

GUIDELINES FOR ADAPTATION OF THE THAI INDUSTRIAL BUSINESS TO SUPPORT THE DIGITAL ECONOMY

**Niwat Noorit, King Mongkut's University of Technology North Bangkok
Anucha Thapayom, King Mongkut's University of Technology North
Bangkok**

**Pairat Pornpundejwittaya, King Mongkut's University of Technology North
Bangkok**

ABSTRACT

Aim: *The objective of this research was to study the guidelines for adaptation of the Thai industrial business to support the digital economy.*

Methodology: *This research was an inductive research with mixed-methodology research including the qualitative research through in-depth interview and the quantitative research by collecting the quantitative data of 500 business executives of the industrial business companies that use digital technology in their operations divided into large enterprises, small and medium enterprises to analyze and improve the structural equation model (SEM). And finally, the structural equation model was fit an in accordance with empirical data.*

Finding: *The results of the research revealed that the guidelines for adaptation of the Thai industrial business to support the digital economy with the highest means consisted of (1) Transformational Leadership i.e., be open to digital innovations and ready to accept mistakes to open up new opportunities at acceptable risk, (2) Organizational Structure i.e., restructuring the organization to operate in a fluid and evolving environment, (3) Skills and Capability Management i.e., added the format of training through the Internet or online training through websites or applications, (4) Application of Technology i.e., use digital technology to expand networks of collaboration facilitating, and (5) Business Process Management i.e., reducing unnecessary steps and processes. For the result of the hypothesis test, it was found that large enterprises, small and medium enterprises weighed the guidelines for adaptation of the Thai industrial business to support the digital economy with no difference at the statistically significant level of 0.05.*

Conclusion: *This research could be concluded that the approach to adaptation of the Thai industrial business to support the digital economy is an organizational management guideline that values the adaptation in the digital age under today's rapidly changing technological environment to create business opportunities. The results of the structural equation model analysis were proved through the evaluation criteria with the empirical data with the Chi-square probability of 0.055, the relative Chi-square of 1.142, the correlation index of 0.953, and the root index of the mean square of the error estimate of 0.017.*

Keywords: Structural Equation Modeling, Transformational Leadership, Organizational Structure, Skills and Capability Management, Application of Technology, Business Process Management, Industrial Business.

INTRODUCTION & LITERATURE REVIEW

Information Technology (IT) is an important tool for enhancing the economic competitiveness of the country (Oliveira & Martins, 2010). In recent years, industries are facing a technological change. The evolution of information technology will transform information into knowledge and wisdom (Ezechina et al., 2015). In view of helping businesses stay agile and changing the way they work to increase business efficiency (Henriette et al., 2015). Technology is not just to automate processes, but also to open new ways of doing business (Fitzgerald et al., 2014). Today, digital technology or Information and Communication Technology (ICT) has become an integral part of every dimension of the economic and social system as a key mechanism to drive the transformation of production processes, business operations, commerce, services and other economic and social activities (Office of the National Economic and Social Development Council, 2019).

In the context of Thailand, the journey towards digital technology faces some of the challenges facing the country, such as overcoming the middle-income trap that is one of the urgent national development goals, with new investment and development of new industries including digital industry. Increasing the competitiveness of the country has not yet been able to enter the category of innovation competing countries. Small and Medium Enterprises (SMEs) have low access and use of digital technology. Including various forms of information threats, causing many types of cyber security risks, etc. (Ministry of Digital Economy and Society, 2019).

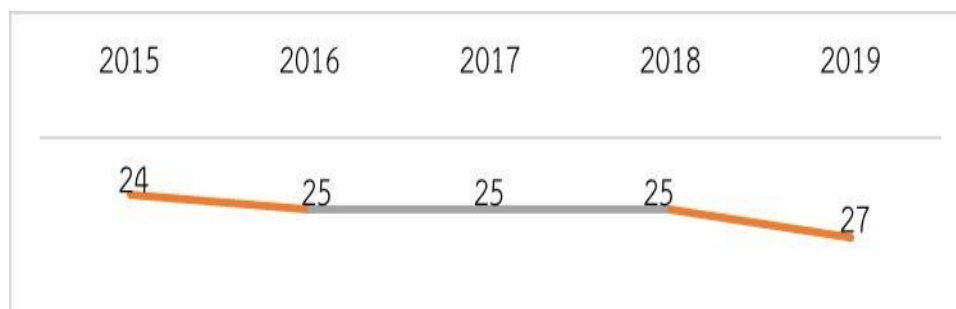


FIGURE 1
THAILAND BUSINESS EFFICIENCY RANK YEAR 2015-2019

At the end of 2019, World Economic Forum (WEF) announced the Global Competitiveness Index 4.0, with Thailand having an improved Competitiveness Index score from 67.5 to 68.1 points, however, the ranking fell to 40th in the world out of 141 countries from 2018 at ranked 38th (World Economic Forum, 2019). According to the International Institute for Management Development (IMD) World Competitiveness Center, the international organization that publishes the competitiveness ranking of various countries in 2019. As for Thailand, it ranks improved from 30th in 2018 to 25th out of 63 countries in four areas: economic performance, government efficiency, business efficiency, and infrastructure. It appears that the ranking has improved in all aspects except the business efficiency. It is the only factor in the ranking that dropped 2 places from 25th to 27th (IMD World Competitiveness Center, 2019). The results of the business efficiency ratings of the Thai business sector over the past five years are shown in Figure 1.

This is in line with the IMD World Digital Competitiveness Ranking results in 2019, The measurement results are based on the country's digital capabilities in three key factors, knowledge, technology, and future readiness. For Thailand in 2019, the world digital competitiveness ranking was ranked 40th, down 1 place from 2018 when considering the ranking of Thailand in particular, the issue of future readiness due to the trend of changing the competitiveness ