knowledge networks improves firms' innovation performance and that firms' knowledge integration capability has a fully mediating effect on the relationship between knowledge cognition and innovation performance.
Xie, Zou, and Qi (2018)	Empirical	Knowledge ACAP and innovation performance in high-tech companies: A multi-mediating analysis	The results suggest that there are positive relationships between four dimensions of knowledge absorptive capacity and firms' innovation performance.
Pan et al. (2019)	Empirical	Innovation network, technological learning and innovation performance of high-tech cluster enterprises	The findings show that technology acquisition has a direct positive effect on technology digestion, technology digestion has a direct positive effect technology exploit, and technology exploit has a direct positive effect innovation performance.
Tsou Chen, and Yu (2019)	Empirical	Antecedents of co-development and its effect on innovation performance	In both ICT and hotel industries, the results suggest that a firm's co-development has positive effects on innovation performance.

### Organizational ambidexterity and innovation performance

Past literature demonstrates that organizational ambidexterity is increasingly significant for the sustained competitive advantage of firms (Junni et al., 2013). It is the way forward for both short and long term success (Kaur, Gupta, Singh, & Perano, 2019). Likewise, it is seen as “an organization’s ability to be aligned and efficient in its management of today’s business demands while simultaneously being adaptive to changes in the environment” (Raisch & Birkinshaw, 2008). Generally across industries and organizations, ambidexterity can be associated with increased innovation, successful performance and firm survival especially in uncertain environments (O’Reilly & Tushman, 2013). Firm’s capabilities exploit the existing resources for incremental innovations while higher-order dynamic capabilities explore new technology and other resources for radical innovations (Maijanen & Virta, 2017). This point of departure is to consider that, the factors explaining the relationships between exploitation and exploration and innovation performance are not necessarily the same (Jansen et al., 2006). This has opened a new line of research focused on a more granular study of exploitation and exploration (Yamakawa, Yang, & Lin, 2011).

As prior studies highlight, the strategic management literature recognize innovation as essential for firms to create value and to maintain a competitive advantage in an increasingly complex and fast-moving environment (Subramaniam & Youndt, 2005). As competition intensifies and the pace of change accelerates, firms need to renew themselves by both exploiting existing competencies and exploring new ones (Floyd & Lane, 2000). The concept of exploration and exploitation (March, 1991) has emerged as an underlying theme in research lead to organizational learning and strategy (Levinthal & March, 1993), and innovation (Danneels, 2002; Katila & Ahuja, 2002; Rothaermel & Deeds, 2004). In essence this study, the focus is on innovation performance, which ambidexterity can be associated with innovation, successful performance and firm survival particularly in a rapidly changing business environment (O’Reilly & Tushman, 2013).

Innovation performance reflecting on the results of the process of changes in existing products or processes include development of new products or processes occur of internal and external knowledge (De Souza Bermejo, Tonelli, Galliers, Oliveira, & Zambalde, 2016; Joshi, Chi, Datta, & Han, 2010). Similarly, distinguished firm

performance occurs from ambidexterity firms, which simultaneously pursue incremental and radical innovation (Tushman & O'Reilly, 1996). Firms that have both exploration and exploitation can optimize their innovations (Kim, Song, & Nerkar, 2012).

Previous empirical studies, organizational ambidexterity is the co-existing orientation towards pursuing incremental and radical innovation (Guisado-González, González-Blanco, & Coca-Pérez, 2017; Simsek, 2009; Tushman & O'Reilly, 2002). Recent research suggests that organizational ambidexterity can promote innovation performance (Benitez et al., 2018). In another result, the joint seek of an exploration and exploitation orientation is positively related to firm performance (Lubatkin, Simsek, Ling, & Veiga, 2006). Meanwhile, March (1991) assumes that a continuum balanced approach of both exploration and exploitation is essential for performance, the literature is still inconclusive with regard to the specific effects of these different activities on firm's innovation performance. In this view, organizational ambidexterity may have been explained as the capacity of the firm to seek both exploitation and exploration rather than managing trade-offs to obtain an optimal balance between exploitation and exploration. Thus, this research suggests that exploitation and exploration maybe could have a positive impact on innovation performance. Based on the above, the hypothesis is proposed as follows.

***Hypothesis 1d: Exploitation is positively related to firm's innovation performance.***

***Hypothesis 1e: Exploration is positively related to firm's innovation performance.***

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### Moderating Role of Environmental Dynamism (ED)

Lumpkin and Dess (2001) indicated that the environment has long been considered one of the critical contingencies in organization theory and strategic management (cf., Child, 1972). Many conceptualizations of the environment are largely consistent with Dess and Beard's (1984) three dimensions namely, (1) Munificence: capacity (2) Dynamism: stability-instability, turbulence, and (3) Complexity: homogeneity-heterogeneity, concentration-dispersion. These dimensions draw on two normally used approaches to conceptualizing environments: (1) as a source of information, and (2) as a stock of resources (Aldrich & Mindlin, 1978). In essence, dynamism and complexity reflect the degree of uncertainty facing an organization and munificence signals a firm's dependence on those environments for resources (Lumpkin & Dess, 2001).

Operating in such environmental dynamism is a complex challenge. It calls for designing and cultivating a more adaptive organizational system with a high level of agility and flexibility to increase organizational responsiveness to emerging changes (Duncan, 1972; Miller & Friesen, 1983). Dynamism relates to the rate of unpredictable change in a firm's environment (Child, 1972; Duncan, 1972). Dynamism also indicates uncertainty that erodes the ability of managers to predict future events as well as their impact on the organization (Khandwalla, 1997). It entails a high degree of change, which is often external and emerges from a high level of turbulence in the environment (Aldrich & Mindlin, 1978). Also, numerous of the literature in organization theory has managed with dynamism and suggests that unpredictability is the best measure of environmental stability-instability (Dess & Beard, 1984).

Researchers argued that local environmental aspects such as environmental dynamism can require firms to become ambidextrous (Floyd & Lane, 2000; Levinthal & March, 1993). (Levinthal & March, 1993) Levinthal and March (1993) predicted that environmental dynamism to moderate the relationship between ambidexterity (exploitation and exploration) and performance. In addition, Jansen et al. (2006) have absolute stated that seeking exploratory innovation is more effective in a dynamic environment, whereas seeking exploitative innovation will is more beneficial to financial performance in more competitive environments. These researchers suggest that the positive performance of exploitation and exploration in environmental

dynamism, for example, Halevi et al. (2015) demonstrate that in situations of high environmental dynamism, there is a more extensive information search, in which closely related with acquiring information from the social media.

Thus, it is also possible that the effects of organizational ambidexterity both knowledge exploration and exploitation toward SME's social media strategic capability may become stronger under the uncertain environment such as in situations where direct contact is difficult or restricted e.g., community lockdown to curtail the spread of the COVID-19 (Akpan, Udoh, & Adebisi, 2020). Due to the likelihood that SMEs may need to quickly acquire new knowledge when it comes to social media strategy. Based on the above, the hypothesis is proposed as follows:

***Hypothesis 2a: Environmental dynamism positively moderates the relationship between exploitation and social media strategic capability.***

***Hypothesis 2b: Environmental dynamism positively moderates the relationship between exploration and social media strategic capability.***

#### Social Media Strategic Capability and Innovation Performance

The literature on innovation typically refers to incremental and radical innovations (Atuahene-Gima, 2005; Chandy & Tellis, 2000), process innovation (Harris, Mueller, & Snider, 2013), technical innovation (Mount & Martinez, 2014) service innovation (Palacios-Marqués, Merigó, & Soto-Acosta, 2015), open innovation (Piezunka & Dahlander, 2015), product innovation (Ghezzi, Gastaldi, Lettieri, Martini, & Corso, 2016), organizational innovation (Patroni, Von Briel, & Recker, 2016), and marketing innovation (Wu, 2016). In many studies, innovation patterns have been shown to be related to the ability of organizations to join new sources of knowledge or, alternatively, to connect to previous ones in an innovative manner (Ferraris, Santoro, & Dezi, 2017; Mansfield, 1986). The literature represents that a firm's survival and generation of economic rents is explained by its ability to obtain both incremental and radical innovation performance, for which a balance between the two is required (He & Wong, 2004; March, 1991).

Although a high level of efficiency can be achieved with incremental innovation performance, radical innovation performance is needed to avoid generating competence traps (Levinthal & March, 1993). Koberg, Detienne, and Heppard (2003) associated product and service innovations with radical innovations, whereas they considered procedure, personnel, process and structural innovations to be incremental innovations. Conversely, Cantner, Joel, and Schmidt (2011) considered innovation performance to be radical if it is a new product, service, process or method that differs dramatically from competitors in the firm's market.

Prior studies, social media appear to be complete tools to influence current and potential consumers (Hanna, Rohm, & Crittenden, 2011), an important platform enabling greater innovation success, decrease of risks in terms of new product offerings (Parida, Westerberg, & Frishammar, 2012), foster collective creativity given the large network, ease of connectivity (Linders, 2012), and enhance firm innovation (Lin et al., 2017; Ooms, Bell, & Kok, 2015), in terms of incremental changes to existing products or creation of radical new products (Papa et al., 2018). Recently studies, De Oliveira et al. (2020) found that social media positively relates to innovation performance.

In addition, social media strategic capability can promote value co-creation in firms innovation as follows: 1) participation in supporting conversation between customers and employees 2) openness in giving users a platform for free expression on diverse issues in the organization by sharing information or opinion 3) conversation in engaging customers in designing products or services that let the organization get better ideas, via two-way open conversations 4) connect in benefiting the organization through connectivity, using links to other sites, resources, and people and 5) encouraging creative collaboration among teams, and inviting customer ideas, feedback, and suggestions on how the organization can offer new and better value (Halale, Gangadharan, & Uden, 2015). The capability improvement in terms of strategic directions includes decisions to focus on exploring new opportunities (Gedajlovic et al., 2012) or exploiting existing products and the seek opportunities in areas in which the firm currently operating (Andriopoulos & Lewis, 2009), and improving innovation performance (Piller et al., 2012).

As aforementioned, social media seems to be the important tool enabling greater innovation performance success, which is particularly advantageous for SMEs due to their limited size and greater nimbleness. Moreover, according to social capital perspective, which highlights a variety of specific benefits that arise from the information flow, their proficiency to assemble extramural resources, and reciprocal cooperation associated with social networks. Hence, social media can be enhanced innovation performance as a consequence of the value generated from social media networks.

However, if the SMEs manipulate social media appropriately, it can become a golden source of data (Benitez et al., 2018). To identify and shape innovation performance, SMEs can use social media networks to constantly develop relationships from search, explore, and collect information both inside and outside to advance innovation performance. Therefore, we believe that social media strategic capabilities influence innovation performance as proposed in the next hypothesis.

***Hypothesis 3: Social media strategic capability is positively related to firm's innovation performance.***

#### Moderating Role of Entrepreneurial Orientation

Entrepreneurial orientation (hereafter, EO) has become one of the main concepts in entrepreneurship studies for the last three decades (Covin, Green, & Slevin, 2006), an extensively acknowledged way of promoting innovation and firm performance (Resnick, Cheng, Simpson, & Lourenço, 2016). According to Miller (1983), EO is determined as “an entrepreneurial firm is one that engages in product-market innovation, undertakes risky ventures, and is first to introduce proactive innovations in the market”. He proposes three dimensions to business characterized by “innovativeness”, “proactiveness”, and “risk-taking”. Furthermore, EO reflecting on “the organizational processes, methods, and styles that firms use to act entrepreneurially” (Lumpkin & Dess, 1996, p. 139), which they indicate another two dimensions, i.e., competitive autonomy and aggressiveness. These dimensions

normally indicate thorough intercorrelations with one another (e.g., Bhuian, Menguc, & Bell, 2005), measurement and later works, most studies incorporated these dimensions into one single determinant (e.g., Wiklund & Shepherd, 2003).

This research adopts the three main dimensions according to proposed by Miller (1983) for several reasons as follows. First, Miller's scale was fundamentally constructed and labeled depending on what theoretical concept was proposed (Aljanabi, 2018), while Lumpkin & Dess's scale was created from factor analysis disclosed in their environment (Covin & Wales, 2012). Second, researchers have suggests that the competitive aggressiveness dimension overlaps with the proactiveness concept, whereas autonomy is argued to be a contextual variable that reinforces entrepreneurial activities (Aljanabi, 2018). Third, examining several EO dimensions at once may enhance accuracy in the depiction of the EO construct but might result in a corresponding loss of parsimony. Fourth, analyzing the data and the subsequent interpretation would be very complex and awkward (Lumpkin & Dess, 2001). Consequently, the EO literature proposed by Miller (1983), has founded the compatible outcomes which among greater innovativeness, proactiveness, and risk-taking are connected. These outcomes keep up across distinct firms, industries, and other contextual features appearing to be the other innovation literature.

Three main dimensions according to proposed by Miller (1983) i.e., innovativeness, risk-taking, and proactiveness. Innovativeness reflects the predisposition of firms that promote new ideas, newness, experimentation, and new solutions to seek a competitive advantage (Lumpkin & Dess, 1996). Meanwhile, it reflects a firm's propensity to introduce new products, services, and technologies before their competitors (Miller, 1983). Proactiveness reflects the opportunity-seeking, forward-looking perspective of a firm by the introduction of new products and services ahead of the competition and acting in anticipation of future demand (Lumpkin & Dess, 1996) and reflecting a firm's propensity to launch new products, services, and technologies before their competitors (Miller, 1983). It help firm take advantage of opportunities (Chen, Wang, Nevo, Benitez-Amado, & Kou, 2015) as well as help-seeking market opportunities and a keen focus on being a pioneer in innovation in an industry sector (Shirokova, Bogatyreva, Beliaeva, & Puffer, 2016). Finally, risk-taking reflects the firm's propensity to take business-related changes regarding strategic



actions in the face of uncertain environments (Covin & Slevin, 1989). Similarly, it is associated with a firm's propensity for bold, high-risk projects that maximize the firm's potential of exploiting potential opportunities (Miller, 1983).

Recent research reflects that the benefits of EO can only be realized through real innovation activities, EO does not automatically develop into such activities (Arzubiaga, Kotlar, De Massis, Maseda, & Iturralde, 2018). EO is grounded in the strategic alternative perspective and concerns the "intentions and actions of key players functioning in a dynamic generative process" (Lumpkin & Dess, 1996, p. 136) which is essential for firms that want to be successful in extremely competitive business environments (Monteiro, Soares, & Rua, 2017). Several researchers proved that EO reflects firms' practices such as working methods and other activities (Lumpkin & Dess, 1996). Furthermore, EO could affect knowledge and critical utilization through setting the attitudes, threats, and opportunities from knowledge resources, lead to creating other new knowledge about existing and potential products (Aljanabi, 2018; Qian & Jung, 2017; Wales, Parida, & Patel, 2013). Thus, when EO increases, a seek to absorb relevant knowledge will increase promptly which leads to new products and manufacturing processes (Kreiser, 2011; Tseng, 2013). Which viewed the EO as moderates the relationship between social media strategic capability and innovation performance. Moreover, Wiklund and Shepherd (2003) demonstrate that EO as a moderator will stronger among firms with higher levels of EO.

Importantly, in the information and network economy, key stakeholders have access to a variety of social networks and social media platforms with which to hold two-way conversations with an organization and share their experiences (Sahaym, Datta, & Brooks, 2019), these leads to innovation performance. Strategic emphasizing EO suggests that management groups will need high levels of trust and interpersonal communication which make quick decisions and aggressively compete by implementing bold and risky strategies in the face of uncertainty (Richard, Barnett, Dwyer, & Chadwick, 2004). EO may also help firms transcend geographic and time barriers, since social media platforms are generally global (Alfonso & Suzanne, 2008; Lewis, Kaufman, Gonzalez, Wimmer, & Christakis, 2008).

As prior study highlights, EO drives organizations to social media strategic capability in order to leverage innovative ideas, learn about their competition and

dynamic environment to increase their agility, and manage organizational complexity (Bughin, Byers, & Chui, 2011). For example, the rapidly changing environment, the innovativeness, and proactiveness of the industry have led firms to use Twitter, Facebook, Line, and other platforms to share upcoming designs that lead to Innovation performance. This is because innovativeness, proactiveness, and risk-taking behavior inherently reflect a predisposition toward exploring and using new applications such as social media for innovation performance (Muninger et al., 2019). However, firms' contribution to social media to an innovation performance plays an important role in SMEs' effectively deploying social media. Finally, firms that are guided by EO, as reflected in their innovativeness, proactiveness, and risk-taking, are not only motivated to leverage the potential contribution of social media in an information age but will continue to renew routine to achieve specific outcomes as well as future trends (Sahaym, Datta, & Brooks, 2019).

Additionally, with higher levels of EO, firms improve performance by strengthening their information utilization efforts (Keh, Nguyen, & Ng, 2007). Moreover, EO may enable firms to transform their social media strategic capability into greater influence toward innovation performance by stimulating the pursuit of new knowledge and opportunities from social media strategic capability and enhancing the ability of firms. Therefore, we believe that the relationship between social media strategic capability and innovation performance for firms will be greatly strengthened in organizations with EO as proposed in the next hypothesis.

***Hypothesis 4: Entrepreneurial orientation moderates the relationship between social media strategic capability and firm's innovation performance.***

#### Moderating Role of Effectual Orientation

The notion of effectuation was suggested as a decision-making process of professional entrepreneurs by Sarasvathy in 2001 (Werhahn et al., 2015). Sarasvathy (2001, p. 245) indicate that "effectuation processes take a set of means as given and focus on selecting between possible effects that can be created with that set of means". Effectuation is a decision-making concept that guides the action and behavior of an entrepreneur (Sarasvathy & Dew, 2008, p. 732). Werhahn and Brettel (2012) suggested

a behavioral orientation of effectuation, which takes place on the organizational level, rather than on an individual level, and cite to it as effectual orientation. In essence, effectual orientation deserves to be studied as a choice, unique and promising business strategy (Werhahn, 2013). Effectual orientation is measured at the firm level as an organizational posture and accordingly encourages the effectual actions of organizational members on specific dimensions (Werhahn et al., 2015). In addition, effectual orientation is a strategic mindset reflective of the opportunity-creation view (Welter, Mauer, & Wuebker, 2016). Effectual orientation refers to a strategic direction that emphasizes decision-making five dimensions of entrepreneurial i.e., means orientation, partnership orientation, affordable loss orientation, contingencies orientation, and control orientation.

The first dimension, means orientation reflecting on the dominant role the available resources play in the decision-making process (Sarasvathy, 2001). In other words, means orientation connects to a managerial ability to stimulate a firm's organizational members to contribute and authority their personal means continuously and to the fullest extent (Werhahn et al., 2015). The second dimension, partnerships orientation refers to the readiness of decision-makers to enter into partnerships with stakeholders (i.e., customers, suppliers, financial institutions) in order to extend the existing resources to joint development of providing new products and new services (Sarasvathy, 2001). In working with partners who are willing to support shape outcomes in the future, uncertainty is reduced, since there is the opportunity for risk-sharing (Eisenhardt & Schoonhoven, 1996). The third dimension, affordable loss orientation refers to the number of existing resources they are willing and capable to lose in order to begin a new business, these decisions can be made on the foundation of affordable loss or acceptable risk (Sarasvathy, 2001), such as to financial resources, the resources under judgment such as time, personal relationships, reputation, and even health (Smolka, Verheul, Burmeister-Lamp, & Heugens, 2018). The fourth dimension, contingency orientation relates to a managerial ability to motivate employees to make rapid, creative, proactive, and effective changes when new information requires a change (Werhahn et al., 2015). Finally, control orientation associate to a strategic direction that stimulates its employees to exert a controlling or shaping influence on their firm's environment by an endeavor to co-create future markets and required or to

influence trends including in a co-creative manner (Werhahn et al., 2015; Szambelan & Jiang, 2019). Furthermore, control orientation proactively shapes and designs the external environment and creates a new market required (Dew, Read, Sarasvathy, & Wiltbank, 2015; Wiltbank, Dew, Read, & Sarasvathy, 2006).

Previous studies, Read, Song, and Smit (2009) indicate that a positive and significant overall relationship between effectuation and venture performance, positive links with performance. Wiltbank, Read, Dew, and Sarasvathy (2009) suggest that business angel investors focusing on control (effectuation) rather than on prediction (causation) in their investment portfolios experienced fewer failures. Brettel, Mauer, Engelen, and Küpper (2012) stated that effectuation is positively involved to process output and efficiency in highly innovative R&D projects. Recent studies, Smolka et al. (2018) found that effectuation has positive effects on venture performance and the effectual approach tends to target the firm's product. In addition, Szambelan and Jiang (2019) indicated that control orientation has a positive effect on innovation performance and the empirical results provide theoretical and managerial contributions for innovation, effectuation literature. Furthermore, scholars found evidence for effectual as a moderator variable. For example, Mthanti and Urban (2014) suggest that effectuation strengthens the relationship between entrepreneurial orientation and performance in high-tech firms. In similar, Deligianni, Voudouris, and Lioukas (2015) indicated that the effectual orientation of experimentation, flexibility, and pre-commitments positively moderate the relationship between product diversification and new venture performance.

The inclusion of a firm mindset in the innovation performance literature also resonates well with the recent trend in which each mindset played a decisive role in a firm's innovation performance (Szambelan & Jiang, 2019). It's representing a strategic mindset supportive entrepreneurial behavior (Werhahn et al., 2015). At the same time, effectual orientation is an essential enabler of innovation performance, specifically since innovation is considered a key underlying element and outcome of entrepreneurial activities (Autio, Kenney, Mustar, Siegel, & Wright, 2014). Moreover, it is considered to embracing this principle also enables entrepreneurs to social media strategic capacity more rapidly, without risking the entire operation on any single action (Deligianni et al., 2015), reduce the costs of business failure (Sarasvathy, 2001; Wiltbank et al., 2006),

especially decision making in an uncertain environment (Sarasvathy, Dew, Read, & Wiltbank, 2008).

In essence, social media use has revolutionized the business world and has impacted both within and outside firm boundaries (Aral, Dellarocas, & Godes, 2013), becoming an important strategic tool for firms (Martín-Rojas et al., 2020). Firms are using these tools increasingly to facilitate business activities with customers, partners, and suppliers (Ngai, Tao, & Moon, 2015). Social media also affords access to others' resources and ideas (Leonardi & Vaast, 2017) and social outside information on ideas to become innovative performance (Kane, Johnson, & Majchrzak, 2014). Moreover, within organizations, social media use has the potential to transform knowledge exchange and thus to accelerate innovation and performance (de Zubielqui et al., 2019).

According to the effectuation perspective, entrepreneurs utilize existing means of who I am, who I know and what I know to drive their actions (Sarasvathy, 2001). The framework suggests that entrepreneurs would recognize based on various types of means (Sarasvathy, 2001). Thus, it is also possible to expect the complementary effects between those means. When entrepreneurs rely on resources, information or networking through social media for innovation performance. At the same time, to the effectuation process, entrepreneurs rely more on actions to form partnership rather than on competitive actions (Sarasvathy, 2001). In addition, the relationship between use of social media and innovation performance will be stronger for entrepreneurs with higher affordable loss, because when entrepreneurs utilize social media for identifying innovation performance, they also rely on a certain level of affordable loss in making the decision. In such a case, in an uncertain environment, effectuation theory suggests that entrepreneurs will consider the logic of contingencies and control (Sarasvathy, 2001).

The inclusion of the effectual orientation in the model is justified, demonstrate a strategic mindset fostering entrepreneurial behavior (Werhahn et al., 2015), by is an important enabler of innovation, because innovation is considered a key underlying element and outcome of entrepreneurial activities (Autio et al., 2014). Therefore, it is expected that the relationship between social media strategic capability and innovation performance will be greatly strengthened in firms with effectual. Based on the above, this leads to the hypothesis as follows:

***Hypothesis 5: Effectual orientation positively moderates the relationship between social media strategic capability and firm's innovation performance.***

#### Mediating Role of Social Media Strategic Capability

The preceding hypotheses link the relationships among organizational ambidexterity, social media strategic capability, and innovation performance. Implicitly, the discussion suggests that organizational ambidexterity affect innovation performance through their social media strategic capability. Because innovation is performed in participation with external actors (Audretsch, Coad, & Segarra, 2014) and it is originated through a firm's knowledge circulation that is a process on inflows and outflows of knowledge, which facilitates the development of internal innovation (Nonaka & Takeuchi, 1995). However, for the success of an innovative firm, the acquisition and integration of knowledge competence of bringing together new ideas is not sufficient and is required in order social media strategic capability to support the innovation process in the long run (Hannu, Jari, & Jaani, 2010).

Innovation has been considered as either the ability to develop products able to meet the consumers' needs or the ability to use existing technology to develop new products (Audretsch, Kuratko, & Link, 2016). Innovation is a consequence of interactive relationships between suppliers, customers, stakeholders, and other businesses (Laursen & Salter, 2006; Leyden & Link, 2015). Mansfield (1986) suggests that collaboration with other stakeholders enables enterprises to accelerate product time to market, product adoption, and consequently reduce product lifecycle. Which one way of achieving innovation performance is by opening up firms to knowledge and ideas from the outside, by conducted either through collaborations with other firms such as through partner, supplier or via collaborations with customers. With the advent of social media, which is purposefully developed and deployed to enable co-creation with external stakeholders. However, the increasing of social media provides firms with a choice pathway to tap into wide-ranging amounts of external knowledge and new ideas (Majchrzak & Malhotra, 2013).

Recently studies, Bhimani et al. (2019) indicate that social media is increasingly used as a tool to manage knowledge flows within and across organizational boundaries in the process of innovation, and in enabling the exploration-exploitation

activities of internal and external knowledge transfer for innovation (Bhimani et al., 2019; Garcia-Morales et al., 2018). According to Hirsch-Kreinsen and Schwinge (2014), new ventures and existing business innovate applying dynamically a new knowledge. Sinclaire and Vogus (2011) found that large IT firms are more probably to apply social media due to mimetic pressure. Braojos-Gomez, Benitez-Amado, and Montes (2015) argue that firms can also employ social media because their key competitors already use and leverage social media for a firm's activities. Furthermore, using social media tools can help firms to remain competitive in an increasingly multi-actor (Bhimani et al., 2019).

One reason for this mediating effect is the firm's ability to diffuse information, knowledge exchange and sharing, feedback-based learning, generation of innovative ideas, and customer relationship management and signaling, among other routines and processes (Datta et al., 2019). These are mechanisms by which innovation can be achieved, and when such abilities are not adequately developed, the benefit of organizational ambidexterity may not accrue to innovation performance.

From the above discussion, it can be inferred that the advantages of innovation stem from the improvement of organizational ambidexterity both exploitation and exploration using social media strategic capability. The process of creating a new innovation knowledge cannot be efficient without the use of social media strategic capability and organizational ambidexterity. Therefore, this research suggests that social media strategic capability plays a mediating role in the relationship between two components of organizational ambidexterity (both exploitation and exploration) and innovation performance. Based on the above, this leads to the hypothesis as follows:

***Hypothesis 6a: Social media strategic capability mediates the relationship between exploitation and firm's innovation performance.***

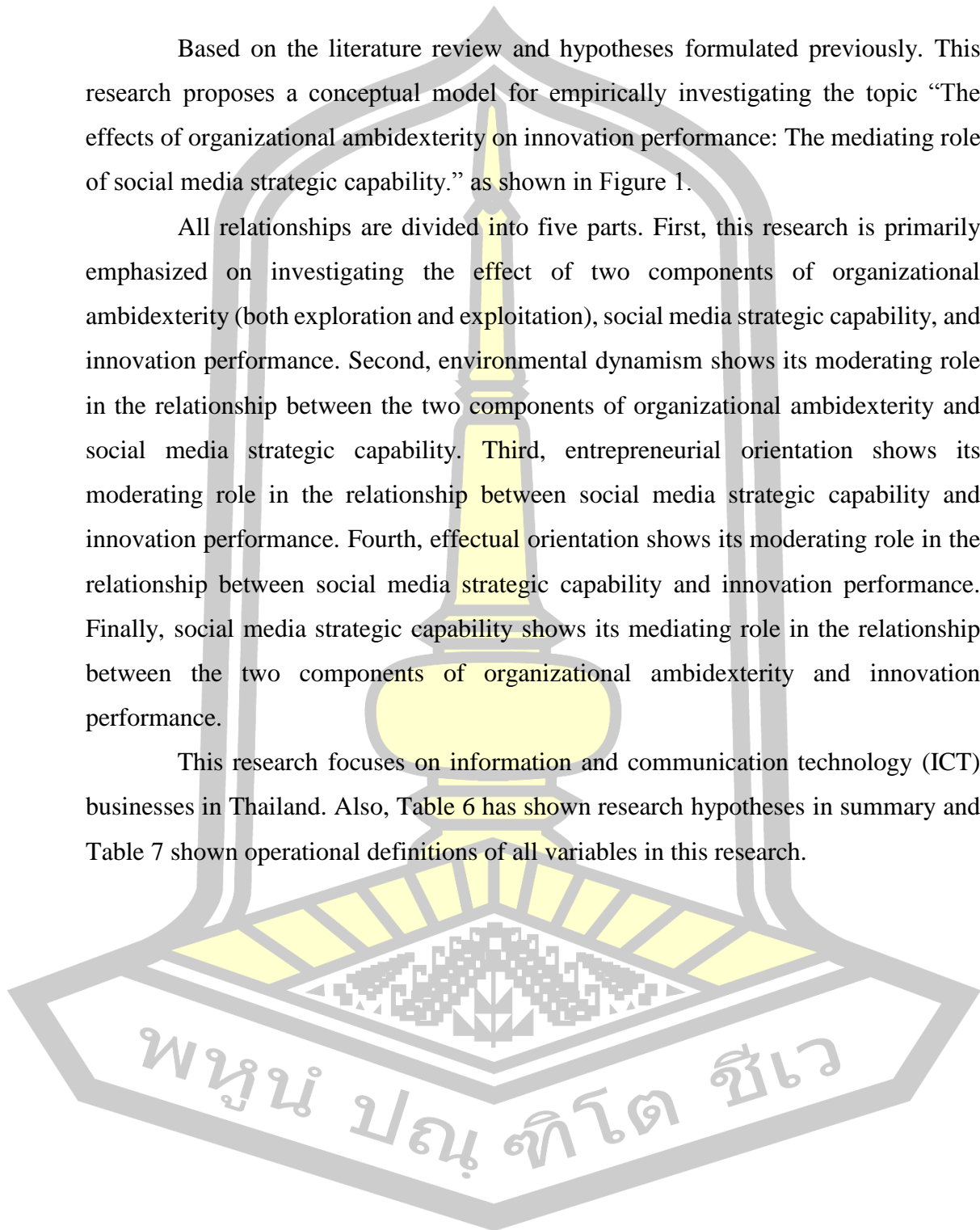
***Hypothesis 6b: Social media strategic capability mediates the relationship between exploration and firm's innovation performance.***

### Conceptual Model and Hypotheses Summary

Based on the literature review and hypotheses formulated previously. This research proposes a conceptual model for empirically investigating the topic “The effects of organizational ambidexterity on innovation performance: The mediating role of social media strategic capability.” as shown in Figure 1.

All relationships are divided into five parts. First, this research is primarily emphasized on investigating the effect of two components of organizational ambidexterity (both exploration and exploitation), social media strategic capability, and innovation performance. Second, environmental dynamism shows its moderating role in the relationship between the two components of organizational ambidexterity and social media strategic capability. Third, entrepreneurial orientation shows its moderating role in the relationship between social media strategic capability and innovation performance. Fourth, effectual orientation shows its moderating role in the relationship between social media strategic capability and innovation performance. Finally, social media strategic capability shows its mediating role in the relationship between the two components of organizational ambidexterity and innovation performance.

This research focuses on information and communication technology (ICT) businesses in Thailand. Also, Table 6 has shown research hypotheses in summary and Table 7 shown operational definitions of all variables in this research.





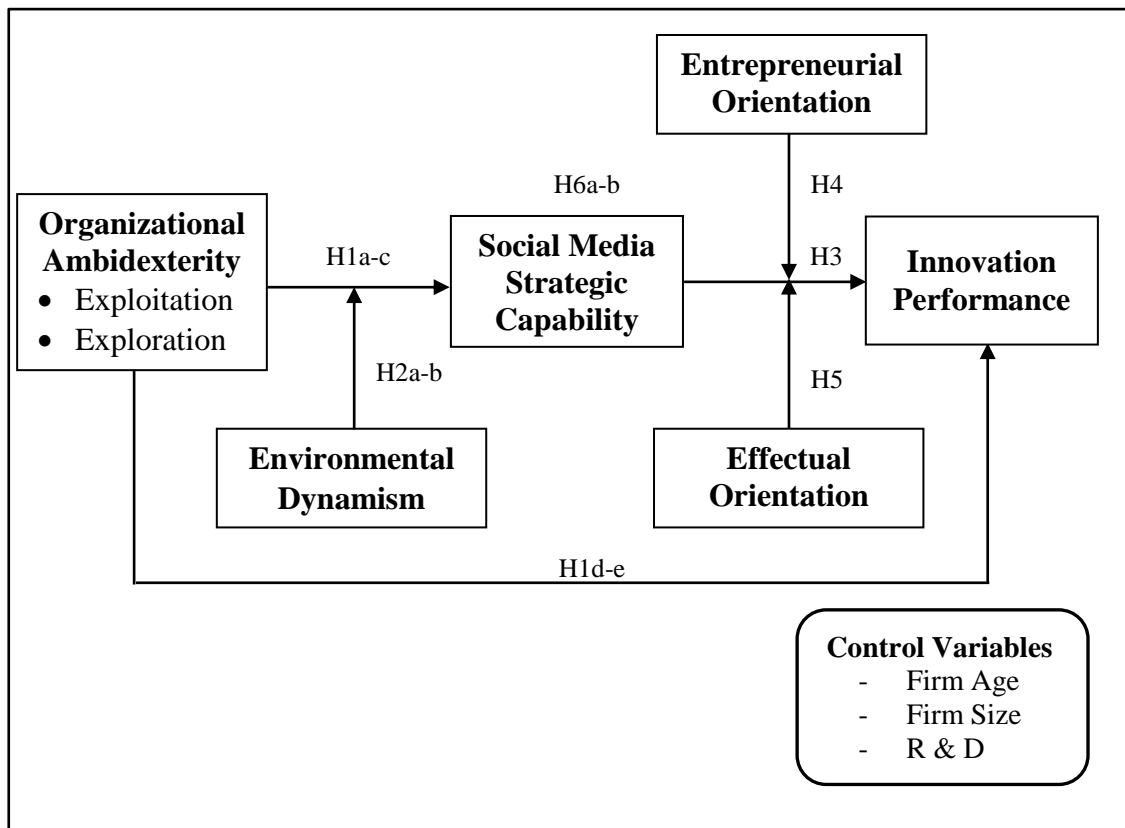


Figure 1 Conceptual framework



Table 6 Research Hypotheses in Summary

<b>Hypotheses</b>	<b>The statement</b>
H1a	Exploitation is positively related to social media strategic capability.
H1b	Exploration is positively related to social media strategic capability
H1c	Exploration would have higher positive effect in relating to social media strategic capability compared with exploitation.
H1d	Exploitation is positively related to firm's innovation performance.
H1e	Exploration is positively related to firm's innovation performance.
H2a	Environmental dynamism positively moderates the relationship between exploitation and social media strategic capability.
H2b	Environmental dynamism positively moderates the relationship between exploration and social media strategic capability.
H3	Social media strategic capability is positively related to firm's innovation performance.
H4	Entrepreneurial orientation positively moderates the relationship between social media strategic capability and firm's innovation performance.
H5	Effectual orientation positively moderates the relationship between social media strategic capability and firm's innovation performance.
H6a	Social media strategic capability mediates the relationship between exploitation and firm's innovation performance.
H6b	Social media strategic capability mediates the relationship between exploration and firm's innovation performance.

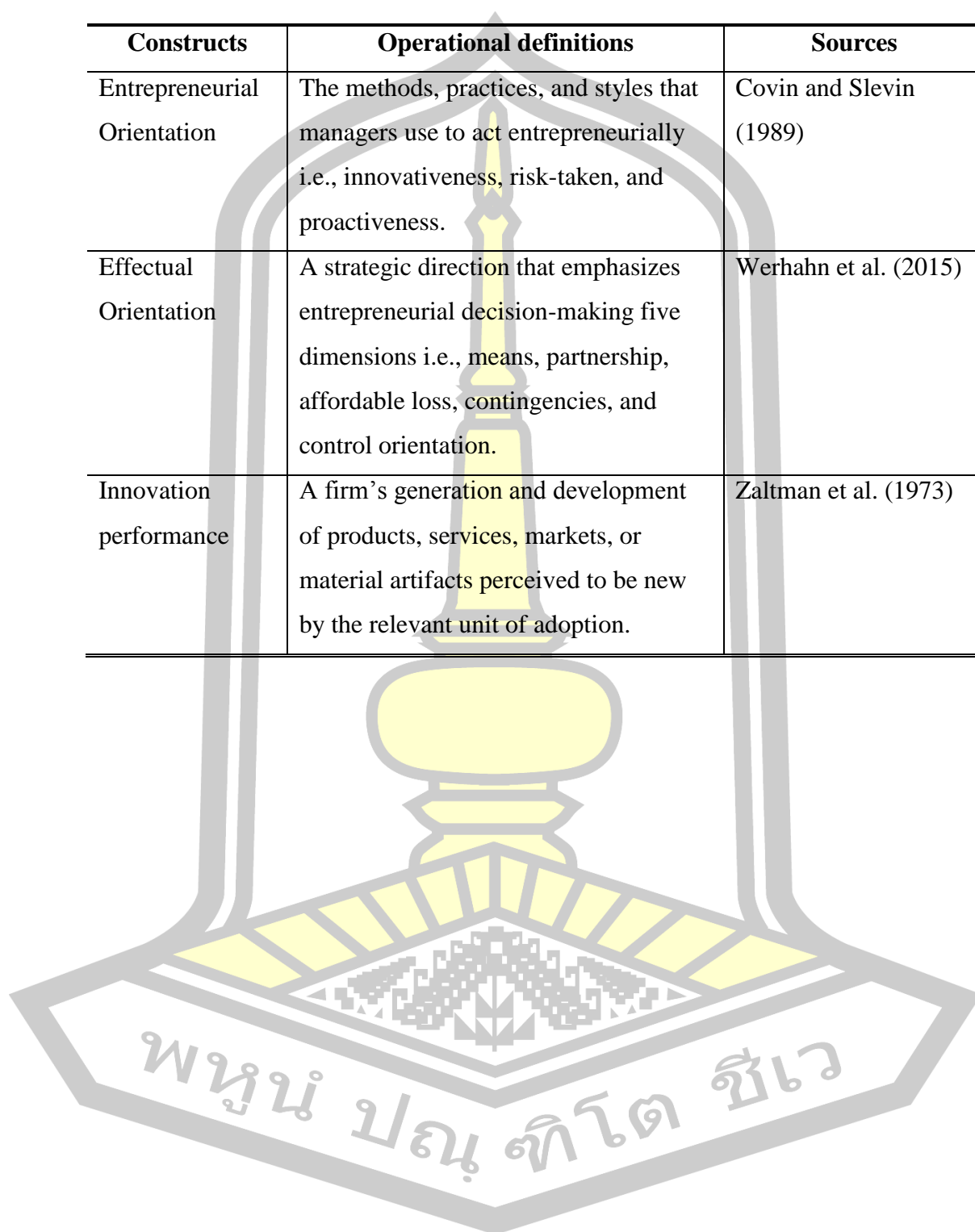
Table 7 Operational Definitions

<b>Constructs</b>	<b>Operational definitions</b>	<b>Sources</b>
Exploitation	The process of learning that comes from reusing, transforming, applying, and leveraging existing/new knowledge in the firm by searching for a new market, upgraded knowledge and skill, competences in searching for solutions and upgraded skills in product development processes.	March (1991)
Exploration	The process of learning that helps the firm to acquire/create, share, assimilate, store new knowledge, and innovation by explored new products and markets, acquire new skills, new products and technologies and strengthened innovation skills.	March (1991)
Social media strategic capability	Firm's ability to strategically use social media to acquire, integrate, communicate, share and apply current knowledge and new knowledge.	Nguyen et al. (2015)
Environmental dynamism	The rate of change and the instability of the external environment.	Jansen, Vera, and Crossan (2009)

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Table 7 Operational Definitions (Continued)

Constructs	Operational definitions	Sources
Entrepreneurial Orientation	The methods, practices, and styles that managers use to act entrepreneurially i.e., innovativeness, risk-taken, and proactiveness.	Covin and Slevin (1989)
Effectual Orientation	A strategic direction that emphasizes entrepreneurial decision-making five dimensions i.e., means, partnership, affordable loss, contingencies, and control orientation.	Werhahn et al. (2015)
Innovation performance	A firm's generation and development of products, services, markets, or material artifacts perceived to be new by the relevant unit of adoption.	Zaltman et al. (1973)



## CHAPTER III

### RESEARCH METHODS

The previous chapter describes in detail the literature review that includes the theoretical foundations, social media strategic capability, antecedents, consequences, moderators, and hypotheses development. This chapter describes the research methods associated to the appropriate process to make the hypotheses tests. Therefore, this chapter is organized into four sections as follows. First, the sample selection and data collection procedure include a description of the population and sample, the data collection, developing the questionnaire, the test of common method variance, and the test of non-response bias. The second section of the chapter discusses the measurement of all constructs in the context of the dependent variable, independent variable, moderating variable, mediating variable, and control variable. The third section explains the methods useful in this research included validity and reliability tests to measure the questionnaire. The final section of the chapter describes the statistical techniques that were applied in this research is the Structural Equation Model (SEM).

#### **Population Selection and Data Collection Procedure**

##### Population and Sample Selection

This research studies small and medium-sized enterprises as information and communication technology (ICT) businesses in Thailand that will be selected as the population. The population was obtained from the database of the Department of Business Development, the Ministry of Commerce Thailand ([www.dbd.go.th](http://www.dbd.go.th)). This database is a good source to provide all completed addresses because the Department of Business Development is responsible for business registration and information services. Thus, the population data derived could confirm and affirm that a certain firm is still in business. The firms are classified into information and communication technology business of selected database including hardware consultancy activities, software consultancy activities, computer facilities management activities, other

information technology and computer service activities, and software publishing (except software games).

The reason why ICT businesses is appropriate for this research because the industry is an important contributor to economic growth in the globalized economy (Maryska, Doucek, & Kunstova, 2012). The features of this business have involved innovation technology and new creation which requires knowledge development for work as well as new ways of working to drive greater productivity. In addition, ICT not only contributes directly to a firm's production as a part of its capital stock, but it also affects a firm's innovative capacity and its flexibility to adjust to economic.

Nowadays, Thailand is in the era so-called 'Thailand 4.0', as a sustainable, value-based economy. Thailand 4.0 is the economic model that has changed from producing commodity products oriented towards innovation. Changing the traditional work into the management and use of new technologies to provide entrepreneurs have more revenue. In other words, this changes countries driven by industry into driven by technology, creativity and innovation. The structure of ICT businesses would be a key success factor. ICT adoption is a key factor in harnessing the advantages of Industry 4.0. The Thai government has emphasized the significance of ICT since the mid-1990s. ICT has the potential to increase productivity while also favor long-term growth (Kohpaiboon, 2020).

Since The Ministry of Information and Communication Technology (MICT), established in 2002, was replaced by the Ministry of Digital Economy and Society (MDES) in 2016, Thailand's creation of the Digital Economy and Society Development Plan, 2016, a number of positive strides have been taken towards accomplishing strides in economic and social development. This was taken after up one year afterward with the announcement of a Thailand Digital Government Development Plan 2017-2021. Each of these steps was pointed at developing digital proficiencies over all sectors of Thai society. Thailand's digital transformation is bolstered by a number of national policies, most notably Digital Thailand, which was declared in 2016. The extreme goal of this plan is to use digital technology and strengthen the economy and society with sustainable growth. With the market value of its digital economy considered the 2nd largest in ASEAN, Thailand has witnessed a digital revolution influencing processes, activities, and transactions across almost every sector (Thailand BOI, 2019). Moreover,

MDES is the sole agency with a broad scope that includes implementing all national ICT plans (Kohpaiboon, 2020). In addition, just as in numerous parts of the world, the digital economy in Thailand has been growing at a fast pace. In 2017, Thailand's digital economy grew by 20%, accounting for approximately 17% of the nation's GDP. In 2018, the value of the digital economy was expected to rise again and surpass 19% of GDP. The most key drivers for such growth are the high internet penetration and large number of social media users (Thailand BOI, 2019).

Based on the above, high internet penetration and social media can even be deployed by ICT businesses due to its low cost and it allows communications to go beyond a private one-to-one conversation, including the capability to exploring knowledge to identify new opportunities, while simultaneously exploiting knowledge to improve efficiencies in a firm's existing niches (March, 1991). As a result, social media use continues to grow exponentially among businesses (Mourtada & Alkhatib, 2014), which is key to competitiveness advantage (Huang et al., 2014).

In this research, ICT businesses consist of 1,534 firms. The database in this research is drawn from the Department of business development 2020 under the Ministry of Commerce on their website: <https://www.moc.go.th> as of April 26, 2020. To ensure the legitimacy of the target respondents, the researcher cross-checked details by making phone calls confirming the firms' existence. Thus, a total of 1,220 firms were the target respondents. The sample size for this research is calculated according to the formula recommended by Yamane (1973) which is as below:

$$n = N / (1 + Ne^2)$$

$$n = 1,220 / (1 + 1,220(0.05)^2)$$

$$n = 1,220 / 4.05$$

$$n = 301.23$$

*Thus, the sample size is 301 firms.*

According to Krejcie and Morgan (1970), the required sample size to be a representative of the ICT businesses in this research is 301, which is a minimum required sample size. This research expects the oversampling is needed to ensure a minimum sample size (Bartlett, Kotrlik & Higgins, 2001). However, given that the total population was only 1,220 firms, therefore this research ideally should collect data from the whole population that is identified in from the database online of the Department of Business Development in Thailand in the 2020 list to test the hypotheses. The respondents were required to be the chief executive officers, managing directors, IT manager, or the persons in charge of high levels who had a full understanding of the overall information systems and social media to attain organizational goals and enhances innovation performance.

Another method intending to use for calculating the sample size for this research will compute the sample size required for a study that uses a structural equation model (SEM), given the number of observed and latent variables in the model, the anticipated effect size, and the desired probability and statistical power levels. The calculator will return both the minimum sample size required to detect the specified effect, and the minimum sample size required given the structural complexity of the model, recommended by Cohen (1988), Soper (2020) and Westland (2010), which is as below:

<i>Anticipated effect size:</i>	<b>0.3</b>
<i>Desired statistical power level:</i>	<b>0.8</b>
<i>Number of latent variables:</i>	<b>4</b>
<i>Number of observed variables:</i>	<b>18</b>
<i>Probability level:</i>	<b>0.05</b>

***Thus, the recommended minimum sample size is 137***



### Data Collection Procedure

In this research, the survey was issued online and a mailed questionnaire to 1,220 potential respondents. Invitations were sent by e-mail to all 526 potential participants with detailed explanation of the research. Online surveys are now considered essential tools for modern research (Manfreda, Bosnjak, Berzelak, Haas, & Vehovar, 2008) not least because they are a fast, simple, cheap method of gathering data, reliable data, and anonymity of participants (Rice et al., 2017). In addition, the data were collected using a mailed questionnaire to each firm to 694 potential respondents, The advantage of a mailed questionnaire is that a representative sample can be collected from the chosen population in a variety of locations at a low cost (Sittimalakorn & Hart, 2004).

Before the surveys were mailed, the researcher contacted these informants by telephone to solicit their voluntary participation and assess whether they possessed the requisite knowledge. Moreover, the researcher undertook that all individual responses would be kept entirely confidential, and no information would be revealed with any outside party without permission from the respondent. This served to reduce possible desirability bias (Eivarsen & Våland, 2014).

The survey online is a sharing a copy of a Google Form to the respondents by E-mail invitations all potential participants with detailed explanation of the research. In respect of the questionnaires were directly distributed to the respondents by a mail survey. Each set of questionnaires sent to each respondent contained a cover letter that described the research, a questionnaire, and return envelope for the return of the questionnaire to the researcher.

The survey was managed online and a mailed questionnaire to were sent 1,220 firms in early-of July 2020. The planned schedule was to collect the data within eight weeks. At the first stage, the questionnaires were answered and sent back to the researcher in the first four weeks after the send first online and mailing. After four weeks, a follow-up telephone call was made to the ICT businesses which had not yet replied, to ask the respondent to complete the questionnaire and implore the respondent to cooperate in answering a questionnaire for an increased response rate. For the convenience of a follow-up mailing, each return envelope was assigned a coded number

at the innermost of the envelope. In addition, Informants who did not respond online within four weeks received a second set of online surveys by Google Form.

The data was collected from the respondents through a questionnaire arranged in four parts. Part one included the demographics of the respondent which included gender, age, educational level, working experiences in the business, working position at present, and number of businesses have previously co-founded or operated (Including current business). Part two asked about the general information of the business consisting of the business type, the nationality of your company, the period of time in operation, number of employees, operational capital, average revenues per year, and over the last three years, the company has R&D expenditure of new products? Parts three to six related to evaluating each of the constructs in the conceptual model. In addition, the last part included an open-ended question for the respondent's suggestions and opinions regarding learning of using social media to influence innovation performance. The details of the questionnaire are attached in Appendix A (English version) and Appendix B (Thai version).

Therefore, 221 ICT businesses were acceptable as the sample size for confirmatory factor analysis and structural equation model utilization. According to Comrey and Lee (1992) study suggest that a sample size of 200 is fair while 300 are good. Hair, Anderson, Tatham, and Black (1998) suggest that sample size (n) of more than 200 is relatively large if there are many factors affecting the required sample size. However, Anderson and Gerbing (1988) recommend that 150 sample size be sufficient for analysis using structural equation statistics. Therefore, the 221 sample size of this research presents no problem and meets the requirement of sample size in SEM. Also, the details of the online survey and questionnaire mailing are demonstrated in Table 8 - 9.

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Table 8 Details of Online Survey

Details	Numbers
Online Survey by Google Form	526
Undelivered Google Form	68
Valid Google Form	458
Received Google Form	112
Unusable Google Form	-
Usable Google Form	112
Response Rate $(112/458) \times 100$	22.27%

Table 9 Details of Questionnaire Mailing

Details	Numbers
Mailed Questionnaires	694
Undelivered Questionnaires	39
Valid Questionnaires Mailed	655
Received Questionnaires	115
Unusable Questionnaires	6
Usable Questionnaires	109
Response Rate $(109/655) \times 100$	16.64%

#### Questionnaire Development

According to a questionnaire that was based on an existing scale which is English, the draft of the English version was translated into Thai. To check for propriety, the double-blind back translation process was conducted (Sinaiko & Brislin, 1973). Back translation was used to guarantee that the key informants who are native speakers of the target language can understand the same meaning as in the original language. To be consistent, the original language (English) and the target language (Thai) were used. Before pretesting the questionnaire, a committee consisting of academic researchers compared and evaluated the two versions of the questionnaire. After the translation was complete, the final Thai-version questionnaire was then

presented to ensure that future respondents comprehended all questions. Moreover, when the questionnaire is well designed and structured, it can reduce errors in the responses. To ensure the reliability of this research, all measurement items for each construct are based on existing scales in literature. Also, Table 10 provides items of seven constructs.

Table 10 The Items of Seven Constructs

<b>Item code</b>	<b>Innovation Performance</b>
IP1	Our firm is better than our competitors at developing new products to meet customers' needs
IP2	Our firm is better in terms of the number of innovations (new products and services) than our competitors over the last 3 years
IP3	The duration it takes between the conception of an innovation and its introduction into the market place by our firm is better than the industry average
IP4	Our firm offers innovative products and services that enable it to compete with the leading brands in the market.
IP5	Our firm gains market share by adopting new ideas and technologies to promote the quality of products and services.
<b>Item code</b>	<b>Exploitation</b>
ET1	Searched for new markets for taking advantage of existing products and technologies.
ET2	Upgraded knowledge and skills for familiar products and technologies.
ET3	Invested in enhancing skills in exploiting mature technologies that improve productivity of current innovation operations.
ET4	Enhanced competences in searching solutions for customer problems near to existing solutions rather than completely new solutions.
ET5	Upgraded skills in product development processes in which firm already possesses significant experience.

Table 10 The Items of Seven Constructs (Continued)

<b>Item code</b>	<b>Exploration</b>
EP1	Explored new products and/or markets unknown for the firm.
EP2	Acquired entirely new managerial and organizational skills.
EP3	Acquired products and manufacturing technologies entirely new to the firm.
EP4	Strengthened innovation skills in areas where it had no prior experience.
<b>Item code</b>	<b>Social media strategic capability</b>
SM1	My organization owns future competitive flexibility in social media.
SM2	My organization has the ability to use social media to quickly become aware of new business opportunities or threat possibilities.
SM3	In my organization, leaders have entrepreneurship characteristics on social media.
SM4	My organization has the ability to cohesively garner employee knowledge through social media.
<b>Item code</b>	<b>Environmental Dynamism</b>
ED1	Our clients regularly ask for new products and services
ED2	In our market, the volumes of products and services to be delivered change fast and often.
ED3	The operations of our competitors are easy to foresee.
ED4	Our firm often has to change marketing methods to retain customers and compete with other companies.

Table 10 The Items of Seven Constructs (Continued)

<b>Item code</b>	<b>Entrepreneurial orientation</b>
EO1	We a strong emphasis on R&D, technological leadership, and innovations.
EO2	Over the past three years, there have been many new lines of products or services.
EO3	Over the past three years, there have usually been quite dramatic changes in product or service lines.
EO4	We typically initiate actions to which competitors then respond.
EO5	We are very often the first business to introduce new products/ services, administrative techniques operating technologies, etc.
EO6	We typically adopts a very competitive, ‘undo-the-competitors’ posture.
EO7	We a strong proclivity for high-risk projects (with chances of very high return).
EO8	Owing to the nature of the environment, bold, wide-ranging acts are necessary to achieve the firm’s objectives.
EO9	Typically adopts a bold, aggressive posture in order to maximize the probability of exploiting potential opportunities.
<b>Item code</b>	<b>Effectual orientation</b>
EF1	Use our personal knowledge and experience in the best possible way.
EF2	Pursue those initiatives for which we have great motivation and interest.
EF3	Pursue those initiatives for which we personally have the relevant competencies.
EF4	Aim to insure that gains and risks in existing partnerships are shared fairly.
EF5	Approach potential partners very early on in order to jointly co-create the future.

Table 10 The Items of Seven Constructs (Continued)

Item code	Effectual orientation
EF6	Enter into business relationships where the partners are willing to commit (e.g. invest time) from the onset.
EF7	Try to limit the potential loss of initiatives to an acceptable degree.
EF8	Only invest if the loss of the investment would not ruin the compar
EF9	Exploit contingencies as effectively as possible.
EF10	Use new information as resources.
EF11	Use setbacks as new opportunities.
EF12	Attempt to proactively design our environment with others.
EF13	Attempt to co-create future markets.
EF14	Attempt to influence trends.

#### Common method variance (CMV)

Academic researchers tremendous attention to the potential influences of common method variance (CMV) (e.g., Fuller, Simmering, Atinc, Atinc, & Babin, 2016; Lindell & Whitney, 2001; Malhotra, Kim, & Patil, 2006; Podsakoff, MacKenzie, Lee, & Podsakoff 2003; Rodríguez-Ardura & Meseguer-Artola, 2020; Williams, Hartman, & Cavazotte, 2010). Podsakoff et al. (2003) indicate that common method variance refers to the variance that is attributable to the measurement method rather than to the construct of interest. The term method refers to the form of measurement at different levels of abstraction, such as the content of specific items, scale type, response format, and the general context (Fiske, 1982, p.81-84).

The bias generated by CMV, known as common method bias, appears when the estimated relationship between one construct and another might be inflated (Rodríguez-Ardura & Meseguer-Artola, 2020), CMV produces a systematic covariation above the true relationship between the scale items (Malhotra, Schaller, & Patil, 2017). As a consequence, the altered values of the observed correlations and of other relevant indicators might lead to: either incorrect estimates of the reliability and convergent validity constructs in the study, or erroneous parameter estimates related to the magnitude and the significance of the relationships among constructs (Podsakoff,

MacKenzie, & Podsakoff, 2012). By the effect of common method variance (CMV) is a serious and problematic issue that has the potential to jeopardize the validity of the research findings (Spector, Rosen, Richardson, Williams, & Johnson, 2019).

Harman's one-factor test (also called Harman's single-factor test), although widely applied, because it is convenient and simple to analyze, which researchers apply the test to detect CMV. By load all the items into an exploratory factor analysis and examines the unrotated solution. If CMV is present a single-factor will emerge from the factor analysis (Podsakoff et al., 2003). But Harman's Single-Factor Test, considered the most negligently way of investigating the CMV problem (Kemery & Dunlap, 1986; Podsakoff et al., 2003). It does not control for method effects. It is unlikely a single factor will emerge from the data (Podsakoff et al., 2003). While no empirical evidence exists regarding the efficacy of Harman's one-factor test, numerous authors have warned against the use of the test (Fuller et al., 2016). Authors generally believe Harman's one-factor test to be not sensitive enough to detect CMV (Podsakoff et al., 2003). Therefore, CMV experts would not prefer to use that method, especially in the case that the researcher has not protected the CMV problem since the research tool design (Lindell & Whitney, 2001). The method that Malhotra et al. (2006) suggest that is an effective and convenient way to detect and solve the CMV problem, that is the method using marker variable.

In this research, for the CMV that might occur in the research design of this study, the Marker Variable Technique developed by Lindell and Whitney (2001), which is techniques that can be applied to test and control for CMV without having to identify and measure the sources of CMV. Takes advantage of a special variable that is prepared and incorporated into a study along with the research variables. The underlying logic is that a marker variable that is believed to be theoretically unrelated to at least one variable in the study, but susceptible to the same causes of CMV (Lindell & Whitney, 2001). More specifically, the benefit system was chosen as the marker variable, was measured using a scale developed by Williams, Malos, and Palmer (2002). Example items include (a) the effectiveness of the system that provides employees benefits, and (b) the arrangements of the organization has made for the delivery of employees benefits, which marker variable was benefit system that taps into the role of managing director or manager about benefit programs. This research noted variable that four main



constructs, exploitation, exploration, social media strategic capability, and innovation performance would not seem to be related through any substantively driven mechanism to role related to benefit system (which instead would be driven by features of the reward and compensation system), which marker variable that is theoretically unrelated to substantive variables and for which its expected correlation with substantive variables. Furthermore, this variable was chosen because the properties of the individual marker items were not of interest and to reduce the overall number of indicators used in models examined. Thus, this approach presumes observed shared variance between the marker and the substantive variable is a function of a single unmeasured method factor and is the best representative of CMV in the data.

#### Test of Non-Response Bias

Non-response bias in survey research can result in misleading or inaccurate findings and assessment of non-response bias is advocated to determine response sample representativeness (Lewis, Hardy, & Snaith, 2013), which the researcher's effort to produce reliable and valid techniques for measurement data to for consistent application is through generally accepted methods in the design, conduct, analysis, and reporting the survey research. This is necessary to ensure the quality of survey techniques (Tuckman & Harper, 2012). Non-response error arises from a difference between the respondents and non-respondents. Thus, researchers may undertake a telephone call and e-mail follow-up on the survey as it is possible respondents need a little pressure or are unwilling to answer a question (Lindner, Murphy, & Briers, 2001), for an increased response rate.

Thus, to protect possible response bias problems between respondents and non-respondents, a non-response bias test must be done to confirm that non-respondents are not different from respondents (Lewis et al., 2013). Lindner et al. (2001) suggested that to test non-response bias the respondents might be grouped as early and late respondents. Afterward, the two groups can be compared on their responses to the Likert scale questions using the t-test analysis to indicate any significant differences. However, Lindner et al. (2001) also recommended that late respondents be defended operationally and arbitrarily as the later 50% of respondents because any other arbitrary

dichotomy of more or less than 50% implied that the early and late respondent groups are not equal in size and this might reduce the statistical power of any comparison.

From the mentioned above, therefore, to test non-response bias for all 221 received questionnaires were divided into essentially two equal groups: the first 111 responses were treated as the early respondents (the first group), and last 110 responses were treated as the late respondents (the second group). The results from data analyzed showed no differences for each variable from both early and late respondents exclude exploitation. The exploitation difference rises from the respondent's refusal, inability, or reluctance to answer the questionnaires. Despite exploitation showing the difference, there will be no effects to the final results because they are instinctual opinions and the significant value is close to .05. The results of the non-response bias test are presented in Table 11.

Table 11 Test of Non-Response Bias between Early and Late Respondents  
(All Constructs)

	<b>Comparison</b>	<b>N</b>	<b>Mean</b>	<b>S.D.</b>	<b>t-value</b>	<b>p-value</b>
Innovation performance	Early Respondents	111	5.19	1.05	-1.11	0.27
	Late Respondents	110	5.35	1.05		
Exploitation	Early Respondents	111	4.39	0.61	-2.13	0.40
	Late Respondents	110	4.54	0.48		
Exploration	Early Respondents	111	4.28	0.61	-1.45	0.15
	Late Respondents	110	4.40	0.62		
Social Media Strategic Capability	Early Respondents	111	4.98	0.93	-1.15	0.25
	Late Respondents	110	5.12	0.98		
Environmental Dynamism	Early Respondents	111	4.47	0.88	-0.31	0.76
	Late Respondents	110	4.51	0.87		
Entrepreneurial Orientation	Early Respondents	111	5.17	0.97	-0.22	0.83
	Late Respondents	110	5.20	1.08		
Effectual Orientation	Early Respondents	111	5.75	0.73	-.47	0.64
	Late Respondents	110	5.80	0.78		

Note: N = 221

## Measurement of the variables

This research aims to investigate the underlying factors of organizational ambidexterity, social media strategic capability, environmental dynamism, entrepreneurial orientation, effectual orientation, and innovation performance. The quantitative research setting for the empirical analysis will be based on primary data obtained by internet-based survey. In this research, there are seven sets of variables to be measured. The dependent variable is innovation performance, and the independent variables are organizational ambidexterity. The moderator variable is environmental dynamism, entrepreneurial orientation and effectual orientation. Finally, the mediator variable as social media strategic capability.

### Dependent Variable

Innovation performance

In this study, to measure dimensions of innovation performance, the dependent variable of the research was measured via a five items scale adapted from Oke, Walumbwa, and Myers (2012). These items reflect innovation performance in this research, which refers to the creation and development of new products and services. The items were measured on a seven-point Likert scale ranging from “strongly disagree” (1) to “strongly agree” (7).

### Independent Variables

Organizational ambidexterity

For measuring organizational ambidexterity, it was measured by nine items according to suggested by Atuahene-Gima (2005) and Solís-Molina, Hernández-Espallardo and Rodríguez-Orejuela (2018). Exploitation has five items that refer to the firm's ability to exploit innovation competencies of existing products and technologies. While exploration has four items that refer to explored new products, markets unknown, entirely new managerial and organizational skills for the firm, to renew and replace them by new competences. All variables were derived from definitions designated in previous literature, and measured by a five-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree).

### Moderating Variables

#### Environmental dynamism

Based on previous research, a four-item measure was included that captured environmental dynamism. Environmental dynamism reflects the rate of change and the instability of the external environment (Jansen et al., 2009). Environmental dynamism was measured by four items adapted from Jansen et al. (2009). All variables are derived from the definition and previous literature, by a six-point Likert scale, ranging from 1 (strongly disagree) to 6 (strongly agree).

#### Entrepreneurial orientation

To measure dimensions of entrepreneurial orientation was measured via a 9 items scale adapted from Covin and Slevin (1989) and Miller (1983), which is intended to assess three components of firm-level entrepreneurial orientation, i.e., innovativeness, risk-taken, and proactiveness. All of the items were measured on the seven-point Likert scale, ranging from 1 (strongly disagree) to 7 (strongly agree).

#### Effectual orientation

Effectual orientation measured used by 14 items adapted from Werhahn et al. (2015). To examine means orientation, partnership orientation, affordable loss orientation, contingencies orientation, and control orientation. All variables were derived from definitions designated in previous literature, by using a seven-point scale Likert-type scale (1= “strongly disagree,” 7 = “strongly agree”).

### Mediating Variable

#### Social media strategic capability

Based on previous research, measured social media strategic capability with four items according to the method of Nguyen et al. (2015). Social media strategic capability reflects future competitive flexibility in social media; the organization has the ability to use social media to quickly become aware of new opportunities or threat possibilities; leaders have entrepreneurship characteristics on social media, and the organization has the ability to cohesively garner employee knowledge through social media. All variables were derived from definitions designated in previous literature, and are measured on a six-point Likert scale, where 1 was determined for “strongly disagree” ranging to 6 for “strongly agree”.

### Control variables

#### Firm age

Firm age is controlled because some researchers suggest that younger firms may pursue more radical innovations than older firms (Rosen, 1991). At the same time, firm age may also inertia that can negatively affect innovation activities (Kelly & Amburgey, 1991). Thus, this study measured firm age by organization's length of operation, which defined as the period of time the organization had been in existence or operating.

#### Firm size

The firm's size was controlled in this study because large firms may employ increasingly resources in R&D activities and introduce more new products rather than small firms (Ettlie & Rubenstein, 1987). Some scholars specify that larger firms will be more skillful and will have more strategic autonomy with regard to innovation compared to smaller and newer firms (Duijsters & Hagedoorn, 2002), as well as to be more active than smaller firms in utilizing resources to accomplish the firm's goals (Suwannarat, 2016). Hence, this study measured organization size by the number of employees.

#### R&D expenditure

Cohen and Levinthal (1990) also found that the role of R&D is important to innovation process of firms. R&D has indicated more likely impact on organizational ambidexterity, social media strategic capability and innovation performance. Thus, this research considers the R&D investments as one of the control variables in the interaction environment between the organizational ambidexterity, social media strategic capability and its innovation performance. This variable was measured as R&D expenditure (1 = Firm with R&D expenditure, 0 = No R&D expenditure).

## Methods

This research collected data with the mailed survey questionnaire of which all constructs in the conceptual model have developed the scales from an intensive literature review. For creating credibility and accuracy, three academic experts reviewed and adjusted the measurement in the questionnaire for achieving the best possible scale measure. To achieve valid results and conclusions for this research, reliability and validity were established such as the reliability of scale (Cronbach's alpha). All scale items are defined and accepted on the basis of the conventional guidelines by Nunnally (1978), which reliability is ensured.

### Validity

In this research, validity is the level that demonstrates the measurement which is used in the questionnaire can accurately and appropriately measure constructs that the researcher wants (Hair, Black, Babin, Anderson, & Tatham, 2010). In other words, validity is a measure of what we really want to measure. For example, if a questionnaire actually measures a different concept than the dimension wants to measure, it is not valid (Civelek, 2018). Therefore, validity is a concern when conducting research, because the higher validity of the measure which is used in the questionnaire can lead to powerful predictors of future behaviors (Piercy & Morgan, 1994). The absence of validity occurs if there is a poor fit between the constructs a researcher uses to describe, theorize, or analyze that which occurs (Neuman, 2006). Hence, this research tests the validity of measure which is used in the questionnaire to confirm that a measure or set of measures accurately signifies the concept of the research by confirming the content validity, and construct validity.

### Content validity

Content validity refers to the extent to which the items of the scales sufficiently reflect the interrelated theoretical domains (Green, Tull, & Albaum, 1988). According to Nunnally and Bernstein (1994) suggested that content validity is the scales containing items adequate to measure what is intended. In this study, face validity and content

validity are improved by an extensive review of the literature questionnaires (Hair et al., 2010). In addition, professionals academics reviewed and suggested the necessary recommendations to examine the instrument to ensure that all constructs were sufficient to cover the contents of the variables, based on the relevant theory and literature review (Rosier, Morgan, & Cadogan, 2010). If the result of item-objective congruence (IOC) equals  $0.60 \geq .50$ , then it is acceptable (Green et al., 1988).

#### Construct validity

Construct validity refers to the measurement method that confirms whether or not the item is an accurate scale as to the logical theory in the conceptual framework (Hair et al., 2010). Thus, to test the construct validity developed from prior research, this research used confirmatory factor analysis (CFA) Average Variance Extracted (AVE) and Composite Reliability (CR) are used to examine the construct validity of the data in the questionnaire. To ensure the construct validity, the size of the factor loading must be higher than the 0.40 cut-off and are statistically significant (Nunnally & Bernstein, 1994). The average variance extracted (AVE) value must be greater than 0.50, it is acceptable (Diamantopoulos, Siguaw, & Siguaw, 2000). In addition, Composite reliability (CR), CR value should be are greater than 0.70 (Nunnally & Bernstein, 1994).

Although generally AVE is higher than 0.5, it is acceptable (Fornell & Larcker, 1981). However, Hair, Black, Babin, Anderson, and Tatham (2009) suggest that AVE is higher than 0.5 but it can accept 0.4 because Fornell and Larcker (1981) suggest that if AVE is less than 0.5, but composite reliability is higher than 0.6, the convergent validity of the construct is still adequate. Composite reliability (CR) is a less-biased estimate of reliability than Cronbach's alpha, CR is greater than 0.70 (Nunnally & Bernstein, 1994), which indicates that the items in each latent variable had sufficient consistency to explain the latent variables. Therefore, construct validity of the measurement models was a test.

### Reliability

Reliability is the level of the measurement in the questionnaire that is true, and observed variables that are error-free, which designate the degree of internal consistency between the multiple variables (Hair et al., 2010). In other words, reliability means that a scale is always measures the same value under the same conditions consistently (Civelek, 2018). Thus, if asked the same questions about the same people, if the conditions are not changed, they are expected to give the same answers. The ways available to estimate the reliability indicator is Cronbach's alpha coefficient. Cronbach's alpha coefficients is a scale of reliability to assure internal consistency (Eagleman, 2013). Cronbach's alpha coefficient values of more than 0.7 are considered good but values of more than 0.5 are acceptable. In addition, Hair, Hult, Ringle, and Sarstedt (2014) suggest that in exploratory research values of composite reliability or Cronbach alpha between 0.60 - 0.70 are acceptable. Thus, this research shown the reliability test of all constructs are shown in Table 12. The result of Cronbach's alpha coefficients was between 0.675 to 0.916, which exceeds the acceptable cut-off score (Hair et al., 2014). It can be concluded that the internal consistency of the entire scale exists in this research.

Table 12 Reliability Value of Try Out Questionnaire

<b>Variable</b>	<b>Item</b>	<b>Cronbach's alpha (<math>\alpha</math>)</b>
Innovation Performance	5	0.871
Exploitation	5	0.675
Exploration	4	0.809
Social Media Strategic Capability	4	0.895
Environmental Dynamism	4	0.734
Entrepreneurial Orientation	9	0.900
Effectual Orientation	14	0.916

Note: N= 221



## Statistical Techniques

To answer the research questions and to prove the hypotheses presented data collected from the questionnaire were analyzed. In this research, data were analyzed using several statistical techniques such as descriptive statistics (e.g. Frequency, Percentage, Mean ( $\bar{x}$ ), Standard Deviation (S.D)), Confirmatory Factor Analysis (CFA) and analyzed to test hypotheses were conducted using Structural Equation Modeling (SEM) to test the relationships between the constructs and determine the predictive power of the model. A brief description of the main methods used is presented in the subsequent sections.

### Confirmatory Factor Analysis (CFA)

In the confirmatory factor analysis (CFA), the theoretically predetermined factor structure is confirmed by the current data. In other words, in the CFA, which factor will be loaded on an observed variable is predetermined, by means of the explanatory factor analysis, the latent variables are revealed from the observed variables (Civelek, 2018). According to statistics experts' suggestions, (e.g., Hair, Black, Babin, Anderson, & Tatham, 2006), factor analysis was performed with the data obtained from the questionnaires administered for all variables to verify that each of the constructs measured something different and to evaluate the factors' importance. CFA purposed to confirm that each of the questions measured the construct as designed which illustrated to examining validity of constructs in research model. Moreover, any items can be removed if the results of the assay are not satisfactory or not appropriate for the model evaluation and it does not change the meaning of the construct (Jarvis, MacKenzie, & Podsakoff, 2003).

In fact, all measurement models were established based on theoretical and empirical backgrounds suggested in previous studies. The goodness-of-fit of the measurement models determines how good the item is in examining the intended constructs (Choi & Seltzer, 2010). This research follows the criteria of goodness-of-fit indexes that take a more pragmatic approach to the evaluation process. One of the first fit statistics to address this problem is the  $\chi^2$ /degree of freedom ratio, which appears as

CMIN/DF in AMOS output file. Many alternative indexes of fit were considered as criteria for evaluation model-fitting.

Moreover, the criteria of CFA to consider in reducing an item or construct consisted of insisting that the standardized factor loading should be higher than the .50 cut-off and it may be possible to reduce the item number and maintain a strong factor (Costello & Osborne, 2005), the t-value or critical ratio was more than 1.96 ( $p < .05$ ) (Harrington, 2009),  $R^2$  was greater than .50 (Moore, Notz, & Fligner, 2013), the Composite Reliability (CR) was more than .70 (Hair, Sarstedt, Hopkins, & Kuppelwieser, 2014), and the average variance extracted (AVE) was greater than .50 (Diamantopoulos et al., 2000).

#### Structural Equation Model (SEM)

In this research, the principal method of analysis is Structural Equation Modeling (SEM) use to test the relationships between the constructs and determine the predictive power of the model. SEM is used for hypotheses testing because it is a multivariate technique combining aspects of multiple regression and also factor analysis to estimate a series of interrelated dependence relationships simultaneously (Hair et al., 1995). Following Byrne (2001), this research uses two steps in which a measurement model is developed and evaluated separately from the full SEM, which is simultaneously composed of measurement and structural relations. The measurement model in conjunction with the structural model makes possible a comprehensive confirmatory assessment of construct validity (Bentler, 1978). Moreover, superior features distinguish structural equation modeling from other classical linear modeling approaches such as (1) it reveals the relationship among hidden structures that are not directly measured, (2) possible mistakes in the measurements of the observed variables are taken into consideration, and (3) it is a very useful method to analyze highly complex multiple variable models and to reveal direct and indirect relationships between variables (Civelek, 2018). Another reason for the adoption of this method is the ability to take into account the measurement errors and the relationships between errors in the observed variables, include measurement errors can be minimized. In traditional regression analysis, potential measurement errors are neglected (Civelek, 2018).

Furthermore, the test of the structural model, after a measurement model has been used, the structural model is conducted to find out which sets of one or more dependences relate to the model constructs. A series of dependent relationships are examined simultaneously. It is particularly suitable for the model that one dependent variable becomes an independent variable in subsequent dependent relationships (Hair et al., 1995). In other words, the structural model is a suitable statistical technique to examine and test for social media strategic capability as a mediator.

Assessment of model fit, the relevance of the model was indicated by the goodness-of-fit between the hypothesized model and the sample data. Goodness-of-fit statistics used were Chi-square, Root Mean Square Error of Approximation (RMSEA), Normed Fit Index (NFI), Comparative Fit Index (CFI), Goodness of Fit Index (GFI). Careful consideration shows that assessing the goodness-of-fit of a model are more a relative process than one based on absolute criteria (Hair et al., 1998). A chi-square test results should be non-significant and indicate that the hypothesized model is well-fitted to the sample data. RMSEA is a measure of fit that compares the mean differences of each expected degree of freedom that can occur in the population with each other. This scale is adversely affected by sample size. NFI is the ratio of difference in the chi-square value for the proposed model and the null model divided by the chi-square of null model. CFI is a fit indices that compare the saturated model with the independent model. The GFI fit indices is a measure of the degree of variance and covariance that is explained by the model, which the value of the GFI fit indices rises as the sample size increases. This feature can prevent accurate results when sample size is low. The fit indices and acceptable thresholds are showed in Table 13.

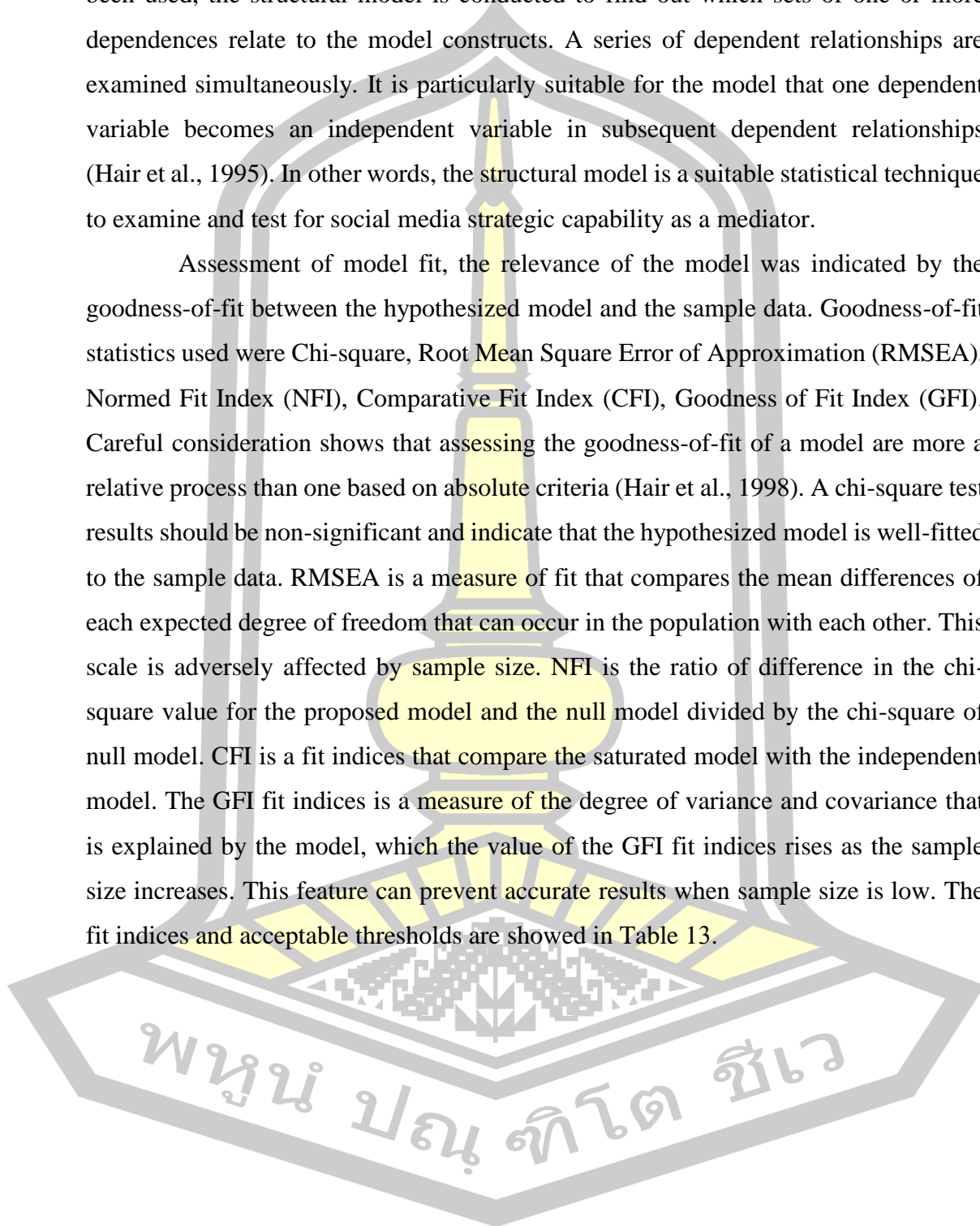


Table 13 Fit Indices and Acceptable Thresholds of Structural Equation Model Analysis

Fit Index	Descriptions	References
CMIN ( $\chi^2$ )	$p > .05$	Diamantopoulos et al. (2000)
CMIN/DF ( $\chi^2/df$ ) (Absolute Fit Index)	$\leq 2.00$ good fit or 2.00 – 5.00 acceptable	Diamantopoulos et al. (2000)
GFI (Goodness of Fit Index)	.90 - .95 acceptable > .95 perfect fit	Diamantopoulos et al. (2000)
CFI (Comparative Fit Index)	.90 – .95 acceptable > .95 perfect fit	Diamantopoulos et al. (2000)
NFI (Normed Fit Index)	$\geq .90$	Bollen (1989), Gold, Andres, Etezadi, Arbuckle, Schwartzman, and Chaikelson (1995)
IFI (Incremental Fit Index)	$\geq .90$	Bollen (1989)
RFI (Relative Fit Index)	$\geq .90$	Hu and Bentler (1999)
RMSEA (Root Mean Square Error of Approximation)	< .05 perfect fit .05 - .08 acceptable .09 - .10 poor fit .08 - .10 mediocre fit	Diamantopoulos et al. (2000), Kline (2005), MacCallum, Browne, and Sugawara (1996)

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## CHAPTER IV

### RESULTS

The previous chapter explains the research methods which include the sample selection and data collection procedure. Also, data analysis and hypotheses testing are described. This chapter illustrates the results of the hypothesis testing. This chapter is divided into three parts. First, this chapter presents the demographic profile and business profile. Second, the hypothesis testing and the results are detailed. Finally, the summary of the hypothesis testing. In addition, abbreviations of statistical values in this research are presented below.

The abbreviations of all variables:

OA	is	Organizational Ambidexterity
ET	is	Exploitation
EP	is	Exploration
ED	is	Environment Dynamism
SMSC	is	Social Media Strategic Capability
EO	is	Entrepreneurial Orientation
EF	is	Effectual Orientation
IP	is	Innovation Performance

The abbreviations of statistical symbols:

$\alpha$	is	Coefficient alpha
AVE	is	Average Variance Extracted
$\beta$	is	Beta
CFI	is	Comparative Fit Index
CR or $\rho$	is	Composite reliability
df	is	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
t-value	is	t-statistics
$\chi^2$	is	Chi-square
$\chi^2 / df$	is	Chi-square Mean/Degree of Freedom
$\bar{x}$	is	Mean
$\gamma$	is	Gamma
$\lambda$	is	Factor loading

## Demographic Profile and Business Profile

### Respondent Characteristics

The information and communication technology (ICT) businesses in Thailand selected for this survey, the resulted in 221 usable questionnaires for analysis. In this research, the respondents are CEO, managing directors, IT manager, or the persons in charge of high levels who had a full understanding of the overall firms as well as the use of social media for firms. The descriptive statistics are used to show the characteristics of the respondents in Table 14 This table consists of the main characteristics of the respondents. The respondent characteristics are described by the demographic characteristics including gender, age, education level, working experience, working position, and the number of businesses that previously co-founded or operated (Including current business).

Mostly, 57.9% of the respondents are male and 42.1% are female. The span of age of respondents is 41-50 years old (40.7%). The level of education of the respondents is bachelor's degree (59.3%). The working experiences are more than 10 years of working experiences (61.5%). From the perspective of the working position by the respondents in the business, mostly 38.5% was managing director. Finally, questions about of the number of businesses that previously co-founded or operated (Including current business) the majority is one business (40.3%).

Based on the information collected, this study can identify several key characteristics of the respondents. A majority were males of older age and with a reasonably good educational background. Almost all the respondents possessed a working experience in businesses of more than 10 years and worked in important position. They preferred to clarify and understanding the information in the questionnaire about organizational ambidexterity, social media strategic capability, and innovation performance. For more details, see Table 14.

Table 14 Demographic Profile of Respondents

Variable	Scale	Total	Percent
Gender	Male	128	57.9
	Female	93	42.1
Age	Less than 30 years old	22	10.0
	30 - 40 years old	84	38.0
	41 - 50 years old	90	40.7
	More than 50 years old	25	11.3
Educational level	High vocational certificate	9	4.1
	Bachelor's degree	131	59.3
	Masters' degree	75	33.9
	Doctoral degree	5	2.3
	Other (High School Certificate)	1	0.5
Working experiences	Less than 3 years	7	3.20
	3 - 6 years	34	15.4
	7 - 10 years	44	19.9
	More than 10 years	136	61.5

Table 14 Demographic Profile of Respondents (Continued)

Variable	Scale	Total	Percent
Working position	CEO	38	17.2
	Managing director	85	38.5
	IT manager	53	24.0
	Other	45	20.4
The number of businesses to previously co-founded or operated (Including current business).	1	89	40.3
	2	50	22.6
	3	51	23.1
	4	11	5.1
	5	8	3.6
	6	2	0.9
	7	2	0.9
	8	1	0.9
	9	1	0.5
	10	5	2.3
	More 10	1	0.5

#### Profile Characteristics of Businesses

The results of the demographic characteristics of 221 ICT businesses surveyed indicated that the majority of respondents had registered as limited companies (90.0%). Most of the nationality of the company's owner that respondents the Thai owner only (89.6%). In addition, the majority of respondents have been operated business between 6 years to 10 years (23.1%). The majority of firm respondents have less than 10 employees (43.0 percent). Approximately 56.1 percent of firm respondents have an operating capital of less than 5,000,000 Baht. In the section dealing with average revenues per year, the majority of respondents identified had revenues less than 10,000,000 Baht (51.6%). Besides, questions about R&D showed that the majority of the respondents (129 firms, 58.4%) have R&D, and 92 firms (41.6%) do not have R&D (For more details, see Table 15).



Table 15 Demographic Profile of Respondents

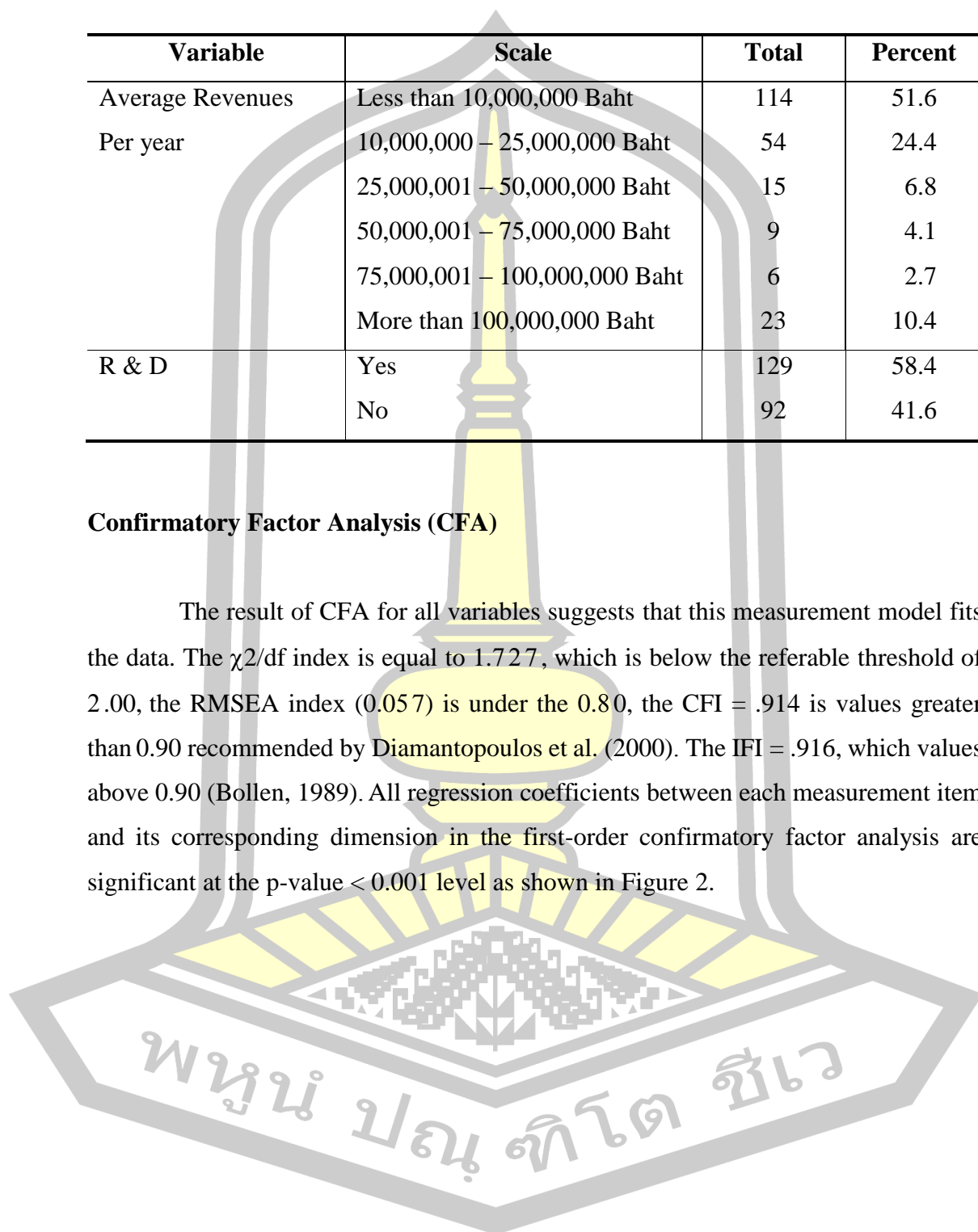
<b>Variable</b>	<b>Scale</b>	<b>Total</b>	<b>Percent</b>
Business Owner Type	Public Company	12	5.4
	Limited Company	199	90.0
	Limited Partnership	10	4.5
Nationality of the Company's Owner	Thai Owner Only	198	89.6
	Inter Owner Only	6	2.7
	Thai-Inter Co-investment	17	7.7
The period of time in operating company	Less than 3 years	30	13.6
	3 – 5 years	38	17.2
	6 – 10 years	51	23.1
	11 – 15 years	34	15.4
	16 – 20 years	32	14.5
	More than 20 years	36	16.3
Number of employees	Less than 10 employees	95	43.0
	10 – 50 employees	76	34.4
	51 – 100 employees	22	10.0
	101 – 150 employees	8	3.6
	151 – 200 employees	2	0.9
	More than 200 employees	18	8.1
Operational Capital	Less than 5,000,000 Baht	124	56.1
	5,000,000-10,000,000 Baht	57	25.8
	10,000,001-15,000,000 Baht	12	5.4
	15,000,001-20,000,000 Baht	6	2.7
	20,000,001-25,000,000 Baht	1	0.5
	More than 25,000,000 Baht	21	9.5

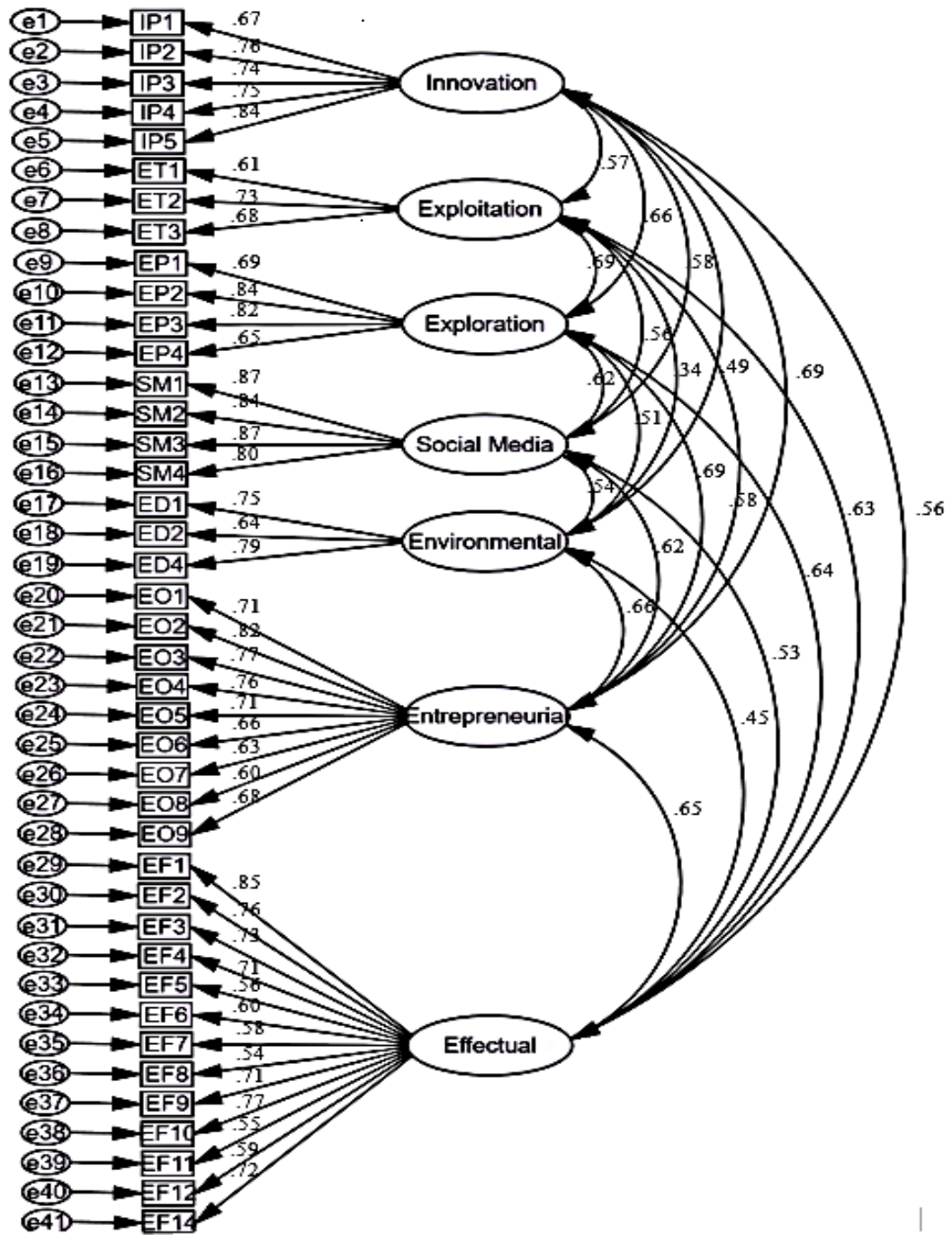
Table 15 Demographic Profile of Respondents (Continued)

Variable	Scale	Total	Percent
Average Revenues Per year	Less than 10,000,000 Baht	114	51.6
	10,000,000 – 25,000,000 Baht	54	24.4
	25,000,001 – 50,000,000 Baht	15	6.8
	50,000,001 – 75,000,000 Baht	9	4.1
	75,000,001 – 100,000,000 Baht	6	2.7
	More than 100,000,000 Baht	23	10.4
R & D	Yes	129	58.4
	No	92	41.6

### Confirmatory Factor Analysis (CFA)

The result of CFA for all variables suggests that this measurement model fits the data. The  $\chi^2/df$  index is equal to 1.727, which is below the referable threshold of 2.00, the RMSEA index (0.057) is under the 0.80, the CFI = .914 is values greater than 0.90 recommended by Diamantopoulos et al. (2000). The IFI = .916, which values above 0.90 (Bollen, 1989). All regression coefficients between each measurement item and its corresponding dimension in the first-order confirmatory factor analysis are significant at the p-value < 0.001 level as shown in Figure 2.





$\chi^2 = 1210.801$ ,  $df = 701$ ,  $\chi^2/df = 1.727$ ,  $IFI = 0.916$ ,  
 $CFI = 0.914$ ,  $RMSEA = 0.057$

Figure 2 The Confirmatory Factor Analysis

### Testing the construct validity

Before examining the hypothesized structural model, the measurement instruments need to be evaluated. For this, the procedure outlined by Hair, Ringle, and Sarstedt (2011) was performed to examine the measurement model for indicator reliability, internal consistency reliability, convergent validity, and discriminant validity, using reflective indicators for all constructs. Thus, indicator reliability was evaluated by each of the indicator loadings, factor loading ranged from 0.541 to 0.872, which all variables have a factor loading is higher than 0.5 (Costello & Osborne, 2005), which indicates that the measurement model is completely satisfactory.

Internal consistency reliability was examined by means of composite reliability (CR). For all constructs, the SEM-based CR ranged from 0.712 to 0.912, which exceeded the suggested cutoff value of 0.70 or above (Chin, 1998; Fornell & Larcker, 1981; Nunnally & Bernstein, 1994). Convergent validity was tested by inspecting the average variance extracted (AVE). For all constructs, the AVE ranged from 0.449 to 0.714. Although AVE is less than 0.50, but CR more than 0.7, which validity adequate and acceptable (Fornell & Larcker, 1981). Therefore, the results provide evidence for validity. The indicator factor loading, CR and AVE values are shown in Table 16.

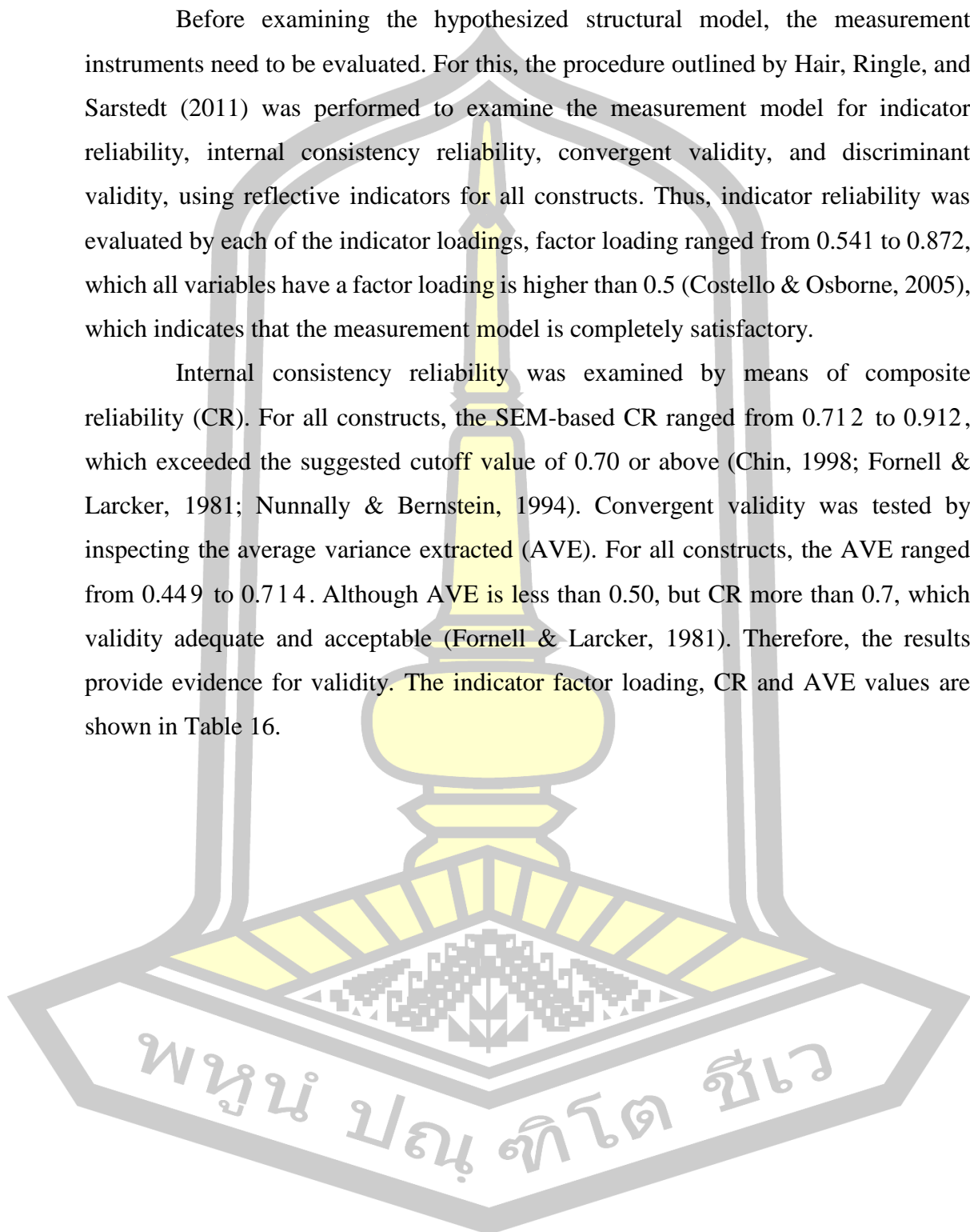


Table 16 Factor Loading, Composite Reliability and Average Variance Extracted

Items	Factor loading	CR	AVE
Innovation performance:			
IP1	0.670	0.867	0.567
IP2	0.755		
IP3	0.738		
IP4	0.750		
IP5	0.842		
Exploitation:			
ET1	0.610	0.712	0.453
ET2	0.725		
ET3	0.679		
ET4	Excluded		
ET5	Excluded		
Exploration:			
EP1	0.690	0.838	0.567
EP2	0.836		
EP3	0.815		
EP4	0.653		
Social Media Strategic Capability:			
SM1	0.872	0.909	0.714
SM2	0.839		
SM3	0.869		
SM4	0.798		
Environmental Dynamism:			
ED1	0.745	0.771	0.531
ED2	0.644		
ED3	Excluded		
ED4	0.789		

Table 16 Factor Loading, Composite Reliability and Average Variance Extracted  
(Continued)

Items	Factor loading	CR	AVE
<b>Entrepreneurial Orientation:</b>			
EO1	0.713	0.899	0.500
EO2	0.815		
EO3	0.765		
EO4	0.760		
EO5	0.706		
EO6	0.664		
EO7	0.632		
EO8	0.600		
EO9	0.682		
<b>Effectual Orientation:</b>			
EF1	0.853	0.912	0.449
EF2	0.756		
EF3	0.728		
EF4	0.706		
EF5	0.564		
EF6	0.559		
EF7	0.583		
EF8	0.541		
EF9	0.709		
EF10	0.765		
EF11	0.552		
EF12	0.587		
EF13	Excluded		
EF14	0.717		

Note: Excluded = factor loading < 0.50, which factor loading should be higher than the .50 cut – off (Costello & Osborne, 2005).

### Testing the Correlation Analysis and Discriminant Validity

In this research, there are two purposes for testing correlation on all variables by a bivariate correlation analysis of Pearson's; (1) exploring the relationships among variables, (2) verify the multicollinearity problem which exists when inter-correlation between independent variables exceeds 0.80 (Hair et al., 2010). Thus, the bivariate correlation procedure is scaled to a two-tailed test of statistical significance as  $p < 0.01$ .

Moreover, the discriminant validity of the measures was evaluated by examining the Fornell and Larcker criteria (Fornell & Larcker, 1981). For satisfactory discriminant validity, the square root of the AVE should be above the values of both horizontal and vertical correlations between constructs, and the loading value of an indicator on its own construct should be higher than all of its cross loadings (Chin, 1998; Hair et al., 2011). The means, standard deviations, square root of AVE for each construct, and correlation coefficients for all constructs are displayed in Table 17. As recommended by Fornell and Larcker (1981), the latent factor correlations between pairs of constructs were smaller than the square root of AVE for each construct.

Table 17 Descriptive Statistics, Correlations Matrix and Square Root of AVE

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Mean	5.27	4.42	4.34	5.05	4.64	5.19	5.78
S.D.	1.05	0.57	0.62	0.96	0.95	1.02	0.77
(1) Innovation performance	<b>.753<sup>a</sup></b>						
(2) Exploitation	.566**	<b>.673<sup>a</sup></b>					
(3) Exploration	.661**	.668**	<b>.753<sup>a</sup></b>				
(4) Social media strategic capability	.577**	.559**	.619**	<b>.845<sup>a</sup></b>			
(5) Environmental dynamism	.495**	.344**	.513**	.543**	<b>.728<sup>a</sup></b>		
(6) Entrepreneurial orientation	.693**	.557**	.687**	.623**	.663**	<b>.706<sup>a</sup></b>	
(7) Effectual orientation	.555**	.634**	.639**	.534**	.452**	.652**	<b>.670<sup>a</sup></b>

Note: N= 221 \*\* Correlation is significant at the 0.01 level (2-tailed).

<sup>a</sup> The square root of AVE was shown as bold numbers on the diagonals.

Accordingly, Table 17 demonstrates that exploitation have significant positive relationships with innovation performance ( $r = 0.566$ ,  $p < 0.01$ ). Exploration is significantly related to innovation performance ( $r = 0.661$ ,  $p < 0.01$ ). Social media strategic capability is significantly related to innovation performance ( $r = 0.577$ ,  $p < 0.01$ ). The moderating effect of environmental dynamism has correlations with exploitation, exploration and social media strategic capability ( $r = 0.344$ ,  $0.513$ , and  $0.543$ ,  $p < 0.01$ ). Entrepreneurial orientation with innovation performance and social media strategic capability ( $r = 0.693$  and  $0.623$ ,  $p < 0.01$ ). Effectual orientation with innovation performance and social media strategic capability ( $r = 0.555$  and  $0.534$ ,  $p < 0.01$ ). In addition, the results also demonstrate that the relationships among variables, the correlations among all variables in the conceptual model are in the range of  $0.344$  to  $0.693$  at  $p < 0.01$ , which is lower than  $0.8$  (Hair et al., 2010). Therefore, the results indicate that this research without the multicollinearity problems and also demonstration an acceptable level of reliability.

Furthermore, as recommended by Fornell and Larcker (1981), the latent factor correlations between pairs of constructs were smaller than the square root of AVE for each construct. Referring to Table 17, the discriminant validity by comparing the square root of each AVE in the diagonal with the correlation coefficients (off-diagonal) for each construct in the relevant rows and columns. Overall, discriminant validity can be accepted for this measurement model and supports the discriminant validity between the constructs.

#### Common Method Variance – Marker Variable

Common method variance (CMV) is a potential problem in our research, because a single respondent completed the survey for each firm (Podsakoff & Organ, 1986). The model examined, the CFA model, allows for a complete set of correlations among the four substantive latent variables (exploitation, exploration, social media strategic capability, and innovation performance) and the marker latent variable (benefit system). As noted earlier, the main reason for evaluating this model is to obtain the factor loading and measurement error variance estimates for the two marker variable indicators. Thus, to test whether CMV, the research applied the marker variable technique suggested by (Lindell & Whitney, 2001). The marker variable technique uses



a theoretically-unrelated variable (i.e., the marker variable) to the other variables in a hypothesized model. As follows shown in Table 18.

Table 18 Marker-Variable Technique (Benefit System – 2 items)

	<b>Models</b>	$\chi^2$	<i>df</i>	<b>RMSEA</b>	<b>CFI</b>	<b>IFI</b>
Total	Model 1 <sup>a</sup>	393.879	174	0.076	0.918	0.919
	Model 2 <sup>b</sup>	423.259	178	0.079	0.909	0.910

<sup>a</sup> Model 1 Measurement model with no loadings from substantive indicators of hypothesized constructs to marker variable

<sup>b</sup> Model 2 Measurement model with unequal loadings from substantive indicators of hypothesized constructs to marker variable constrained to be equal

Table 18 shows that the model comparisons including a common method factor-benefit system-adjusted for various unequal loading constraints vs. no loadings provide the empirical justification supporting the best fit to the data for the model without a marker variable, suggesting the common method variance bias was not a serious problem in this study.

#### Testing the Assumptions of Structural Equation Model

This research used SEM in path analysis to examine the influence of two components of organizational ambidexterity, social media strategic capability, and innovation performance. Many scholars (e.g., Hair et al., 1998; Sit, Ooi, Lin, & Chong, 2009) have suggested the two-stage method of modeling to perform SEM, through which CFA is verified before the examination of the structural model. In this research, AMOS (Analysis of Moment Structures) version 24 is used to assess the construct measures and model fitting. SEM can perform Path Analysis for all of these are tasks. It has been recommended by many scholars (Lee, Choi, & Gorsich, 2010), but before conducting Path analysis, the assumptions of multivariate analysis must be investigated first. This is followed by an assessment of the structural model. The procedures adopted for these processes will be discussed in the following subsections.

### Sample size

Before the data examination, both statistical assumptions as well as hypotheses related to the SEM sample size should be analyzed first (Lee et al., 2010). Comrey and Lee's (1992) study suggested that a sample size of 200 is fair while 300 is good. However, Anderson and Gerbing (1988) recommend that 150 sample size be sufficient for analysis using structural equation statistics. Thus, the sample size of this study ( $n = 221$ ) was within the acceptable range and can be considered adequate, which meets the requirement of sample size in SEM.

### Normal distribution

Normal distribution is conducted by the assessment of the visual inspection of the normal Q-Q plots for each construct illustrates no severe violations of normality as all points clustered around the straight diagonal line. In sum, the test of normality shows the normal distribution of the data for both endogenous variables in structural model.

### Multicollinearity

There is a need to test for multicollinearity because it could cause parameter estimation problems (Hair et al., 2011). To detect multicollinearity, variance inflation factors (VIFs) and tolerances were assessed for each construct component. The VIFs of indicators ranged from 1.93 to 2.92. Tolerances ranged from 0.34 to 0.52. All VIFs and tolerances were within acceptable threshold levels ( $VIF < 3.3$ , tolerance  $> 0.20$ ) (Hair et al., 2011). These findings indicated that multicollinearity is not a problem. These results demonstrated in Table 19.

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Table 19 Variance Inflation Factor (VIF) and Tolerance Value

<b>Constructs</b>	<b>VIF</b>	<b>Tolerance</b>
Exploitation	2.203	.454
Exploration	2.652	.377
Social media strategic capability	2.026	.493
Environmental dynamism	1.927	.519
Entrepreneurial orientation	2.927	.342
Effectual orientation	2.214	.452

Note: Dependent variable: Innovation performance

### **Structural Equation Modeling Analysis (SEM)**

Structural equation modeling analysis (SEM) was employed to investigate the hypothesized relationships in this research. Using a statistical package, the causal relationships were examined between organizational ambidexterity, environmental dynamism, social media strategic capability, entrepreneurial orientation, effectual orientation, and innovation performance. The results also were tested for reliability and validity and the fit of the measurement model was completed. The criteria for determining goodness of fit of the model were Chi-square test, CFI, IFI, NFI, RFI, and RMSEA. The p-values of the Chi-square test should be more than .05 to not reject the null hypothesis (Diamantopoulos et al., 2000).  $\chi^2/df$  should be lower than 2.00 for a goodness of fit result (Bollen, 1989) or between 2.00 to 5.00 is the available goodness of fit (Diamantopoulos et al., 2000). The explanation is that the observed and estimated covariance matrixes are not different. Fornell and Larcker (1981) suggested that in such a study other fit indices should be considered rather than merely a p-value to evaluate a goodness of fit between the observed and estimated model when the sample size is large. Figure 3 shows the structural model of main effect.

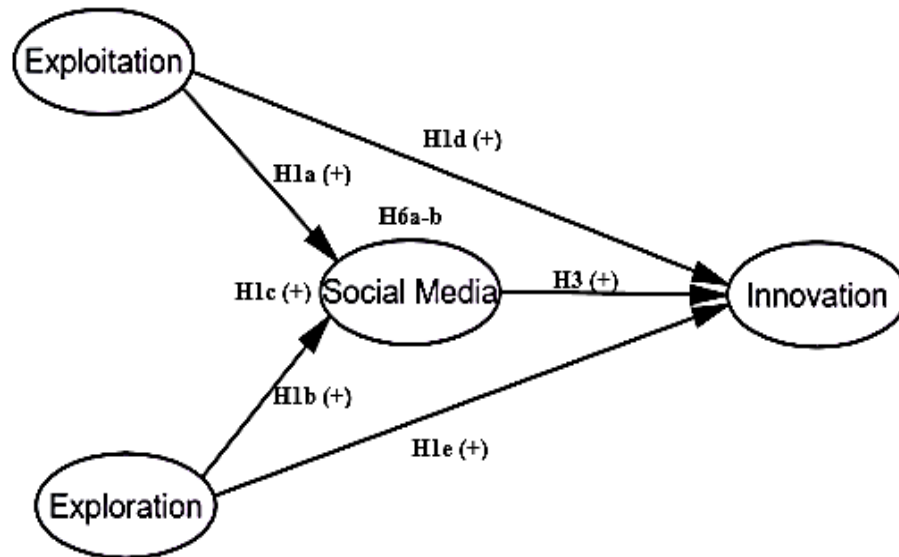


Figure 3 Structural Model of Main Effect

#### Main hypotheses testing

The results of six main hypotheses, as previously discussed, the proposed model show the structural relationships among all constructs. The result of model assessment and parameter estimation is illustrated in Figure 4. To easily observe the model fitting results, the fit indices from the results of the proposed model are compared to the threshold/cutoff points as recommended by researchers. The results of the model fit evaluation of exploitation, exploration, and social media strategic capability based on the innovation performance framework are displayed the testing goodness-of-fit indices for the structural model as in Table 20.

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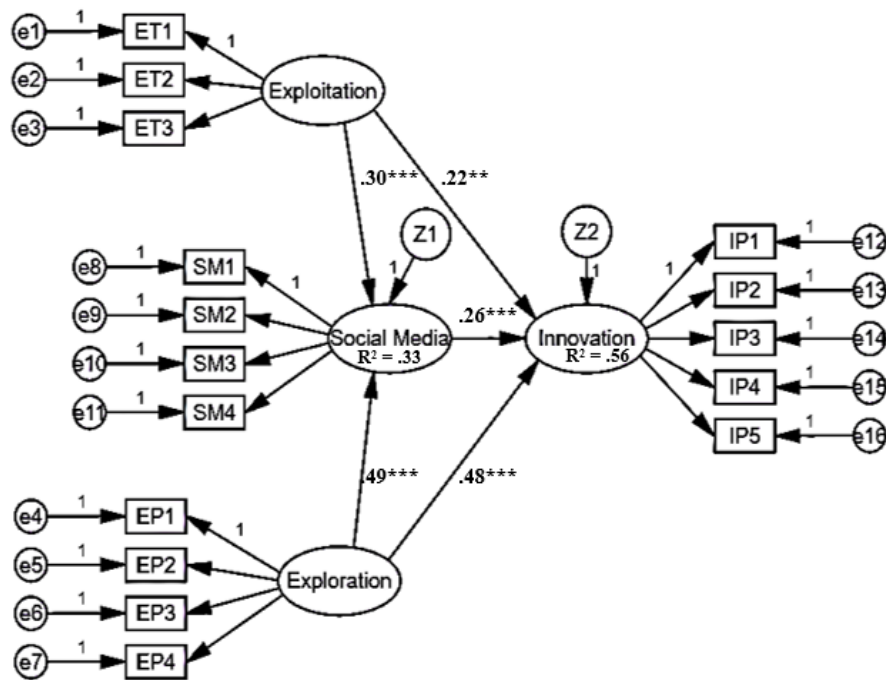


Figure 4 The Structural Model for Main Hypotheses Testing

Table 20 Comparison of Goodness-of-Fit Index of Proposed Model and the Recommended Points

Goodness-of-fit indices	The cutoff point	Proposed model
CMIN/DF ( $\chi^2/df$ )	< 5.00	2.476
p-value	> 0.05	.000
IFI	> 0.90	.908
CFI	> 0.90	.906
RMSEA	< 0.10	.082

### Hypotheses Testing and Results

The results of the structural equation modeling analysis are shown in this section. The causal relationships were investigated among exploitation, exploration, social media strategic capability, environmental dynamism, entrepreneurial orientation, effectual orientation and innovation performance 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.

As previously discussed, the proposed model Figure 4 shows the structural relationships among all main constructs. Whereas, parameter estimation and the significance test are shown in Table 21.

Table 21 Main Effect: Parameter Estimation and the Significance Test

Hypotheses	Estimated relationship coefficients		S.E.	t-value	p-value
	Unstandardized	Standardized			
H1a: ET → SMSC	0.438	0.304	0.117	3.742***	0.000
H1b: EP → SMSC	0.694	0.490	0.104	6.667***	0.000
H1d: ET → IP	0.259	0.215	0.029	2.805**	0.005
H1e: EP → IP	0.568	0.480	0.103	5.494***	0.000
H3: SMSC → IP	0.214	0.256	0.064	3.331***	0.000

Note: 1. ET is exploitation; EP is exploration; SMSC is social media strategic capability and IP is innovation performance

2. Estimated relationship coefficients here mean unstandardized/standardized regression weight; S.E. means standard error.

3. t-value is significant at \*\*\* p-value < 0.001, \*\* p-value < 0.01

### Exploitation and social media strategic capability

The main hypothesis aims to test the main effects of the proposed constructs. This reveals that there is significance in the structural relationship between exploitation and social media strategic capability (H1a) at  $p$ -value  $< 0.001$ . Exploitation is significantly and positively related to social media strategic capability ( $t$ -value = 3.742,  $p$ -value = 0.000). Comparing to the unstandardized coefficients, the standardized coefficient of exploitation is not high with positive direction ( $\beta = 0.304$ ) and it has dropped from unstandardized coefficients ( $\beta = 0.438$ ) but it still indicates the contribution of exploitation largely explains social media strategic capability by significance at  $p$ -value  $< 0.001$ . However, exploitation is positively and significantly related to social media strategic capability. ***Thus, hypothesis 1a is supported.***

### Exploration and social media strategic capability

The result of this test reveals a positive and significant relationship between exploration and social media strategic capability (H1b). Exploration is significantly and positively related to social media strategic capability ( $t$ -value = 6.667,  $p$ -value = 0.000). Comparing to the unstandardized coefficients, the standardized coefficient of exploration is not high with positive direction ( $\beta = 0.490$ ) and it has dropped from unstandardized coefficients ( $\beta = 0.694$ ) but it still indicates the contribution of exploration largely explains social media strategic capability by significance at  $p$ -value  $< 0.001$ . However, exploration is positively and significantly related to social media strategic capability. ***Thus, hypothesis 1b is supported.***

### Exploration would have higher positive effect in relating to social media strategic capability compared with exploitation.

From the results state that hypothesis 1a and hypothesis 1b are supported. When comparing standardized coefficients of organizational ambidexterity (exploitation and exploration) and social media strategic capability, the results imply that exploration has higher positive effect in relating to social media strategic capability compared with exploitation by standardized coefficients of exploration ( $\beta = 0.490$ ) and exploitation ( $\beta = 0.304$ ) with significant ( $p$ -value  $< 0.001$ ). ***Therefore, hypothesis 1c is supported.***

#### Exploitation and innovation performance

Hypothesis 1d posited that exploitation is positively affected by innovation performance. The result of this test reveals a positive and significant relationship between exploitation and innovation performance (H1d). Exploitation is significantly and positively related to innovation performance (t-value = 2.805, p-value = 0.005). Comparing to the unstandardized coefficients, the standardized coefficient of exploitation is not high with positive direction ( $\beta = 0.215$ ) and it has dropped from unstandardized coefficients ( $\beta = 0.259$ ) but it still indicates the contribution of exploitation largely explains innovation performance by significance at p-value < 0.01. However, exploitation is positively and significantly related to innovation performance.

***Thus, hypothesis 1d is supported***

#### Exploration and innovation performance

Hypothesis 1e indicated that exploration is positively affected by innovation performance. The result of this test reveals a positive and significant relationship between exploration and innovation performance (H1e). Exploration is significantly and positively related to innovation performance (t-value = 5.494, p-value = 0.000). Comparing to the unstandardized coefficients, the standardized coefficient of exploration is not high with positive direction ( $\beta = 0.480$ ) and it has dropped from unstandardized coefficients ( $\beta = 0.568$ ) but it still indicates the contribution of exploration largely explains innovation performance by significance at p-value < 0.001. However, exploration is positively and significantly related to innovation performance.

***Thus, hypothesis 1e is supported.***

#### Social media strategic capability and innovation performance

Hypothesis 3 tests the relationship between social media strategic capability and innovation performance. The result of this test reveals social media strategic capability is significantly and positively related to innovation performance (t-value = 3.331, p-value = 0.000). Comparing to the unstandardized coefficients, the standardized coefficient of social media strategic capability is high with positive direction ( $\beta = 0.256$ ) although it only slightly increased from unstandardized coefficients ( $\beta = 0.214$ ).



However, social media strategic capability is positively and significantly related to innovation performance at  $p\text{-value} < 0.001$ . **Thus, hypothesis 3 is supported.**

In addition, this research control for firm age, firm size, and R & D in the proposed model. The results found that firm size and R & D are not significant predictors of firm innovation performance, but firm size is positively significant ( $\beta = 0.150$ ,  $p\text{-value} < 0.05$ ).

#### Test mediating role of social media strategic capability

Going beyond hypothesis testing, this research proposes social media strategic capability is mediator. In order to better understand the strong mediating effect of social media strategic capability, the research elaborates and provides further testing for manifest discussion. Testing mediating effect of social media strategic capability, social media strategic capability mediates the relationship between exploitation and innovation performance, and social media strategic capability mediates the relationship between exploration and innovation performance.

According to testing mediating effect, this research based on Baron and Kenny (1986) criteria which is divided two parts.

Frist testing social media strategic capability as a mediator, the following criteria;(1) the exploitation need to significantly affect the social media strategic capability, (2) exploitation need to significantly affect innovation performance in the absence of social media strategic capability, (3) social media strategic capability has a significant unique effect on innovation performance, and (4) the effect of exploitation on innovation performance shrinks upon the addition of social media strategic capability to the model.

Second, testing social media strategic capability as mediator, following criteria;(1) the exploration need to significantly affects the social media strategic capability, (2) Exploration need to significantly affects innovation performance in the absence of social media strategic capability, (3) Social media strategic capability has a significant unique effect on innovation performance, and (4) the effect of exploration on innovation performance shrinks upon the addition of social media strategic capability to the model.

These criteria are able to use to informally judge whether or not mediation is occurring. The test for mediation can be performed using two steps. The first, using SEM analyses direct, indirect, and total effects in. This step provides coefficients of all exogenous and mediating factors together with the predictive indicator such as  $R^2$  of each variable. Thus, to evaluate mediation effect testing, the research run SEM to new paths exploitation, exploration, social media strategic capability and innovation performance variables were estimated the assessment of model fitting as Table 22 show the results of parameter estimation for testing mediating effect.

Table 22 Parameter Estimation for Testing Mediating Effect

Relationship parts	Unstandardized			Standardized			z-value
	Direct	Indirect	Total	Direct	Indirect	Total	
H1a: ET → SMSC	0.438	-	0.438	0.304	-	0.304	-
H1b: EP → SMSC	0.694	-	0.694	0.490	-	0.490	-
H1d: ET → IP	0.259	0.094	0.353	0.215	0.078	0.293	2.493 *
H1e: EP → IP	0.568	0.148	0.716	0.480	0.125	0.605	2.989**
H3: SMSC → IP	0.214	-	0.214	0.256	-	0.256	-

Note: 1. ET is exploitation; EP is exploration; SMSC is social media strategic capability and IP is innovation performance.

2. \*\* Significance level at .01, \* significance level at .05.

The results of Table 22 demonstrate the effects of mediating; direct effects, indirect effects, and total. The results demonstrate that the direct and indirect among exploitation, exploration, social media strategic capability and innovation performance. At social media strategic capability as mediator, the exploitation can influence innovation performance through social media strategic capability by the regression coefficients for the indirect relationship is estimated at 0.094. The research results show significantly the mediating effect of the social media strategic capability. These results indicate that exploitation influences innovation performance through social media strategic capability. *Thus, hypothesis 6a is supported.*

Also at social media strategic capability as mediator, exploration can influence innovation performance through social media strategic capability by the regression coefficients for the indirect relationship is estimated at 0.148. The research results show significantly the mediating effect of the social media strategic capability by attaining all of Baron and Kenny's (1986) criteria. These analyzes indicate that exploration influences innovation performance through social media strategic capability. **Thus, hypothesis 6b is supported.**

The significance of these mediating effects can be further tested by the Sobel test as recommended by MacKinnon, Warsi, and Dwyer (1995).

MacKinnon et al. (1995) suggested that using the Sobel test which testifies a mediator variable significantly carries the influence of an independent variable to a dependent variable. Formulae for the tests provided here were drawn from MacKinnon et al. (1995):

$$\text{Sobel test equation, z-value} = a(b)/\text{SQRT}(b^2(s_a^2) + a^2(s_b^2))$$

Where; a = unstandardized regression coefficient for the association between independent variable and mediator.

$s_a$  = standard error of a.

b = raw coefficient for the association between the mediator and the dependent variable (when the independent variable is also a predictor of the dependent variable).

$s_b$  = standard error of b.

The reported p-values are drawn from the unit normal distribution under the assumption of a two-tailed z-test of the hypotheses 6a and 6b that the mediated effect equals zero in the population. The calculation is based on the results in Table 21 for the significance of the mediating effect. Substituting for an equation for the exploitation can influence innovation through social media strategic capability. This results in Sobel test equation:

$$\text{Z-value} = 0.438(0.214)/\text{SQRT}(0.214^2(0.117^2) + 0.438^2(0.064^2))$$



The ratio of Chi-square values to the degree of freedom is between 2.00 - 5.00 (2.867), which shows a good fit of a model among the observed data. Moreover, fit indices, GFI (0.939), CFI (0.946), NFI (0.923), and IFI (0.948), are above the cut-off criteria (0.90), and RMSEA values is between 0.08 - 0.10 (0.092). 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 organizational ambidexterity (both exploitation and exploration) moderated by environmental dynamism to influence social media strategic capability, and a structural model of social media strategic capability moderated by an entrepreneurial orientation and effectual orientation to affect firm's innovation performance. consistent fits with the empirical data as shown in Figure 6. Besides, the parameter estimation and the significance test for the moderating effect are presented in Table 23.

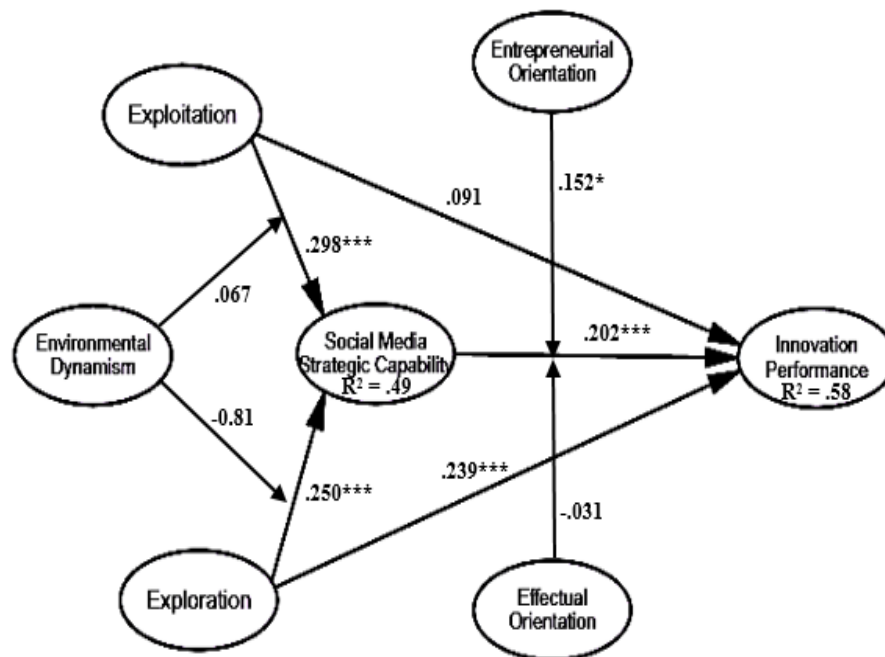


Figure 6 The Structural Model for Moderating Effect Testing with Estimated Relationship Coefficient

Table 23 Standardized Structural Equation Parameter Estimates and t-value of the Moderating Effect of Environmental Dynamism, Entrepreneurial Orientation, and Effectual Orientation

Relationship Path	Standardized Coefficients ( $\beta$ )	S.E.	t-value	p-value
<b><u>Exogenous Constructs</u></b>				
ET $\rightarrow$ SMSC	0.298	0.067	4.428***	.000
EP $\rightarrow$ SMSC	0.250	0.073	3.437***	.000
ED $\rightarrow$ SMSC	0.304	0.056	5.403***	.000
H2a: ET*ED $\rightarrow$ SMSC	0.067	0.054	1.241	.215
H2b: EP*ED $\rightarrow$ SMSC	-0.081	0.051	-1.510	.131
<b><u>Endogenous Constructs</u></b>				
SMSC $\rightarrow$ IP	0.202	0.057	3.456***	.000
EO $\rightarrow$ IP	0.374	0.066	5.514***	.000
EF $\rightarrow$ IP	0.007	0.066	0.101	.920
H4: SMSC*EO $\rightarrow$ IP	0.152	0.049	2.536*	.011
H5: SMSC*EF $\rightarrow$ IP	-0.031	0.047	-0.518	.604

Note: \*\*\* significance level at .001,

\* significance level at .05

According to Table 23, shows the investigation of the moderating role of environmental dynamism, entrepreneurial orientation, and effectual orientation as follows:

#### **The moderating effect of environmental dynamism on exploitation and social media strategic capability**

For hypothesis 2a, environmental dynamism is examined as a moderator of the relationship between exploitation and social media strategic capability. The results reveal that environmental dynamism was not a moderator in the relationship between

exploitation and social media strategic capability ( $\beta = 0.067$ ,  $t\text{-value} = 1.241$ ,  $p\text{-value} = 0.215$ ). *Therefore, hypothesis 2a is not supported.*

#### **The moderating effect of environmental dynamism on exploration and social media strategic capability**

Hypothesis 2b posited a relationship between the explorations moderated by environmental dynamism based on innovation performance. The results reveal that environmental dynamism was not a moderator in the relationship between exploration and social media strategic capability ( $\beta = -0.081$ ,  $t\text{-value} = -1.510$ ,  $p\text{-value} = 0.131$ ). *Thus, hypothesis 2b is not supported.*

#### **The moderating effect of entrepreneurial orientation on social media strategic capability and innovation performance**

Hypothesis 4, entrepreneurial orientation is investigated as a moderator of the relationship between social media strategic capability and innovation performance. The results demonstrate that social media strategic capability and entrepreneurial orientation is significantly and positively related to innovation performance ( $\beta = 0.152$ ,  $t\text{-value} = 2.536$ ,  $p\text{-value} = 0.011$ ). *Thus, hypothesis 4 is supported.*

#### **The moderating effect of effectual orientation on social media strategic capability and innovation performance**

In this section, hypothesis 5 posited a relationship between the social media strategic capability moderated by effectual orientation based on innovation performance. The results reveal that effectual orientation was not a moderator in the relationship between social media strategic capability and innovation performance ( $\beta = -0.031$ ,  $t\text{-value} = -0.518$ ,  $p\text{-value} = 0.604$ ). *Therefore, hypothesis 5 is not supported.*

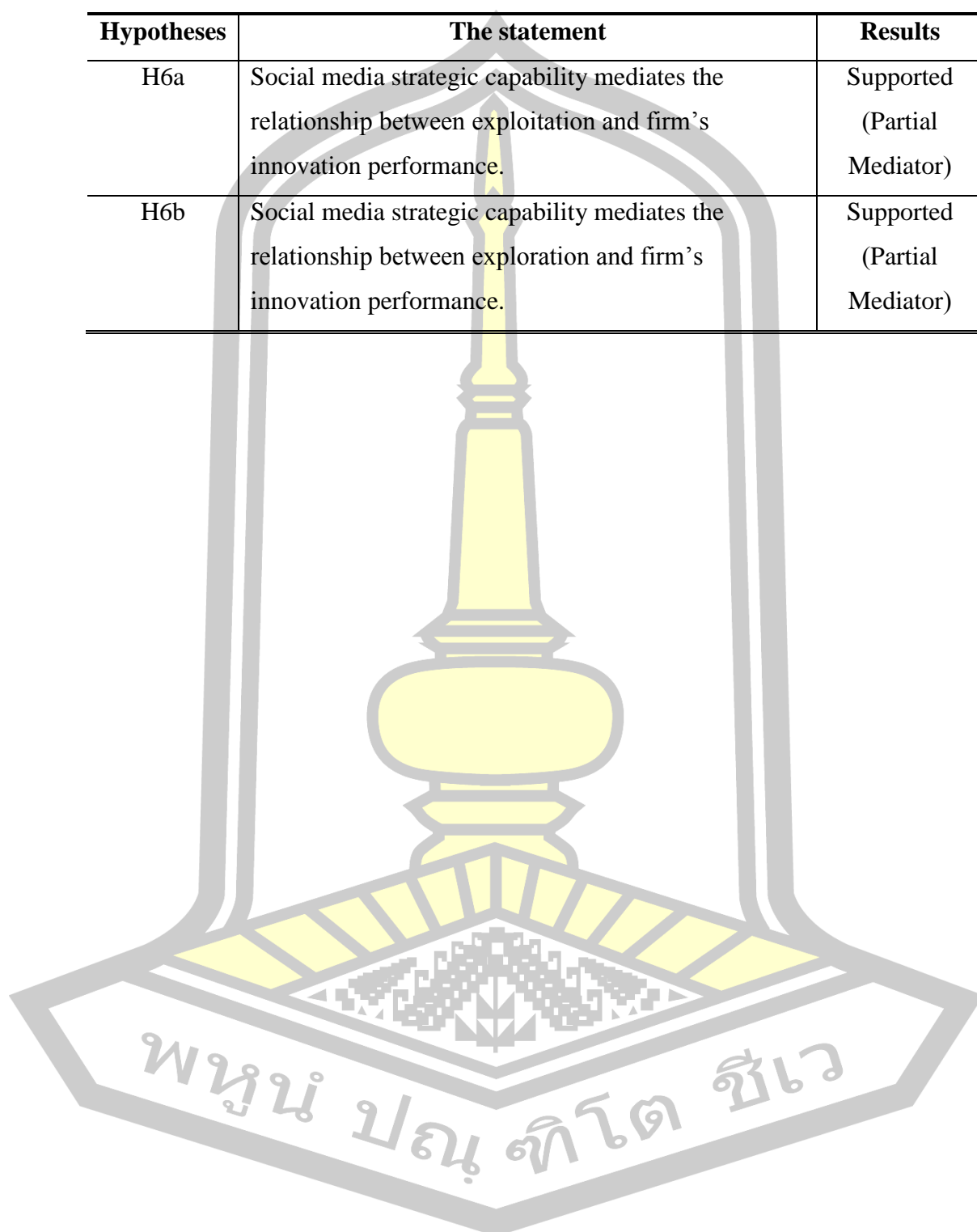
Table 24 Summary of Hypotheses Testing Results

<b>Hypotheses</b>	<b>The statement</b>	<b>Results</b>
H1a	Exploitation is positively related to social media strategic capability.	Supported
H1b	Exploration is positively related to social media strategic capability	Supported
H1c	Exploration would have higher positive effect in relating to social media strategic capability compared with exploitation.	Supported
H1d	Exploitation is positively related to firm's innovation performance.	Supported
H1e	Exploration is positively related to firm's innovation performance.	Supported
H2a	Environmental dynamism positively moderates the relationship between exploitation and social media strategic capability.	Not Supported
H2b	Environmental dynamism positively moderates the relationship between exploration and social media strategic capability.	Not Supported
H3	Social media strategic capability is positively related to firm's innovation performance.	Supported
H4	Entrepreneurial orientation positively moderates the relationship between social media strategic capability and firm's innovation performance.	Supported
H5	Effectual orientation positively moderates the relationship between social media strategic capability and firm's innovation performance.	Not Supported



Table 24 Summary of Hypotheses Testing Results (Continued)

Hypotheses	The statement	Results
H6a	Social media strategic capability mediates the relationship between exploitation and firm's innovation performance.	Supported (Partial Mediator)
H6b	Social media strategic capability mediates the relationship between exploration and firm's innovation performance.	Supported (Partial Mediator)



## CHAPTER V

### DISCUSSION AND CONCLUSION

The previous chapter reveals respondent characteristics, the information and communication technology (ICT) businesses characteristics, descriptive statistics, test the validity of each variable and the results of hypotheses testing. Consequently, this chapter provides discussions and the conclusion of this research. The chapter first starts with discussions, theoretical and managerial contributions of this research. The discussions are based on the results of the proposed hypotheses, which were empirically tested through SEM. In addition, this research provides the theoretical and managerial implications, limitations, and future research agenda. Finally, the conclusion encompasses the overview of this research.

#### **Discussion**

The purpose of this research was to investigate the relationships among exploitation, exploration, social media strategic capability, and innovation performance. To investigate the moderating effect of environmental dynamism in the relationship between two components of organizational ambidexterity and social media strategic capability, to examine the moderating effect of entrepreneurial orientation, effectual orientation in the relationship between social media strategic capability and innovation performance. In addition, to investigate the mediating effect of social media strategic capability in the relationship between two components of organizational ambidexterity (exploitation and exploration) and innovation performance.

The findings show that exploitation, exploration has a positive direct effect on social media strategic capability, and innovation performance (H1a – H1b, H1d – H1e), and exploration would have a higher positive effect in relating to social media strategic capability compared with exploitation (H1c). Whereas, the findings also show that environmental dynamism was not a moderator in the relationship between two components of organizational ambidexterity (both exploitation and exploration) and social media strategic capability (H2a-b). In addition, the results from the hypothesis

testing found that social media strategic capability has a positive influence on innovation performance (H3). Also, findings also show that entrepreneurial orientation moderates the effect of social media strategic capability on innovation performance (H4). When compare effectual orientation, the finding shows that effectual orientation has no significant effect on innovation performance (H5). Finally, the results of testing the mediating effect of social media strategic capability showed that social media strategic capability can mediate the relationship between two components (exploitation and exploration) of organizational ambidexterity and innovation performance (H6a, H6b), but partial mediation.

These findings show that follows the formulated research objectives and consistent with the study as follows.

The first objective of this research has been to investigate the direct effects of two components of organizational ambidexterity (both exploitation and exploration), social media strategic capability, and innovation performance.

The results from the hypothesis testing found that exploitation has a positive influence on social media strategic capability (*H1a*). This result indicates that organizational ambidexterity in ICT businesses has a significant, in terms of exploitation, to social media strategic capability in the organization. If firms focus on exploitation, entrepreneurs will also attempt to use social media strategic capability to communicate information with the management team, employees to possess quality information to improve efficiency and growth in the existing business. Firms may adapt existing social media platforms for extended internal use, promote collaboration through knowledge sharing. The results are consistent with Bhimani et al. (2019) suggested that firms using Facebook groups for official internal interaction or have even built their internal social media networks. Similarly, firms have responded to social media and sought ways to integrate its advantages into their business practices (Chae, McHaney, & Sheu, 2020).

The findings show that exploration is positively and significantly related to social media strategic capability (*H1b*). The previous research, Day (2011, p. 187) suggests exploration maybe is from outside-in and to explore new possibilities. The outside-in principle is mainly seen from the view of the customer which capabilities enable a firm to be adaptive (Teece, 2007). Therefore, firms that focus on exploration

maybe use social media strategic capability to acquire, assimilate, integrate, and exploit knowledge by customers to recognize new business opportunities. Firms that focus on exploration may even participate in online conversations in order to become an active part of the community (Ngo et al., 2019).

The results imply that exploration would have higher positive effect in relating to social media strategic capability compared with exploitation (*H1c*). These results are consistent with previous research indicate that exploitation and exploration are competitive strategies because learning theorists have indicated that are different learning activities. As a result, it is claimed that both must be basically incompatible and would be generally mutually exclusive (e.g., March, 1991) and frequently compete for constrained firm resources incorporate compete for rare organizational resources (e.g., Gupta et al., 2006; Miller & Friesen, 1983). Therefore, more resources devoted to one of them will lead to fewer resources left for the other (Danneels & Sethi, 2011). At the same time, firms are challenged by the rise of social media strategic capability as well as striving to professionally implement social media strategic capability and to accomplish competitive advantages. If firms emphasized exploration strongly, it can have a competitive advantage and enable the firm to conduct business in the long term in a dynamic environment. Besides, the mindsets and organizational routines needed for exploration may well be radically different from those needed for exploitation.

Nevertheless, exploitation is positively and significantly related to innovation performance (*H1d*). These results are consistent with previous research. Generally across organizations, organizational ambidexterity can be related with increased innovation, successful performance, and firm survival particularly in uncertain environments (O'Reilly & Tushman, 2013). The findings corroborate past research and extend it. Yalcinkaya, Calantone, and Griffith (2007) and Arnold et al. (2011) find positive effects of exploitation on incremental innovation performance. The firm's capabilities exploit the existing resources for incremental innovations performance (Maijanen & Virta, 2017).

Besides, exploration is positively and significantly related to innovation performance (*H1e*). The results are consistent with Yalcinkaya et al. (2007) and Arnold et al. (2011) find positive effects of exploration on radical innovation performance. Moreover, the previous study also indicated that higher-order dynamic capabilities

explore new technology and other resources for radical innovations performance (Maijanen & Virta, 2017). In another result, Benitez et al. (2018) suggest that organizational ambidexterity (both exploitation and exploration) can promote innovation performance. Moreover, the results show the positive magnitude of two components of organizational ambidexterity (both exploitation and exploration) that influence innovation performance. These findings are consistent with previous studies researches (e.g., Gupta et al., 2006; Kim et al., 2012). Gupta et al. (2006) argue that relationship between exploration and exploitation positively affects innovation performance. Likewise, Kim et al. (2012) indicate that firms that have both exploration and exploitation can optimum their innovations.

Finally, the results from hypothesis 3 testing, the findings show that social media strategic capability is positively and significantly related to innovation performance (*H3*). This study has shown a significant relationship between social media strategic capability and innovation performance. This is in accordance with the research by De Oliveira et al. (2020), which revealed that social media positively relates to innovation performance. It is additionally a platform favor innovation and decreases risks in new products offerings (Parida et al., 2012) and enhances firm innovation (Lin et al., 2017; Ooms et al., 2015). Moreover, social media represents one of the greatest assets for data-driven innovation (Bhimani et al., 2019).

#### The moderating role of environmental dynamism

The second objective of this research has been to examine the moderating effect of environmental dynamism in the relationship between two components of organizational ambidexterity and social media strategic capability.

The results show that environmental dynamism does not moderate the relationship between exploitation and social media strategic capability (*H2a*). In other words, under the environmental dynamism context, does not influence the positive effect of firm exploitation. This condition suggests that managers and employees at all levels should follow the organization's natural orientation, which is that exploit existing resources, emphasizes enhance the efficiency of existing business. This leads to an emphasis on internal efficiency improvements and short-term cost reductions. Because of the presence of scale economies, firms developing exploitation strategies should

focus on cost savings and make the most of their existing resources (Porter, 1980) without making large investments (Lavie et al., 2010) and they do not have to assume a high risk. Hence, it seems logical that the conditions of environmental dynamism are not appropriate for the development of exploitation strategies when making social media-related decisions. However, it anticipates that the relationship between exploitation and social media strategic capability may be appropriated for stable environments.

Likewise, the results show that environmental dynamism cannot moderate the relationship between exploration and social media strategic capability (*H2b*). This condition suggests that even if the level of environmental dynamism will change, does not affect the firm exploration. Because the firm is constantly seeking new knowledge and has the ability to analyze, interpret, and understand new knowledge acquired from external sources, when the firm uses an appropriate method of operation, there is a good decision-making model to have new knowledge management. These findings are consistent with previous studies researches (e.g., Li & Liu, 2014). Li and Liu (2014) indicate that the impact of dynamic capabilities has no significant improvement, while in relatively stable environments, dynamic capabilities are also useful to some extent. In addition, Bernal, Maicas, and Vargas (2019) demonstrates that as the level of environmental dynamism increases, the effects of over exploration are delayed, but not to the same extent.

#### The moderating role of entrepreneurial orientation and effectual orientation

The third objective of this research has been to investigate the moderating effect of entrepreneurial orientation, effectual orientation in the relationship between social media strategic capability and innovation performance.

The results from the hypothesis testing prove that entrepreneurial orientation moderates the relationship between social media strategic capability and innovation performance (*H4*). This finding is consistent with previous research showing that entrepreneurial orientation (EO) drives firms to social media strategic capacities in order to leverage innovative ideas, learn about their competition and scan the external environment (Bughin et al., 2011). For example, in the rapidly changing environment, EO has led firms to use Twitter, Facebook, Line, and other platforms to share upcoming

designs that lead to Innovation performance. This is because innovativeness, proactiveness, and risk-taking behavior inherently reflect proclivity toward exploring and utilizing novel applications such as social media for innovation performance (Sahaym, Datta, & Brooks, 2019). In addition, EO reflects firms' practices such as working methods and other activities (Lumpkin & Dess, 1996). When EO increases, a seek to absorb relevant knowledge will increase promptly which leads to new products (Kreiser, 2011; Tseng, 2013). Moreover, Wiklund and Shepherd (2003) indicate that EO as a moderator will stronger among firms with higher levels of EO. Accordingly, the results indicate that EO as moderates the relationship between social media strategic capability and innovation performance.

On the contrary, the moderating effect of effectual orientation between social media strategic capability and innovation performance (*H5*). The results show that effectual orientation cannot moderate the relationship between social media strategic capability and innovation performance. Because, in essence social media use has revolutionized the business world and has impacted both within and outside firm boundaries (Aral et al., 2013), and becoming an important strategic tool for firms (Martín-Rojas et al., 2020). Additionally, within firms, social media utilize has the potential to transform knowledge exchange and in this way to quicken innovation and performance (de Zubielqui et al., 2019). In this condition, effectual orientation may direct effect on innovation performance or other relationship moderators. For example, in previous studies, Szambelan and Jiang (2019) indicated that effectual orientation has a positive effect on innovation performance. Meanwhile, Mthanti and Urban (2014) suggest that effectuation strengthens the relationship between entrepreneurial orientation and performance in high-tech firms. Thus, even in firms with effectual orientation strengthened is not complementary capability relationship between social media strategic capability and innovation performance.

#### The mediating role of social media strategic capability

The fourth objective of this research has been to examine the mediating effect of social media strategic capability in the relationship between two components of organizational ambidexterity and innovation performance.

The results of testing the mediating effect of social media strategic capability (H6a, 6b). The results imply that social media strategic capability can mediate the relationship between two components of organizational ambidexterity (exploitation and exploration) and innovation performance. These findings are consistent with previous studies researches (e.g., Audretsch et al., 2014; Hannu et al., 2010; Majchrzak & Malhotra, 2013). According to Hannu et al. (2010) indicate that the success of firm's innovation performance, the acquisition, and integration of knowledge competence of bringing together new ideas are not sufficient, firms will be required in order social media strategic capability to support innovation in the long run. Because innovation is performed in participation with external actors (Audretsch et al., 2014), and it is originated through a firm's knowledge circulation that is a process on inflows and outflows of knowledge, involving facilitates the development of internal innovation (Nonaka & Takeuchi, 1995). However, the increase of social media provides firms with a choice pathway to tap into wide-ranging amounts of external knowledge and new ideas (Majchrzak & Malhotra, 2013). Recently studies, Bhimani et al. (2019) indicate that social media is increasingly utilized as a tool to manage information flows within and across organizational boundaries in the process of innovation, and in enabling the exploration-exploitation activities of inside and outside information exchange for innovation (Benitez et al., 2018; Garcia-Morales et al., 2018).

The next section presents the summary of results for research questions in all hypothesis testing in Table 25.

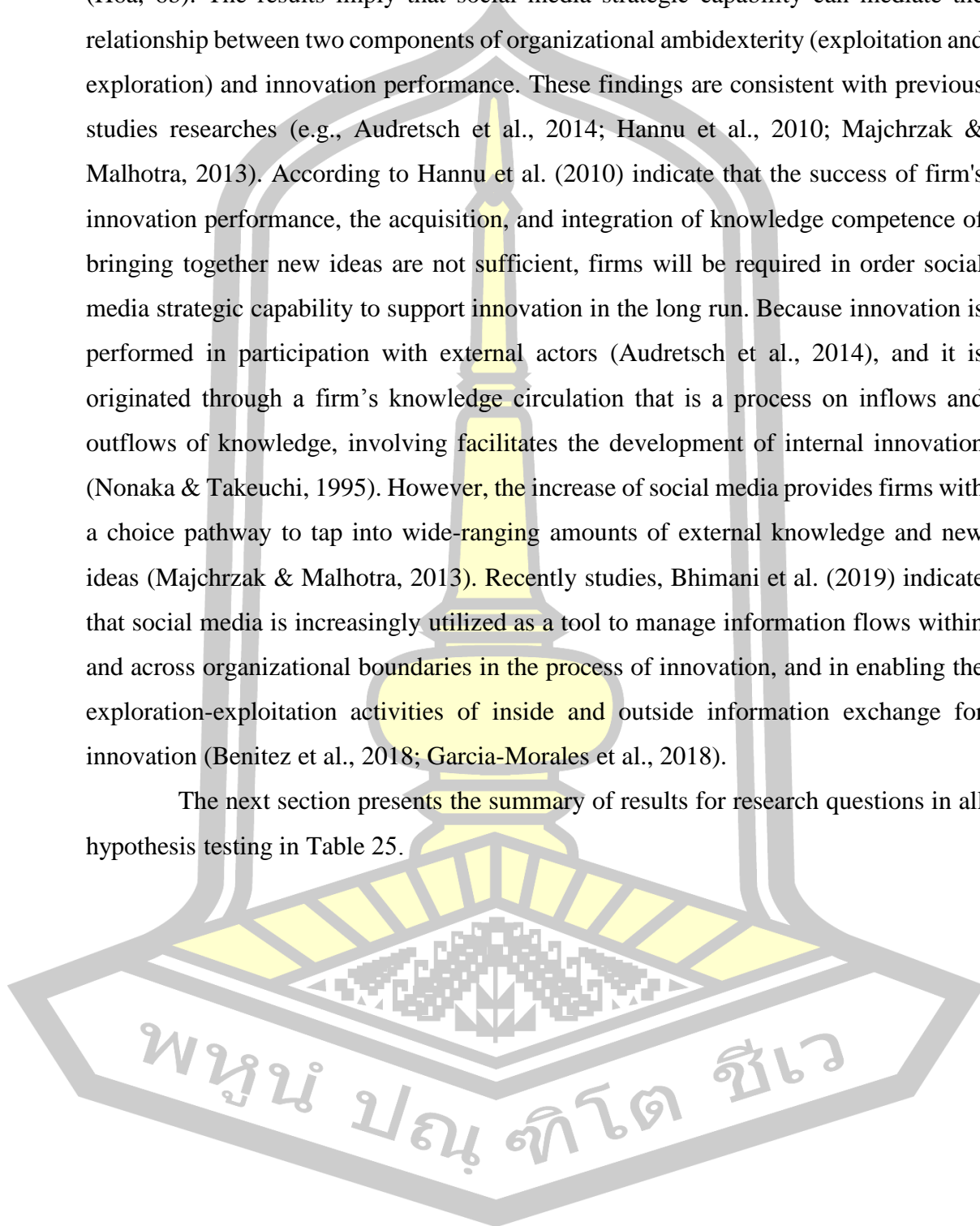




Table 25 Summary of Results for Research Questions and Hypothesis Testing

Research Questions	Hypotheses	Results	Conclusions
1. What is the relationship among two components of organizational ambidexterity, and social media strategic capability, and innovation performance?	H1a - H1e	Exploitation and exploration have effect on social media strategic capability.	Supported
	H3	Social media strategic capability has effect on innovation performance.	Supported
2. To what extent does environmental dynamism moderate the relationship between two components of organizational ambidexterity and social media strategic capability?	H2a	Environmental dynamism cannot moderate moderate the relationship between exploitation and social media strategic capability.	Not Supported
	H2b	Environmental dynamism cannot moderate the relationship between exploration and social media strategic capability.	Not Supported

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Table 25 Summary of Results for Research Questions and Hypothesis Testing

(Continued)

Research Questions	Hypotheses	Results	Conclusions
3. How do entrepreneurial orientation, effectual orientation moderate the relationship between social media strategic capability and innovation performance?	H4	Entrepreneurial orientation moderated the relationship between social media strategic capability and innovation performance.	Supported
	H5	Effectual orientation cannot moderate the relationship between social media strategic capability and innovation performance.	Not Supported
4. How does social media strategic capability mediates the relationship between two components of organizational ambidexterity and innovation performance?	H6a – H6b	Social media strategic capability mediates the relationship between two components of organizational ambidexterity (exploitation and exploration) and innovation performance.	Supported (Partial Mediator)

In the previous section, the research results were illustrated and fulfilled the research objectives and questions. Besides, these findings then provided theoretical implications and managerial contribution.

### Theoretical Contributions

This research has been inspired by ongoing debates regarding the general agreement in the literature is that ambidextrous firms are those who are capable of both exploiting existing competencies and in the same time exploring new opportunities. Scholars generally agree with this original evidence, but this is where the ambidexterity research consensus comes to a halt. Besides, beyond these focuses of agreement, there is considerable ambiguity regarding the nature of exploration and exploitation, and conversely ambidexterity construct (Cao et al., 2009; Junni et al., 2013; O'Reilly & Tushman, 2013), which the literature is still inconclusive with regard to the specific effects of these different activities. This study, therefore, emphasizes the importance of ambidexterity for firms that affect social media strategic capability and innovation performance by applying knowledge exploration and exploitation (Raisch & Birkinshaw, 2008). More specifically, this research aims to shed light on and uncover the relationship between ambidexterity, social media strategic capability, and innovation performance to address the gaps in the literature. In addition, this research has adopted the perspective of dynamic capability and social capital theory through exploitation, exploration, social media strategic capability, and innovation performance. This research theoretical contributions as follows.

First, drawing on dynamic capability perspective (Teece, 2007; Teece et al., 1997) to pick up a more understanding of the conversion of firm resources into exploitation and exploration capabilities and the impact of these firm capabilities on firm outcomes. By examining organizational ambidexterity resulting from firms' current knowledge and new knowledge, that these dynamic capabilities influence social media strategic capability and the degree of innovation performance. Moreover, this research contributes to the theory of organizational learning, which emphasizes that both exploitation and exploration are important for a firm's innovation performance also long-term growth and survival (March, 1991; Raisch et al., 2009). Which that a system with little emphasis on each activity will not exert superior performance effects (Cao et al., 2009). Overall, both exploration and exploitation capabilities are considered dynamic capabilities, because the role of dynamic capabilities is the change of existing resources into new functional competencies that better match the environment (Eisenhardt & Martin, 2000).

Second, this study extends the understanding of social capital theory (e.g., Adler & Kwon, 2002) by providing empirical support for social media strategic capability as a type of valuable resource. Specifically, it is one of the greatest assets for data-driven innovation (Bhimani et al., 2019) and facilitates connectivity (Linders, 2012). Because innovation is a high-risk and resource-consuming activity, improving information acquisition from social media networks helps SMEs access others' resources and concepts (Leonardi & Vaast, 2017). These ICT businesses gain increased knowledge or information from their reciprocal relationships arising from social networks and increase social capital, which generating innovation performance.

Third, the primary contribution lies in the creation of the links between exploitation, exploration, and social media strategic capability as a new set of antecedents for innovation performance. The social media strategic capability is a new construct and adds to the literature on the mechanism underlying strategic capability (Teece, 2007; Teece et al., 1997). These results indicate that exploitation, exploration has a significant positive effect on social media strategic capability. This research also provides insight into a firm's both exploitation and exploration source that antecedent of social media strategic capability. When firms innovate as well as differentiate from others through via knowledge exploration and exploitation (Chandler & Lyon, 2009; March, 1991; Shane & Venkataraman, 2000). The crucial decisions related to their ventures, such as social media strategic capability, derived from the experience as well as knowledge accumulation. Thus, firms may utilize both exploration and exploitation simultaneously when making the strategic decision regarding social media strategy capability. More specifically, the results of this study shed light on the organizational ambidexterity (March, 1991; Tushman & O'Reilly, 2002) for ICT businesses and extend the social media research in entrepreneurship (Fischer & Reuber, 2011).

Fourth, this research also aims to contribute to the exploration and exploitation literature (Rothaermel & Deeds, 2004) more precisely, to the stream of research that analyzes the boundary conditions on the relationship between two components of organizational ambidexterity (both exploitation and exploration) and innovation performance (Jansen et al., 2006; Yang & Li, 2011). Meanwhile, the prior literature of this stream consistently finds exploitation beneficial for incremental innovation performance and exploration beneficial for radical innovation performance

(Arnold et al., 2011; Yalcinkaya et al., 2007). In addition, in past studies, organizational ambidexterity is the co-existing orientation towards seeking incremental and radical innovation (Guisado-González et al., 2017; Simsek, 2009; Tushman & O'Reilly, 2002). However, the empirical evidence on the effects of organizational ambidexterity on performance is still mixed (Junni et al., 2013). As such, these research findings complement to greater clarity the treatment of organizational ambidexterity (both exploitation and exploration) enhances firm's innovation performance and provides a strong theoretical and empirical foundation for understanding the influence of exploitation existing knowledge as well as exploration capabilities under the dynamic capabilities perspective.

Fifth, although prior studies have provided evidence that entrepreneurial orientation (EO) positively impacts innovation or the view that the relationship between EO and innovation is moderated by other variables (Arzubiag et al., 2018). Moreover, to date few studies have explored EO as a moderating influence on firm outcomes. Yet, this study provides empirical evidence supporting that EO can also moderate the relationship between social media strategic capability and innovation performance, especially for ICT businesses. This is because innovativeness is characterized by technological leadership, the introduction of new products and services. While proactiveness deals with anticipation and creating future demand to introduce new products and services ahead of competitors and risk-taking reflects the tendency to engage in bold, high-risk (Miller, 1983). When it increases, a seek to absorb relevant knowledge will increase promptly (Kreiser, 2011; Tseng, 2013). Moreover, it may too offer ICT businesses transcend geographic and time barriers since social media platforms are for the most part worldwide. (Alfonso & Suzanne, 2008; Lewis et al., 2008). Accordingly, the findings of this study contribute to greater clarity of moderator role of EO.

Finally, to better understand the mediating effect of social media strategic capability, the research elaborates and provides additional testing to confirm social media strategic capability as a mediation. Consequently, the findings advance the ongoing conversation on the relationship between both exploitation and exploration, social media strategic capability, and innovation performance. Besides, this empirical test also shows that the gap regarding the social media strategic capability concept is

filled and supports the claim that well managed social media strategic capability, is a tool that mediates the effect of knowledge from both exploitation and exploration source on innovation performance. In general, also substantiates the idea that a positive social media strategic capability may empower socially distributed public relations, dissemination and exchange of data with customer/supplier, feedback-based learning, generation of innovative ideas, customer relationship administration, and signaling, among others. These mechanisms facilitate innovation performance. In other words, in order to deliver on innovation performance success, organizational ambidexterity works through the positive effects of exploitation and exploration which depend on a positive social media strategic capability. The ambidexterity approach regarding knowledge acquisition enhances firm's innovation and capability (Andriopoulos & Lewis, 2009), involving various strategic decisions that also influence social media strategic capability (Muninger et al., 2019). However, this research contributes insight into evidence that social media strategic capability is an absolute mediator.

#### Managerial Contributions

In the previous section, this research provided in response to academic aspects with its findings having theoretical contributions. This research also provided contributions to managerial aspects, particularly for managers in the ICT businesses. The findings provided important managerial contributions for ICT businesses as follows.

First, the findings offer important managerial contributions to inform managers considering that organizational ambidexterity both exploitation current knowledge in the organization and exploration new knowledge that plays an important role on social media strategic capability today. Thus, managers may utilize both exploration and exploitation simultaneously when dealing with competitive flexibility in social media, as well as making strategic decisions on social media quickly. Besides, managers should strengthen social media strategic capability of SMEs, because social media strategic capability may enhance SMEs' ability to identify opportunities that may lead to improved innovation performance. It may help SMEs to acquire, integrate, communicate, share, and apply current knowledge and new knowledge that will lead to innovation performance. Particularly, it helps sort, filter, and choose which knowledge

is important or redundant. Moreover, the importance of developing an effective business strategy has been highlighted through via social media technologies (Garrido-Moreno, García-Morales, Lockett, & King, 2018).

Second, the results show that leveraging explore and exploit provides the foundation to social media strategic capability, to change, develop better products and services. Leveraging social media strategic capability improves coordination within the firm and the supply chain for innovation benefits. Managers may adapt existing social media platforms for extended internal use, promote collaboration through knowledge sharing, such as using Facebook/ Line groups for official internal interaction, or have even built their internal social media networks (Bhimani et al., 2019). Moreover, managers can differentiate in the market if invest and leverage social media such as Facebook, YouTube, Instagram, Twitter, Lines, and corporate blogs for business activities, that is, if they develop social media strategic capability, which social media can reduce uncertainty (Nguyen et al., 2015). Firms that have a social media strategic capability would be able to collect fine-grained consumer data for business purposes. Therefore, this research recommends that dedicated teams of developers and IT managers can be utilized to leverage social platforms. This is especially important as information generated on social media has the potential to develop exponentially, which is confident that will offer assistance IT managers to create business value from their IT or social media investment decisions.

Third, as the present-day more businesses have begun to leverage social media in business activity. Managers should promote their employees to devise new ways of communicating with customers, business partners, or others via social media. These could range from watching, recording reaction, and feedback when prospective new products and services are introduced (Joshi et al., 2010). This will assist firms in connecting with their customers. In addition, firms are advised to implement modern practices to promote inter-and intra-organizational usage of social media tools, as well as create an organizational environment that promotes information acquisition and sharing. Alternatively, firms increasingly invest corporate venture capital in R&D activities to benefit from exploring new trends and technologies of these external units.

Fourth, the results reveal that environmental dynamism does not have any significant effect on the relationship between two components organizational ambidexterity (both exploitation and exploration) and social media strategic capability. In this condition, managers should not excessively worship the decisive role of environmental dynamism, but instead invest confidently in the development of social media strategic capability to address environmental changes, avoiding core rigidities and capability traps (Li & Liu, 2014). Firms may not necessarily investments in exploitation and exploration just from external pushing pressures, but still need internal pulling forces and subjective efforts. In other words, dynamic capabilities are the results of the co-evolution of internal and external forces (Jacobides & Winter, 2005). Which exploration and exploitation capabilities are considered dynamic capabilities because of the change of existing resources into new functional competencies that better match the environment (Eisenhardt & Martin, 2000).

Finally, the result shows that to achieve innovation performance, managers must be aware of EO as it is essential for ICT businesses aiming to be successful in extremely competitive business environments (Monteiro et al., 2017). In other words, managers and/or the ICT businesses owners should emphasize innovativeness to pursue creativity and experimentation which could drive the effects of social media strategic capability as a combining source of ideas to developing new products and services. Likewise, proactiveness allows managers to anticipate and act in advance to identify and assemble the new knowledge when dealing with social media-related decisions. Moreover, risk-taking can generates synergies and leverages social media capability for making quick decisions as well as aggressively implementing bold and risky strategies (Richard et al., 2004) that can improve innovation performance. Thus, managers or the ICT businesses owners should realize EO in combining with social media strategic capability to enhance innovation performance.



### **Limitations and Future Research Directions**

The study has several limitations, which suggest useful directions for future research.

First, this study focused on a sample of 221 ICT related SMEs, while the proposed theory may be varied from business to business. Future studies should attempt to test this conceptual model in other businesses in other contexts as the role of social media strategic capability may be different for entrepreneurial SMEs. It challenges the findings of the present study.

Second, despite the appropriateness of the methodology involved, a quantitative study can overlook questions such as “how” and “why” CEO or IT managers can or should search for ideas and knowledge from online platforms. Therefore, qualitative studies are needed in this regard. In addition, the research might be used qualitative research methods such as in-depth interviews, focus groups, or case study along with quantitative methods to confirm the results of this study and attain clearer picture of social media strategic capability in this sector.

Third, the findings from this research in full path analysis (SEM) showed that some results of moderator variables were inconsistent to the previous studies. Therefore, these moderator variables (e.g. environmental dynamism, effectual orientation) may have to be re-tested with other populations and samples to confirm the result of this study. Moreover, the explanation and understanding of the moderating variables and their effects are still limited. The researchers may have to examine other moderators, which impact the operation in ICT businesses for a better conceptual framework and fit the context of the ASEAN country of Thailand.

Fourth, future studies should address the issue concerning activities and practices to augment the benefit from social media, by looking to moderating variables on the relationship between exploitation, exploration, social media strategic capability, and/or innovation performance, both in SMEs and large enterprises. In this guise, the CEO or manager must organize the exploitation of current knowledge in the firm and exploration of relevant new knowledge to stimulate social media strategic capability and innovation performance.

Finally, the survey data are self-reported based on data collection of one administration of a questionnaire. It means that the study is cross-sectional in nature and causality cannot be determined, which may lead to common method variance (CMV) (Podsakoff et al., 2003). Thus, future studies should attempt to obtain data from multiple sources at different time points to minimize common methods variance. Moreover, it would be beneficial if causality among the variables in this study is assessed in future research. One way to overcome the potential for common method variance in cross-sectional research is to conduct experiments. Experiments examining the relationship between two components organizational ambidexterity (exploitation and exploration), social media strategic capability, and opportunity recognition would be advantageous.

## **Conclusion**

This research sheds light on the roles of social media strategic capability in the literature, and the links of relevant constructs which constitute two components of organizational ambidexterity (exploitation and exploration), environmental dynamism, entrepreneurial orientation, effectual orientation, and innovation performance have been conducted through quantitative research in the ICT businesses of study. This research was conducted based on dynamic capability and social capital perspectives. The results research complete the objectives of this research and answer the research questions. Consequently, this research contributes to the substantial body of social media strategic capability, exploitation, exploration, environmental dynamism, entrepreneurial orientation, effectual orientation, and innovation performance perspective. This research also provides implications for ICT businesses in the context of study.

To test all propositions, the sample was focused on the ICT businesses. The developed questionnaire was distributed to 1,202 ICT businesses in Thailand, with 221 usable for data analysis. Using the set of questionnaires, data analysis was conducted and used for hypothesis testing. The literature's existing scales were used to operationalize the constructs proposed in this study (Atuahene-Gima, 2005; Covin & Slevin, 1989; Jansen et al., 2009; Miller, 1983; Nguyen et al., 2015; Oke et al., 2012;

Solís-Molina et al., 2018; Werhahn et al., 2015). Based on the responses to the questionnaire, this study applies the structural equation modeling technique (SEM) to test the hypotheses. Moreover, the marker variable technique (Lindell & Whitney, 2001) has been implemented to confirm the minimal risk of common method variance. In addition, our data were validated and passed the convergent and discriminant validity tests through various analyses. For example, all the constructs reveal the adequate value of the average variance extracted (AVE) (Hair et al., 2010) as well as passing the Fornell and Larcker (1981)'s method for discriminant validity.

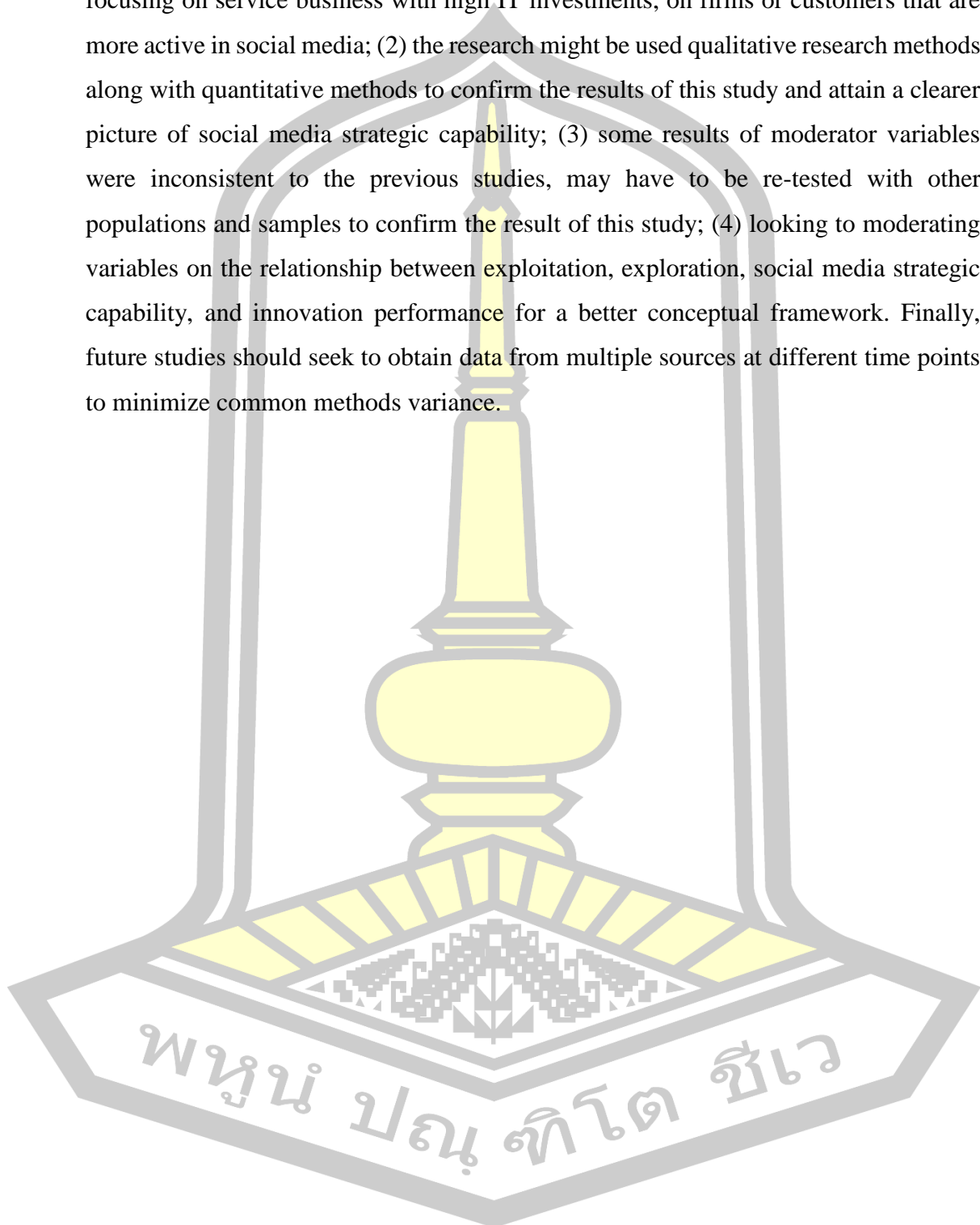
The results of this testing were supported, namely, nine hypotheses were accepted while three hypotheses were rejected. The results used the structural model to investigate the main effect hypotheses, moderating effect, and significance of the mediating effect. First, the result shows that two components of organizational ambidexterity (both exploitation and exploration) are significant in social media strategic capability. Second, the result shows that both exploitation and exploration is a significant positive effect on innovation performance. Third, social media strategic capability has a significant positive effect on innovation performance. Fourth, environmental dynamism is not a moderator in the relationship between organizational ambidexterity (both exploitation and exploration) and social media strategic capability. Fifth, the finding supports the moderating effect of entrepreneurial orientation in the relationship between social media strategic capability and innovation performance. Sixth, the finding not supports the moderating effect of effectual orientation in the relationship between social media strategic capability and innovation performance. Finally, this research tested the mediating effect of social media strategic capability. The findings show that social media strategic capability significantly mediates the relationship between two components of organizational ambidexterity (both exploitation and exploration) and innovation performance.

Moreover, the results are discussed to answer the research questions and to provide more insight into the social media strategic capability model. Consequently, all results answered the problem statement in Chapter 1 in response to academic aspects with the results having theoretical contributions. This research provides main contributions, namely (1) drawing on dynamic capability perspective (Teece, 2007; Teece et al., 1997) to gain a greater understanding of the conversion of firm resources

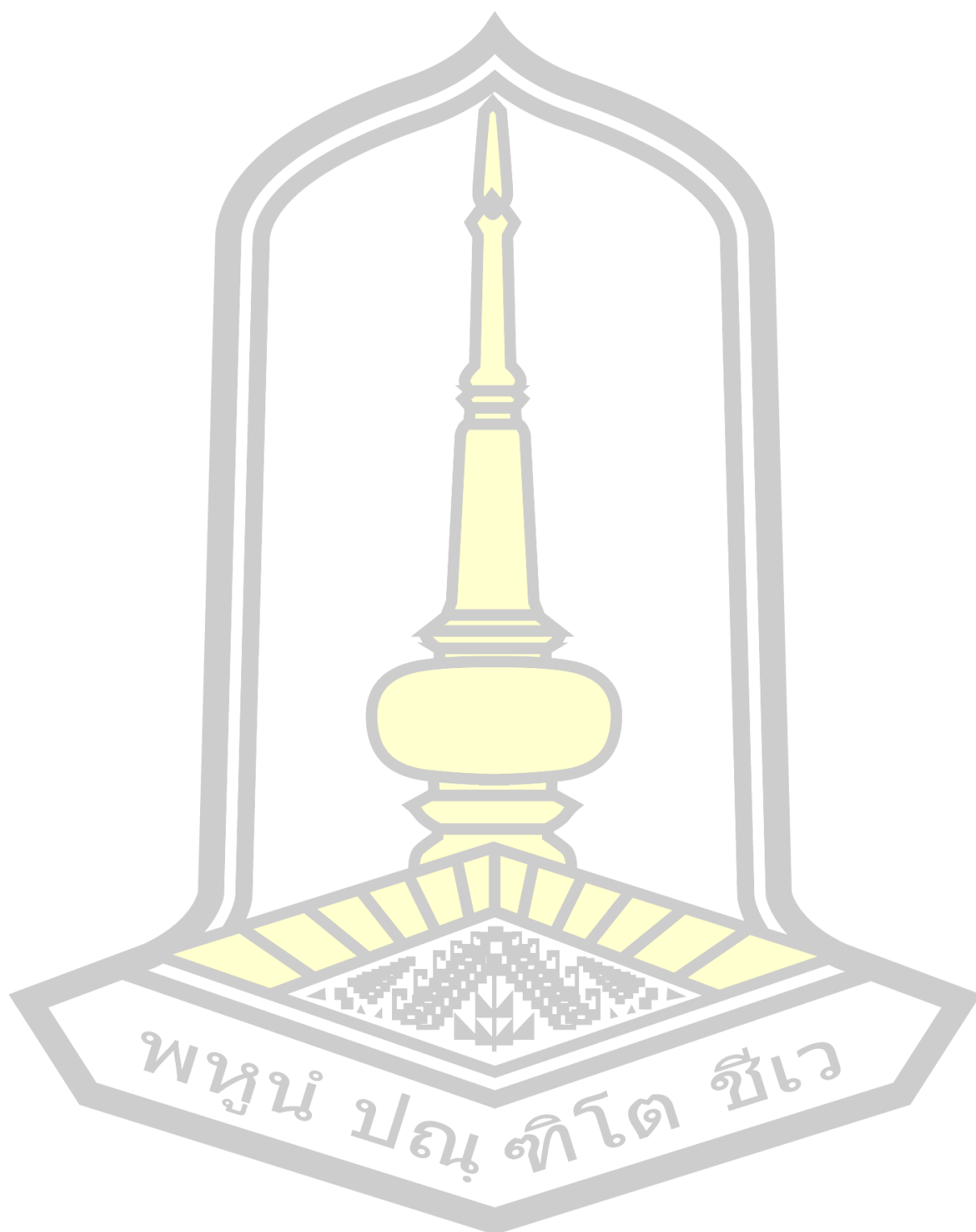
into exploitation and exploration capabilities and the influence of these firm capabilities on firm outcomes. Furthermore, this study extends the current understanding of social capital theory (e.g., Adler & Kwon, 2002) by providing empirical support for the mediating role of social media strategic capability as a special type of value-creating resource (Makadok, 2001); (2) the results indicate that exploitation and exploration are the significant players affecting the variation of social media strategic capability; (3) this research findings complement to greater clarity to the treatment of organizational ambidexterity (both exploitation and exploration) enhance firm's innovation performance, and provide a strong theoretical and empirical foundation for understanding the influence of exploitation existing knowledge as well as exploration capabilities under the dynamic capabilities perspective: (4) this research proves that entrepreneurial orientation moderates the relationship between social media strategic capability and innovation performance because EO reflects firms' practices such as working methods and other activities; and (5) the research elaborates to confirm social media strategic capability as a mediation relationship between exploitation and innovation performance and mediates the relationship between exploration and innovation performance. Thus, this finding proves that social media strategic capability is an absolute mediator.

Another contribution of this research is related to managerial aspects, particularly for managers of firms to practice achieving innovation performance as follows: (1) to inform managers considering that exploitation current knowledge in the organization and exploration new knowledge that important role on social media strategic capability; (2) managers should develop the capability of a firm to have social media strategic capability; (3) firms may adapt existing social media platforms for extended internal use, favor collaboration via knowledge sharing; (4) firms should encourage and reward their employees to devise ways of communicating with users through social media; (5) managers should not excessively worship the decisive role of environmental dynamism, but confidently invest into the development of social media strategic capability; and (6) the result demonstrates that to attain innovation performance, managers must be aware of entrepreneurial orientation as it is essential for ICT businesses aiming to be successful in extremely competitive business environments.

Finally, this research suggests future agenda: (1) should explore our theory focusing on service business with high IT investments, on firms or customers that are more active in social media; (2) the research might be used qualitative research methods along with quantitative methods to confirm the results of this study and attain a clearer picture of social media strategic capability; (3) some results of moderator variables were inconsistent to the previous studies, may have to be re-tested with other populations and samples to confirm the result of this study; (4) looking to moderating variables on the relationship between exploitation, exploration, social media strategic capability, and innovation performance for a better conceptual framework. Finally, future studies should seek to obtain data from multiple sources at different time points to minimize common methods variance.



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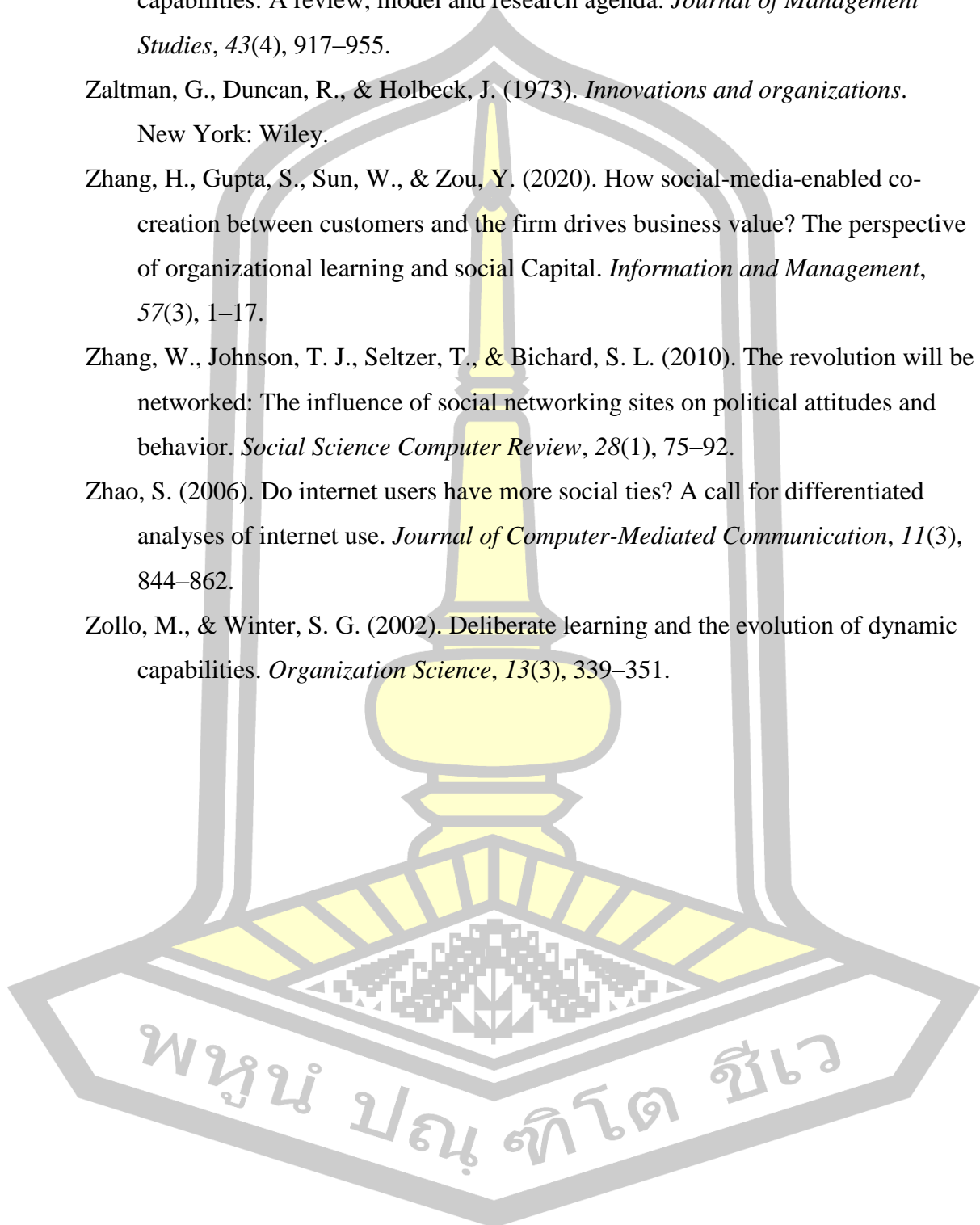
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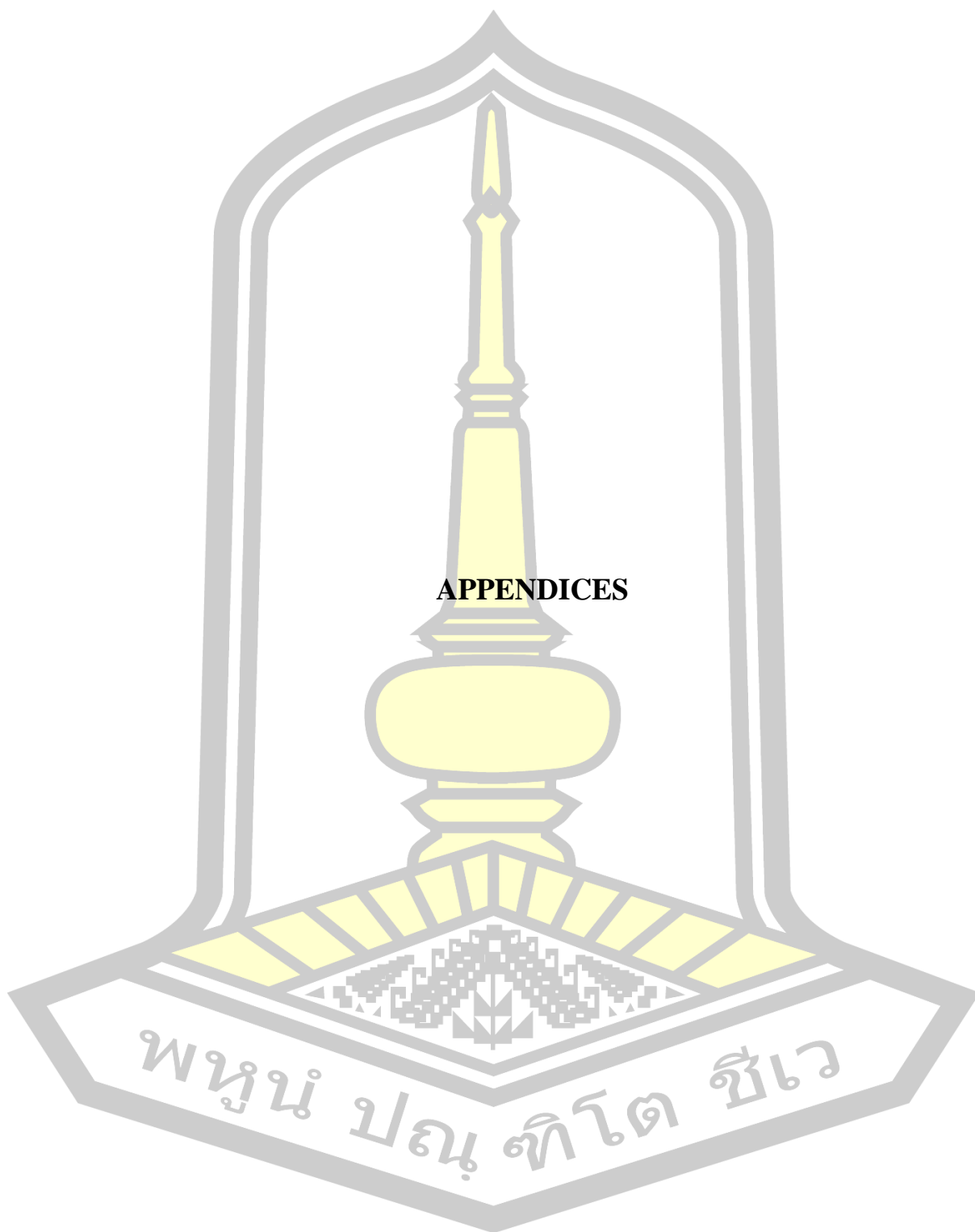
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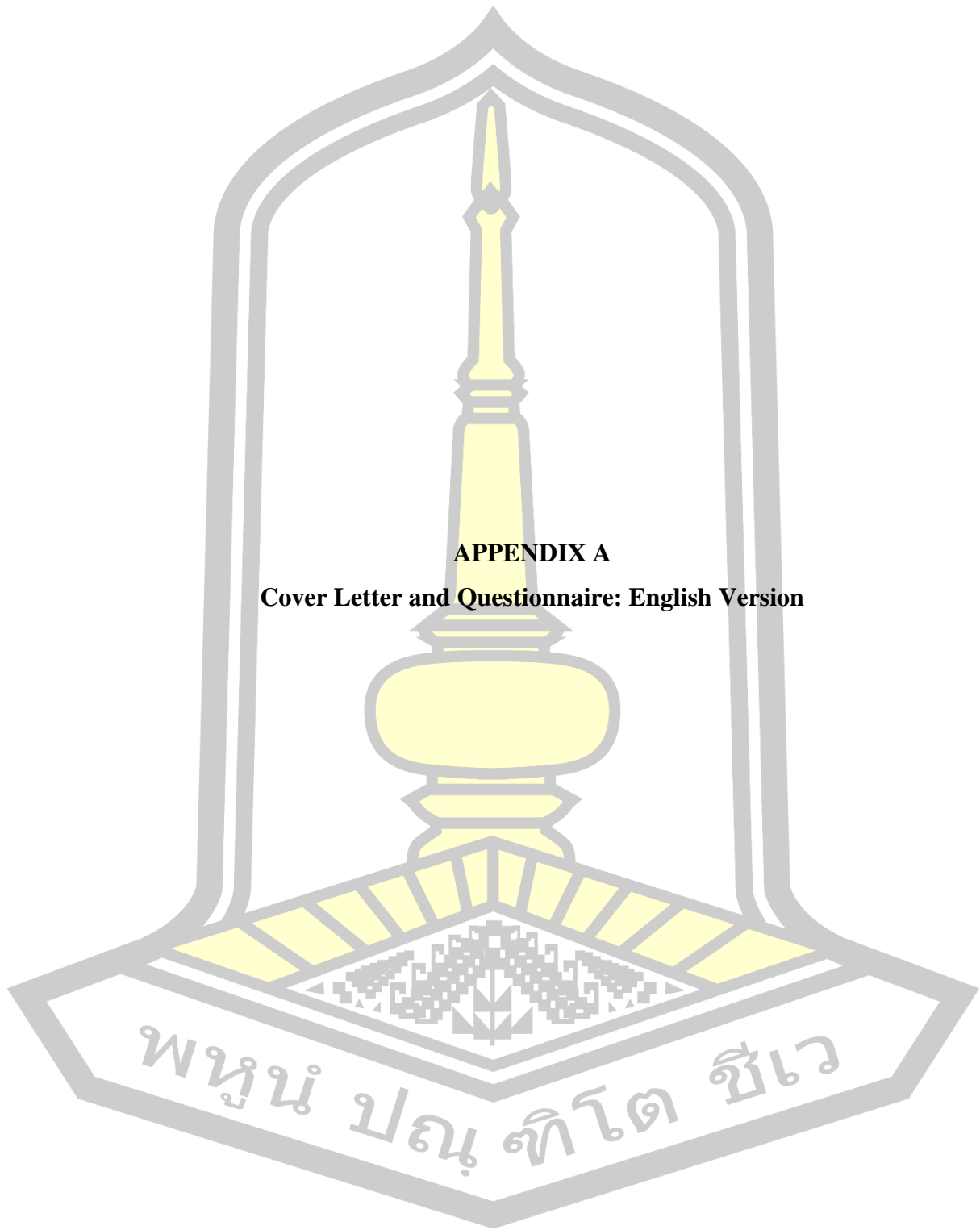






**APPENDICES**

พหุบัณฑิตยศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย



**APPENDIX A**

**Cover Letter and Questionnaire: English Version**



## Questionnaire to the Ph. D. Dissertation Research

**The effects of organizational ambidexterity on innovation performance:**

**The mediating role of social media strategic capability**

.....

### Explanations:

The objective of this research is to examine the effects of organizational ambidexterity on innovation performance: The mediating role of social media strategic capability of the information and communication technology (ICT) businesses in Thailand. This research is a part of doctoral dissertation of Ms. Niramarn Ngammoh at Maharakham Business School, Maharakham University, Thailand.

Your answer will be kept as confidentiality and your information will not be shared with any outsider party without your permission.

Do you want a summary of the results?

(.....) Yes, e-mail..... (.....) No

If you want a summary of this research, please indicate your E-mail address or attach your business card with this questionnaire. The summary will be mailed to you as soon as the analysis is completed.

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: 089-4253935 E-mail: [nirapae@gmail.com](mailto:nirapae@gmail.com).

Sincerely yours,

(Ms. Niramarn Ngammoh)

Ph. D. Student Maharakham Business School

Mharakham University, Thailand

**Part 1: General information**

## 1. Gender

- Male  Female

## 2. Age

- Less than 30 years old  30 - 40 years old  
 41 - 50 years old  More than 50 years old

## 3. Educational level

- Diploma/High Vocational Certificate  Bachelor's degree  
 Master's degree  Doctoral degree  
 Other.....

## 4. Working experiences

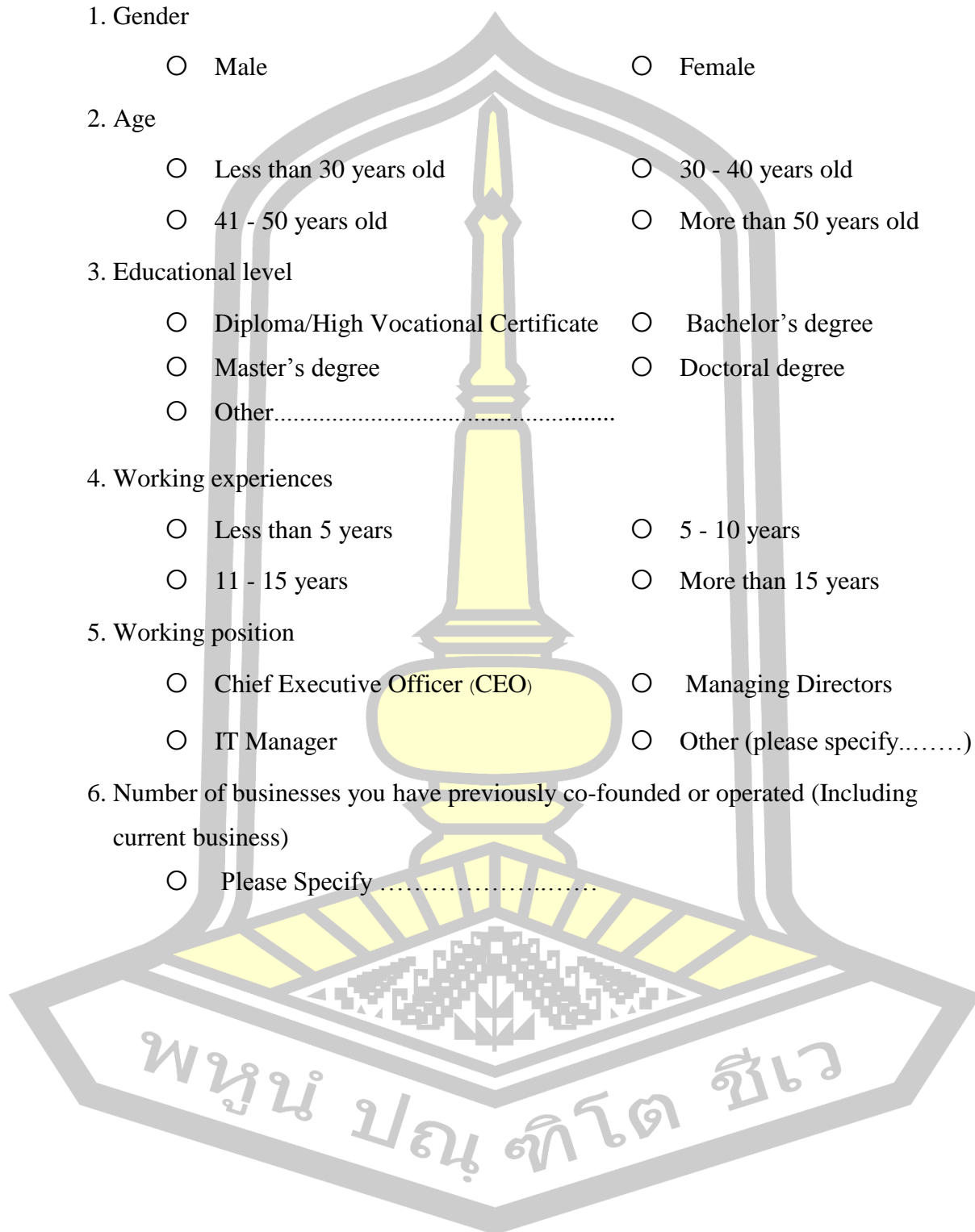
- Less than 5 years  5 - 10 years  
 11 - 15 years  More than 15 years

## 5. Working position

- Chief Executive Officer (CEO)  Managing Directors  
 IT Manager  Other (please specify.....)

## 6. Number of businesses you have previously co-founded or operated (Including current business)

- Please Specify .....



**Part 2: General information about information and communication technology  
businesses in Thailand**

1. Business type

- Public Company Limited  Company limited  
 Partnership Limited

2. Nationality of your company

- 100% Thai Company  Foreign Company  
 Thai Company Joint Venture with Foreign Company

3. The period of time in operating company

- Less than 3 years  3 – 5 years  
 6 – 10 years  11 – 15 years  
 16 – 20 years  More than 20 years

4. Number of employees

- Less than 10 people  10 – 50 people  
 51 – 100 people  101 – 150 people  
 151 – 200 people  More than 200 people

5. Operational capital

- Less than 5,000,000 Baht  5,000,000-10,000,000 Baht  
 10,000,001–15,000,000 Baht  15,000,001–20,000,000 Baht  
 20,000,001 – 25,000,000 Baht  More than 25,000,000 Baht

6. Average revenues per year

- Less than 10,000,000 Baht  10,000,000–25,000,000 Baht  
 25,000,001 - 50,000,000 Baht  50,000,001–75,000,000 Baht  
 75,000,001 - 100,000,000 Baht  More than 100,000,000 Baht

7. Over the last three years, has the company with R&D expenditure of new products?

- Yes  No

### Part 3: Innovation performance

**Explanation:** Please include (✓) in field that reflects your opinion about innovation performance of the company.

1 = Very strongly disagree 7 = Very strongly agree

Innovation performance	Very strongly disagree ←————→ Very strongly agree						
	①	②	③	④	⑤	⑥	⑦
1. Our firm is better than our competitors at developing new products to meet customers' needs	①	②	③	④	⑤	⑥	⑦
2. Our firm is better in terms of the number of innovations (new products and services) than our competitors over the last 3 years	①	②	③	④	⑤	⑥	⑦
3. The duration it takes between the conception of an innovation and its introduction into the market place by our firm is better than the industry average	①	②	③	④	⑤	⑥	⑦
4. Our firm offers innovative products and services that enable it to compete with the leading brands in the market.	①	②	③	④	⑤	⑥	⑦
5. Our firm gains market share by adopting new ideas and technologies to promote the quality of products and services.	①	②	③	④	⑤	⑥	⑦

พหุบัณฑิต ชีวะ

#### Part 4: Organizational ambidexterity

**Explanation:** Please include (✓) in field that reflects your opinion about the exploitation and exploration of the company.

1 = Very strongly disagree    5 = Very strongly agree

Exploitation	Very strongly disagree ← → Very strongly agree				
	①	②	③	④	⑤
1. Over the last three years, searched for new markets for taking advantage of existing products and technologies.	①	②	③	④	⑤
2. Over the last three years, upgraded knowledge and skills for familiar products and technologies.	①	②	③	④	⑤
3. Over the last three years, invested in enhancing skills in exploiting mature technologies that improve productivity of current innovation operations.	①	②	③	④	⑤
4. Over the last three years, enhanced competences in searching solutions for customer problems near to existing solutions rather than completely new solutions.	①	②	③	④	⑤
5. Over the last three years, upgraded skills in product development processes in which firm already possesses significant experience.	①	②	③	④	⑤

พหุ ประสิทธิภาพ

Exploration	Very strongly disagree ← → Very strongly agree				
	①	②	③	④	⑤
6. Over the last three years, explored new products and/or markets unknown for the firm.	①	②	③	④	⑤
7. Over the last three years, acquired entirely new managerial and organizational skills.	①	②	③	④	⑤
8. Over the last three years, acquired products and manufacturing technologies entirely new to the firm.	①	②	③	④	⑤
9. Over the last three years, strengthened innovation skills in areas where it had no prior experience.	①	②	③	④	⑤

#### Part 5: Social media strategic capability and Environmental dynamism

**Explanation:** Please include (✓) in field that reflects your opinion about the overall social media strategic capability and environmental dynamism of the company.

1 = Very strongly disagree 6 = Very strongly agree

Social media strategic capability and Environmental dynamism	Very strongly disagree ← → Very strongly agree					
	①	②	③	④	⑤	⑥
1. My organization owns future competitive flexibility in social media.	①	②	③	④	⑤	⑥
2. My organization has the ability to use social media to quickly become aware of new business opportunities or threat possibilities.	①	②	③	④	⑤	⑥
3. In my organization, leaders have entrepreneurship characteristics on social media.	①	②	③	④	⑤	⑥



Social media strategic capability and Environmental dynamism	Very strongly	←————→		Very strongly		
	disagree			agree		
4. My organization has the ability to cohesively garner employee knowledge through social media.	①	②	③	④	⑤	⑥
5. Our clients regularly ask for new products and services	①	②	③	④	⑤	⑥
6. In our market, the volumes of products and services to be delivered change fast and often.	①	②	③	④	⑤	⑥
7. The operations of our competitors are easy to foresee.	①	②	③	④	⑤	⑥
8. Our firm often has to change marketing methods to retain customers and compete with other companies.	①	②	③	④	⑤	⑥



### Part 6: Entrepreneurial orientation and Effectual orientation

**Explanation:** Please include (✓) in field that reflects your opinion about entrepreneurial orientation and effectual orientation of the company.

1 = Very strongly disagree    7 = Very strongly agree

Entrepreneurial orientation and Effectual orientation	Very strongly disagree ← → Very strongly agree						
	①	②	③	④	⑤	⑥	⑦
1. We a strong emphasis on R&D, technological leadership, and innovations.	①	②	③	④	⑤	⑥	⑦
2. Over the past three years, there have been many new lines of products or services.	①	②	③	④	⑤	⑥	⑦
3. Over the past three years, there have usually been quite dramatic changes in product or service lines.	①	②	③	④	⑤	⑥	⑦
4. We typically initiate actions to which competitors then respond.	①	②	③	④	⑤	⑥	⑦
5. We are very often the first business to introduce new products/services, administrative techniques operating technologies, etc.	①	②	③	④	⑤	⑥	⑦
6. We typically adopts a very competitive, 'undo-the-competitors' posture.	①	②	③	④	⑤	⑥	⑦
7. We a strong proclivity for high-risk projects (with chances of very high return).	①	②	③	④	⑤	⑥	⑦
8. Owing to the nature of the environment, bold, wide-ranging acts are necessary to achieve the firm's objectives.	①	②	③	④	⑤	⑥	⑦

Entrepreneurial orientation and Effectual orientation	Very strongly disagree ← → Very strongly agree						
	①	②	③	④	⑤	⑥	⑦
9. Typically adopts a bold, aggressive posture in order to maximize the probability of exploiting potential opportunities.	①	②	③	④	⑤	⑥	⑦
10. Use our personal knowledge and experience in the best possible way.	①	②	③	④	⑤	⑥	⑦
11. Pursue those initiatives for which we have great motivation and interest.	①	②	③	④	⑤	⑥	⑦
12. Pursue those initiatives for which we personally have the relevant competencies.	①	②	③	④	⑤	⑥	⑦
13. Aim to insure that gains and risks in existing partnerships are shared fairly.	①	②	③	④	⑤	⑥	⑦
14. Approach potential partners very early on in order to jointly co-create the future.	①	②	③	④	⑤	⑥	⑦
15. Enter into business relationships where the partners are willing to commit (e.g. invest time) from the onset.	①	②	③	④	⑤	⑥	⑦
16. Try to limit the potential loss of initiatives to an acceptable degree.	①	②	③	④	⑤	⑥	⑦
17. Only invest if the loss of the investment would not ruin the company.	①	②	③	④	⑤	⑥	⑦
18. Exploit contingencies as effectively as possible.	①	②	③	④	⑤	⑥	⑦
19. Use new information as resources.	①	②	③	④	⑤	⑥	⑦
20. Use setbacks as new opportunities.	①	②	③	④	⑤	⑥	⑦

Entrepreneurial orientation and Effectual orientation	Very strongly disagree ←————→ Very strongly agree						
	①	②	③	④	⑤	⑥	⑦
21. Attempt to proactively design our environment with others.	①	②	③	④	⑤	⑥	⑦
22. Attempt to co-create future markets.	①	②	③	④	⑤	⑥	⑦
23. Attempt to influence trends.	①	②	③	④	⑤	⑥	⑦

### Part 9: Benefit system (Marker Variable)

**Explanation:** Please include (✓) in field that reflects your opinion about benefit system. 1 = Very strongly disagree 7 = Very strongly agree

Benefit system	Very strongly disagree ←————→ Very strongly agree						
	①	②	③	④	⑤	⑥	⑦
1. The effectiveness of the system that provides employees benefits	①	②	③	④	⑤	⑥	⑦
2. The arrangements of the organization has made for the delivery of employees benefits.	①	②	③	④	⑤	⑥	⑦

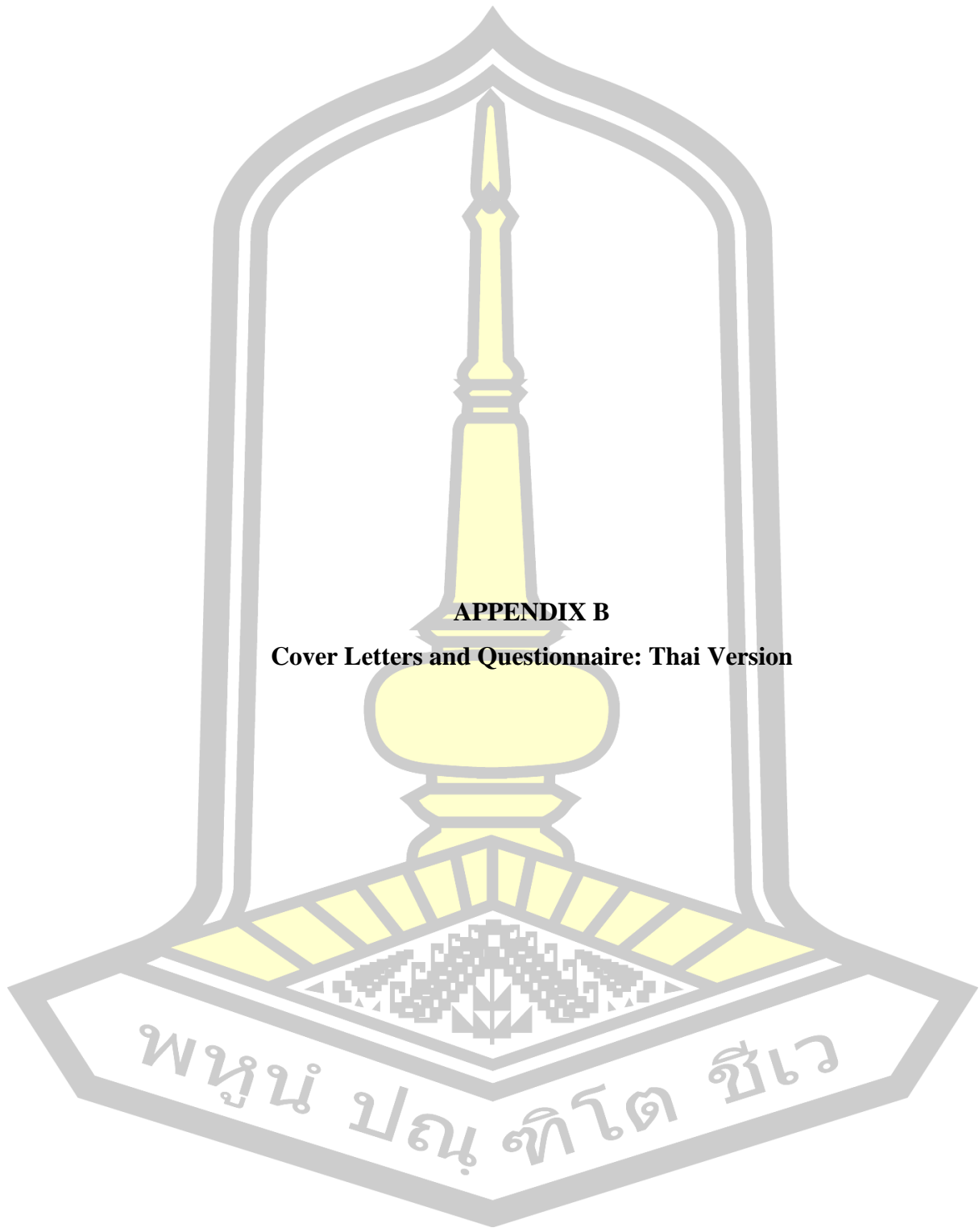
### Part 10: Recommendations and suggestions in learning use social media on firm's innovation.

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**Thank you very much for taking time to complete this questionnaire.**



**APPENDIX B**

**Cover Letters and Questionnaire: Thai Version**



ที่ อว 0605.10/ 487

คณะกรรมการบัญชีและการจัดการ  
มหาวิทยาลัยมหาสารคาม  
ตำบลขามเรียง อำเภอกันทรวิชัย  
จังหวัดมหาสารคาม  
44150

22 มิถุนายน 2563

เรื่อง ขอบความอนุเคราะห์กรอกแบบสอบถาม

เรียน ประธานเจ้าหน้าที่บริหาร (CEO)/กรรมการบริหาร/ผู้จัดการทั่วไป/ ผู้จัดการฝ่ายเทคโนโลยีสารสนเทศ

ด้วย นางสาวนิรมาลย์ งามเหมาะ รหัสนิสิต 60010961002 นิสิตระดับปริญญาเอก หลักสูตร  
ปรัชญาดุษฎีบัณฑิต (ปร.ด.) สาขาวิชาการจัดการ คณะการบัญชีและการจัดการ มหาวิทยาลัยมหาสารคาม  
กำลังศึกษาวิทยานิพนธ์ เรื่อง “ผลกระทบของการมุ่งเน้นทั้งสิ่งใหม่และสิ่งที่มีอยู่เดิมขององค์กรที่มีผลต่อการ  
ดำเนินงานด้านนวัตกรรม: บทบาทของตัวแปรคั่นกลางของความสามารถเชิงกลยุทธ์ด้านสื่อสังคมออนไลน์”  
ซึ่งเป็นส่วนหนึ่งของการทำวิทยานิพนธ์หลักสูตรปรัชญาดุษฎีบัณฑิตและการศึกษาในครั้งนี้ได้เน้นให้นิสิตศึกษา  
ข้อมูลด้วยตนเองตั้งนั้น เพื่อให้การจัดทำวิทยานิพนธ์เป็นไปด้วยความเรียบร้อยและบรรลุวัตถุประสงค์ คณะ  
การบัญชีและการจัดการ มหาวิทยาลัยมหาสารคาม จึงใคร่ขอความอนุเคราะห์ให้ นางสาวนิรมาลย์ งามเหมาะ  
ศึกษาและเก็บรวบรวมในรายละเอียดตามแบบสอบถามที่แนบมาพร้อมนี้

คณะกรรมการบัญชีและการจัดการ มหาวิทยาลัยมหาสารคาม หวังเป็นอย่างยิ่งว่าจะได้รับความอนุเคราะห์  
จากท่านในการให้ข้อมูลในครั้งนี้เป็นอย่างยิ่ง และขอขอบคุณมา ณ โอกาสนี้

ขอแสดงความนับถือ

(ผู้ช่วยศาสตราจารย์ ดร.นิติพงษ์ สังศรีโรจน์)

คณบดีคณะกรรมการบัญชีและการจัดการ  
มหาวิทยาลัยมหาสารคาม

ฝ่ายวิชาการระดับบัณฑิตศึกษา

คณะกรรมการบัญชีและการจัดการ มหาวิทยาลัยมหาสารคาม

โทรศัพท์ 0-4375-4333 ต่อ 3431

โทรสาร 0-4375-4422

ขอความอนุเคราะห์ ประธานเจ้าหน้าที่บริหาร (CEO) กรรมการบริหาร

ผู้จัดการฝ่าย IT หรือผู้เกี่ยวข้องที่มีอำนาจตัดสินใจ

ในการตอบแบบสอบถาม

เรื่อง ผลกระทบของการมุ่งเน้นทั้งสิ่งใหม่และสิ่งที่มีอยู่เดิมขององค์กรที่มีผลต่อการดำเนินงาน  
ด้านนวัตกรรม: บทบาทของตัวแปรคั่นกลางของความสามารถเชิงกลยุทธ์ด้านสื่อสังคมออนไลน์

ข้อมูลที่ท่านตอบจะถูกเก็บเป็น **ความลับ** และใช้ประโยชน์ทางวิชาการเท่านั้น

สอบถามรายละเอียดเพิ่มเติมได้ที่ดิฉัน (ผู้วิจัย) นางสาวนิรมาลย์ งามเหมาะ

เบอร์โทร 0894253935 อีเมล [nirapae@gmail.com](mailto:nirapae@gmail.com)

ดิฉันยินดีส่งสรุปผลการวิจัยนี้ให้ท่านทางอีเมล (กรุณาแจ้งอีเมลท่าน)

กรุณาส่งคืนแบบสอบถามภายในวันที่ 30 สิงหาคม 2563

พหุ ประถมศึกษา ชีวะ

### ส่วนที่ 1 ข้อมูลทั่วไปของท่าน

**คำชี้แจง** กรุณาใส่เครื่องหมาย (✓) ในช่องตัวเลือกสำหรับคำตอบของท่านในแต่ละข้อ

1. เพศ

ชาย

หญิง

2. อายุ

น้อยกว่า 30 ปี

30 – 40 ปี

41 – 50 ปี

มากกว่า 50 ปี

3. ระดับการศึกษา

ต่ำกว่าปริญญาตรี

ปริญญาตรี

ปริญญาโท

ปริญญาเอก

อื่น ๆ โปรดระบุ.....

4. ประสบการณ์ในการทำงาน

น้อยกว่า 3 ปี

3 – 6 ปี

7 – 10 ปี

มากกว่า 10 ปี

5. ตำแหน่งงานในปัจจุบัน

ประธานเจ้าหน้าที่บริหาร (CEO)

กรรมการบริหาร

ผู้จัดการฝ่าย IT

อื่นๆ โปรดระบุ.....

6. จำนวนธุรกิจที่ท่านเคยร่วมก่อตั้งหรือดำเนินการ (รวมธุรกิจปัจจุบัน)

โปรดระบุ.....

พูน ปณ ทิโต ชีเว



## ส่วนที่ 2 ข้อมูลบริษัทของท่าน

### 1. รูปแบบธุรกิจ

- บริษัทมหาชน
  บริษัทจำกัด
  ห้างหุ้นส่วนจำกัด

### 2. สัญชาติของธุรกิจ

- คนไทย 100%
  ต่างชาติ 100%  
 บริษัทร่วมทุนไทยกับต่างชาติ

### 3. ระยะเวลาในการดำเนินธุรกิจ

- น้อยกว่า 3 ปี
  3 – 5 ปี  
 6 – 10 ปี
  11 – 15 ปี  
 16 - 20 ปี
  มากกว่า 20 ปี

### 4. จำนวนพนักงาน

- น้อยกว่า 10 คน
  10 – 50 คน  
 51 - 100 คน
  101 - 150 คน  
 151 – 200 คน
  มากกว่า 200 คน

### 5. ทุนในการดำเนินงาน

- ต่ำกว่า 5,000,000 บาท
  5,000,000–10,000,000 บาท  
 10,000,001–15,000,000 บาท
  15,000,001–20,000,000บาท  
 20,000,001–25,000,000 บาท
  มากกว่า 25 ล้านบาท

### 6. รายได้เฉลี่ยต่อปี

- ต่ำกว่า 10,000,000 บาท
  10,000,000–25,000,000 บาท  
 25,000,001-50,000,000 บาท
  50,000,001–75,000,000 บาท  
 75,000,001-100,000,000 บาท
  มากกว่า 100 ล้านบาท

### 7. ในช่วง 3 ปีที่ผ่านมา บริษัทได้ลงทุนในการวิจัยและพัฒนาสินค้าใหม่หรือไม่

- มี
  ไม่มี

พันธกิจ โดชิโว







ส่วนที่ 6 การมุ่งเน้นการเป็นผู้ประกอบการ และประสิทธิผลจากสิ่งที่มีอยู่ของบริษัท

**คำชี้แจง** ขอให้ท่านแสดงความคิดเห็นเกี่ยวกับการมุ่งเน้นการเป็นผู้ประกอบการ และประสิทธิผลจากสิ่งที่มีอยู่ของบริษัท ด้วยการใส่เครื่องหมาย (✓) ในช่องตัวเลขที่ตรงกับระดับความคิดเห็นของท่าน

โดย 1 = ไม่เห็นด้วยอย่างยิ่ง และ 7 = เห็นด้วยอย่างยิ่ง

การมุ่งเน้นการเป็นผู้ประกอบการ และประสิทธิผล จากสิ่งที่มีอยู่ของบริษัท	← ไม่เห็นด้วยอย่างยิ่ง → เห็นด้วยอย่างยิ่ง						
1. บริษัทให้ความสำคัญกับการวิจัยและพัฒนา ความเป็นผู้นำด้านเทคโนโลยี และนวัตกรรมอย่าง มาก	①	②	③	④	⑤	⑥	⑦
2. บริษัทมีสายผลิตภัณฑ์หรือบริการใหม่ ๆ เกิดขึ้น จำนวนมาก	①	②	③	④	⑤	⑥	⑦
3. บริษัทมักจะมีการเปลี่ยนแปลงในสายผลิตภัณฑ์ หรือบริการ	①	②	③	④	⑤	⑥	⑦
4. โดยทั่วไปแล้ว บริษัทจะดำเนินการโดยเน้นการ ตอบโต้คู่แข่งในตลาด	①	②	③	④	⑤	⑥	⑦
5. บริษัทมักจะเป็นเจ้าแรกในการนำเสนอ ผลิตภัณฑ์/บริการ เทคนิคและเทคโนโลยีใหม่ ๆ ฯลฯ	①	②	③	④	⑤	⑥	⑦
6. โดยทั่วไป บริษัทมักจะตั้งเป้าหมายในการดำเนิน ธุรกิจให้เหนือกว่าคู่แข่ง	①	②	③	④	⑤	⑥	⑦
7. บริษัทกล้าที่จะเสี่ยงในโครงการที่มีความเสี่ยงสูง อย่างชัดเจน หากได้รับผลตอบแทนที่สูง	①	②	③	④	⑤	⑥	⑦
8. บริษัทเชื่อว่าลักษณะของสิ่งแวดล้อมและการ ดำเนินการที่หลากหลายจะเป็นสิ่งสำคัญที่ทำให้ ธุรกิจบรรลุเป้าหมาย	①	②	③	④	⑤	⑥	⑦
9. บริษัทใช้นโยบายเชิงรุกในการมุ่งเน้นสำหรับ โอกาสที่เป็นไปได้	①	②	③	④	⑤	⑥	⑦
10. บริษัทมักจะใช้ความรู้และประสบการณ์ของ องค์กรในการหาแนวทางที่ดี ในการพัฒนาผลิตภัณฑ์ หรือบริการ	①	②	③	④	⑤	⑥	⑦
11. บริษัทมักจะเริ่มต้นในสิ่งที่จูงใจและบริษัทให้ ความสนใจในการดำเนินงานต่างๆ	①	②	③	④	⑤	⑥	⑦

การมุ่งเน้นการเป็นผู้ประกอบการ และประสิทธิภาพ จากสิ่งที่มีอยู่ของบริษัท	← →						
	ไม่เห็นด้วย			เห็นด้วย			
	①	②	③	④	⑤	⑥	⑦
12. บริษัทมักจะเริ่มต้นในสิ่งที่ธุรกิจมีความรู้ ประสบการณ์ และความเชี่ยวชาญอยู่แล้ว	①	②	③	④	⑤	⑥	⑦
13. บริษัทมีเป้าหมายที่ชัดเจนว่ากำไรและความ เสี่ยงจะต้องมีการกระจายตัวอย่างเหมาะสม	①	②	③	④	⑤	⑥	⑦
14. บริษัทมักจะหาหุ้นส่วนที่มีศักยภาพเพื่อสร้าง และขยายธุรกิจในอนาคต	①	②	③	④	⑤	⑥	⑦
15. บริษัทมักจะมองหาหุ้นส่วนที่เต็มใจที่จะ รับผิดชอบอย่างเหมาะสม (เช่น การเสียสละเวลา การลงทุนต่างๆ) ตั้งแต่เริ่มต้นธุรกิจ	①	②	③	④	⑤	⑥	⑦
16. บริษัทมักจะจำกัดการสูญเสียที่อาจเกิดขึ้นให้อยู่ ในระดับที่ยอมรับได้	①	②	③	④	⑤	⑥	⑦
17. บริษัทมักจะลงทุนเฉพาะในกรณีที่มีการสูญเสียจะ ไม่ทำให้ธุรกิจเสียหาย	①	②	③	④	⑤	⑥	⑦
18. เมื่อเจอสถานการณ์ที่ไม่แน่นอน บริษัทมักจะใช้ ประโยชน์จากสถานการณ์เหล่านั้นให้มีประสิทธิภาพ มากที่สุด	①	②	③	④	⑤	⑥	⑦
19. บริษัทใช้ประโยชน์จากข้อมูลและความรู้ใหม่ โดยมองว่าเป็นทรัพยากร ที่สำคัญของบริษัท	①	②	③	④	⑤	⑥	⑦
20. ความผิดพลาดต่างๆ ในการดำเนินธุรกิจถือว่าเป็น เป็นโอกาสใหม่ของบริษัท	①	②	③	④	⑤	⑥	⑦
21. บริษัทมักจะแสดงความมุ่งมั่นที่จะควบคุม สภาพแวดล้อมโดยวิธีการเชิงรุกอย่างต่อเนื่อง	①	②	③	④	⑤	⑥	⑦
22. บริษัทมีความพยายามร่วมมือกับธุรกิจอื่น เพื่อ ขยายตลาดในอนาคต	①	②	③	④	⑤	⑥	⑦
23. บริษัทพยายามที่จะมีอิทธิพลหรือสร้างการ เปลี่ยนแปลงต่อกระแสต่างๆ ในการทำธุรกิจ	①	②	③	④	⑤	⑥	⑦
24. ระบบสวัสดิการจัดทำขึ้นเพื่อสิทธิประโยชน์ของ พนักงานเป็นหลัก	①	②	③	④	⑤	⑥	⑦

ส่วนที่ 7 ข้อคิดเห็นและข้อเสนอแนะของท่านต่อการเรียนรู้การใช้สื่อโซเชียลที่มีผลต่อนวัตกรรมขององค์กร

.....

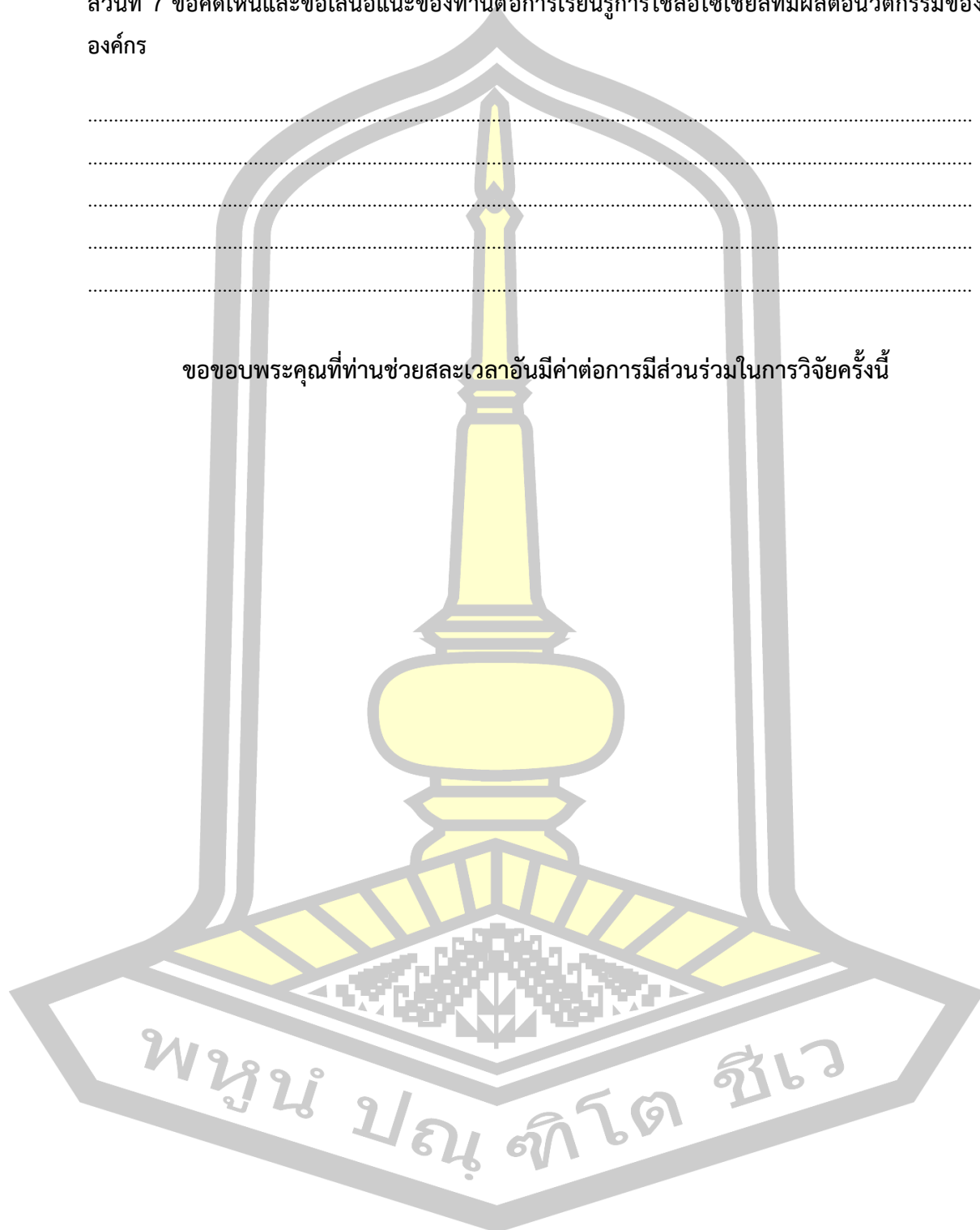
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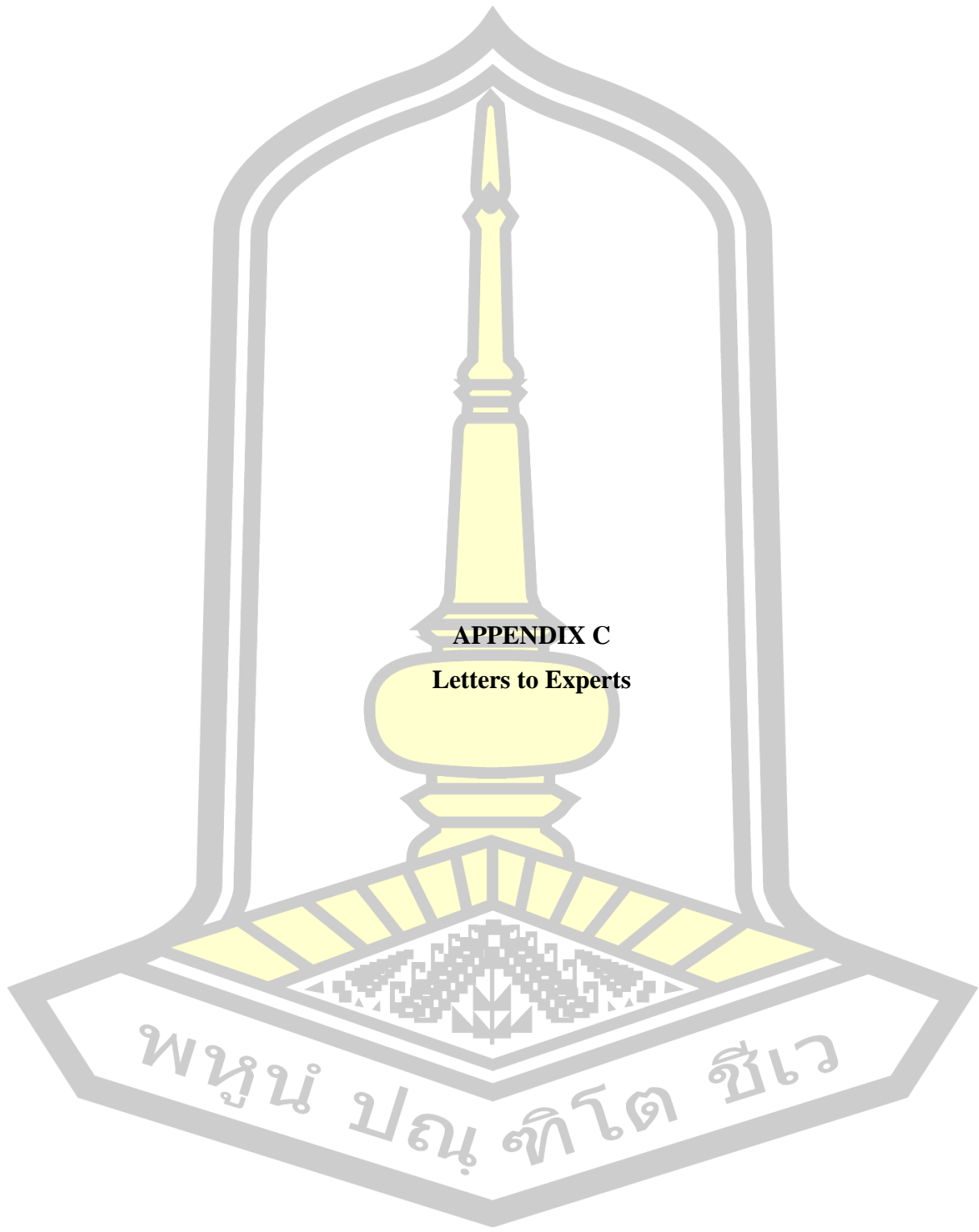
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ขอขอบพระคุณที่ท่านช่วยสละเวลาอันมีค่าต่อการมีส่วนร่วมในการวิจัยครั้งนี้





**APPENDIX C**  
**Letters to Experts**

พหุจน์ ปณู ทิโต สีเว





ที่ ฮว 0605.10/A-26

คณะกรรมการบัญชีและการจัดการ  
มหาวิทยาลัยมหาสารคาม  
ตำบลสามเรียง อำเภอกันทรวิชัย  
จังหวัดมหาสารคาม  
44150

2 มิถุนายน 2563

เรื่อง ขอความอนุเคราะห์เป็นผู้เชี่ยวชาญตรวจสอบเครื่องมือวิจัย

เรียน รองศาสตราจารย์ ดร.อัษฎา จินตกานนท์

ด้วย นางสาวนิรมาลย์ งามเหมาะ รหัสนิสิต 60010961002 นิสิตระดับปริญญาเอก หลักสูตร  
ปรัชญาดุษฎีบัณฑิต (ปร.ด.) สาขาวิชาการจัดการ คณะการบัญชีและการจัดการ มหาวิทยาลัยมหาสารคาม  
กำลังศึกษาวิทยานิพนธ์ เรื่อง “ผลกระทบของการมุ่งเน้นทั้งสิ่งใหม่และสิ่งที่มีอยู่เดิมขององค์กรที่มีผลต่อ  
การดำเนินงานด้านนวัตกรรม: บทบาทของตัวแปรต้นกลางของความสามารถเชิงกลยุทธ์ด้านสื่อสังคม  
ออนไลน์” ซึ่งเป็นส่วนหนึ่งของการศึกษาตามหลักสูตรปรัชญาดุษฎีบัณฑิต ดังนั้น เพื่อให้การดำเนินการเป็น  
ไปด้วยความเรียบร้อยและบรรลุตามวัตถุประสงค์ คณะการบัญชีและการจัดการ มหาวิทยาลัยมหาสารคาม  
จึงใคร่ขอความอนุเคราะห์ท่านเป็นผู้เชี่ยวชาญตรวจสอบเครื่องมือวิจัยและข้อเสนอแนะเพื่อนำข้อมูลที่ได้ไป  
ดำเนินการทำวิทยานิพนธ์ต่อไป ตามแบบสอบถามที่แนบมาพร้อมนี้

คณะกรรมการบัญชีและการจัดการ มหาวิทยาลัยมหาสารคาม หวังเป็นอย่างยิ่งว่าจะได้รับความอนุเคราะห์  
จากท่านด้วยดี และขอขอบคุณมา ณ โอกาสนี้ด้วย

ขอแสดงความนับถือ

(ผู้ช่วยศาสตราจารย์ ดร.นิตพงษ์ สงศรีโรจน์)

คณบดีคณะกรรมการบัญชีและการจัดการ  
มหาวิทยาลัยมหาสารคาม

งานวิชาการระดับบัณฑิตศึกษา

คณะกรรมการบัญชีและการจัดการ มหาวิทยาลัยมหาสารคาม

โทรศัพท์ 0-4375-4333 ต่อ 3431

โทรสาร 0-4375-4422



ที่ อว 0605.10/427

คณะกรรมการบัญชีและการจัดการ  
มหาวิทยาลัยมหาสารคาม  
ตำบลขามเรียง อำเภอกันทรวิชัย  
จังหวัดมหาสารคาม  
44150

2 มิถุนายน 2563

เรื่อง ขอบความอนุเคราะห์เป็นผู้เชี่ยวชาญตรวจสอบเครื่องมือวิจัย

เรียน รองศาสตราจารย์ ดร.ชลธิศ ตาราวงษ์

ด้วย นางสาวนิรมาลย์ งามเหมาะ รหัสบัณฑิต 60010961002 นิสิตระดับปริญญาเอก หลักสูตร  
ปรัชญาดุษฎีบัณฑิต (ปร.ด.) สาขาวิชาการจัดการ คณะการบริหารและการจัดการ มหาวิทยาลัยมหาสารคาม  
กำลังศึกษาวิทยานิพนธ์ เรื่อง “ผลกระทบของการมุ่งเน้นทั้งสิ่งใหม่และสิ่งที่มีอยู่เดิมขององค์กรที่มีผลต่อ  
การดำเนินงานด้านนวัตกรรม: บทบาทของตัวแปรคั่นกลางของความสามารถเชิงกลยุทธ์ด้านสื่อสังคม  
ออนไลน์” ซึ่งเป็นส่วนหนึ่งของการศึกษาตามหลักสูตรปรัชญาดุษฎีบัณฑิต ดังนั้น เพื่อให้การดำเนินการเป็น  
ไปด้วยความเรียบร้อยและบรรลุตามวัตถุประสงค์ คณะการบริหารและการจัดการ มหาวิทยาลัยมหาสารคาม  
จึงใคร่ขอความอนุเคราะห์ท่านเป็นผู้เชี่ยวชาญตรวจสอบเครื่องมือวิจัยและข้อเสนอแนะเพื่อนำข้อมูลที่ได้ไป  
ดำเนินการทำวิทยานิพนธ์ต่อไป ตามแบบสอบถามที่แนบมาพร้อมนี้

คณะกรรมการบัญชีและการจัดการ มหาวิทยาลัยมหาสารคาม หวังเป็นอย่างยิ่งว่าคงได้รับความอนุเคราะห์  
จากท่านด้วยดี และขอขอบคุณมา ณ โอกาสนี้ด้วย

ขอแสดงความนับถือ

(ผู้ช่วยศาสตราจารย์ ดร.นิตินพงษ์ สังศรีโรจน์)

คณบดีคณะกรรมการบัญชีและการจัดการ

มหาวิทยาลัยมหาสารคาม

งานวิชาการระดับบัณฑิตศึกษา

คณะกรรมการบัญชีและการจัดการ มหาวิทยาลัยมหาสารคาม

โทรศัพท์ 0-4375-4333 ต่อ 3431

โทรสาร 0-4375-4422



## บันทึกข้อความ

หน่วยงาน คณะการบัญชีและการจัดการ มหาวิทยาลัยมหาสารคาม โทรศัพท์ 043-754333-3431 Fax 043- 754422

ที่ อว 0605.10/91๒

วันที่ 2 มิถุนายน 2563

เรื่อง ขอเรียนเชิญเป็นผู้เชี่ยวชาญตรวจสอบเครื่องมือวิจัย

เรียน รองศาสตราจารย์ ดร.พรภัส สุวรรณรัตน์

ด้วย นางสาวนิรมลย์ งามเหมาะ รหัสนิสิต 60010961002 นิสิตระดับปริญญาเอก หลักสูตร  
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กำลังศึกษาวิทยานิพนธ์ เรื่อง “ผลกระทบของการมุ่งเน้นทั้งสิ่งใหม่และสิ่งที่มีอยู่เดิมขององค์กรที่มีผลต่อ  
การดำเนินงานด้านนวัตกรรม: บทบาทของตัวแปรคั่นกลางของความสามารถเชิงกลยุทธ์ด้านสื่อสังคม  
ออนไลน์” ซึ่งเป็นส่วนหนึ่งของการศึกษาตามหลักสูตรปรัชญาดุษฎีบัณฑิต ดังนั้น เพื่อให้การดำเนินการเป็น  
ไปด้วยความเรียบร้อยและบรรลุตามวัตถุประสงค์ คณะการบัญชีและการจัดการ มหาวิทยาลัยมหาสารคาม  
จึงใคร่ขอความอนุเคราะห์ท่านเป็นผู้เชี่ยวชาญตรวจสอบเครื่องมือวิจัยและข้อเสนอแนะเพื่อนำข้อมูลที่ได้ไป  
ดำเนินการทำวิทยานิพนธ์ต่อไป ตามแบบสอบถามที่แนบมาพร้อมนี้

จึงเรียนมาเพื่อโปรดพิจารณา

(ผู้ช่วยศาสตราจารย์ ดร.นิติพงษ์ สังศรีโรจน์)

คณบดีคณะการบัญชีและการจัดการ

มหาวิทยาลัยมหาสารคาม

ศูนย์ ปณ. ที.โต ขบ.



## บันทึกข้อความ

หน่วยงาน คณะการบัญชีและการจัดการ มหาวิทยาลัยมหาสารคาม โทรศัพท์ 043-754333-3431 Fax 043- 754422

ที่ อว 0605.10/717

วันที่ 2 มิถุนายน 2563

เรื่อง ขอรเรียนเชิญเป็นผู้เชี่ยวชาญตรวจสอบเครื่องมือวิจัย

เรียน รองศาสตราจารย์ ดร.การุณย์ ประทุม

ด้วย นางสาวนิรมาลย์ งามเหมาะ รหัสนิสิต 60010961002 นิสิตระดับปริญญาเอก หลักสูตร  
ปรัชญาดุษฎีบัณฑิต (ปร.ด.) สาขาวิชาการจัดการ คณะการบัญชีและการจัดการ มหาวิทยาลัยมหาสารคาม  
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การดำเนินงานด้านนวัตกรรม: บทบาท ของตัวแปรคั่นกลางของความสามารถเชิงกลยุทธ์ด้านสื่อสังคม  
ออนไลน์” ซึ่งเป็นส่วนหนึ่งของการศึกษาตามหลักสูตรปรัชญาดุษฎีบัณฑิต ดังนั้น เพื่อให้การดำเนินการเป็น  
ไปด้วยความเรียบร้อยและบรรลุตามวัตถุประสงค์ คณะการบัญชีและการจัดการ มหาวิทยาลัยมหาสารคาม  
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ดำเนินการทำวิทยานิพนธ์ต่อไป ตามแบบสอบถามที่แนบมาพร้อมนี้

จึงเรียนมาเพื่อโปรดพิจารณา

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คณบดีคณะการบัญชีและการจัดการ

มหาวิทยาลัยมหาสารคาม

พูน ปรุ ทิโต ชีเว



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กำลังศึกษาวิทยานิพนธ์ เรื่อง “ผลกระทบของการมุ่งเน้นทั้งสิ่งใหม่และสิ่งที่มีอยู่เดิมขององค์กรที่มีผลต่อ  
การดำเนินงานด้านนวัตกรรม: บทบาทของตัวแปรคั่นกลางของความสามารถเชิงกลยุทธ์ด้านสื่อสังคม  
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จึงใคร่ขอความอนุเคราะห์ท่านเป็นผู้เชี่ยวชาญตรวจสอบเครื่องมือวิจัยและข้อเสนอแนะเพื่อนำข้อมูลที่ได้ไป  
ดำเนินการทำวิทยานิพนธ์ต่อไป ตามแบบสอบถามที่แนบมาพร้อมนี้

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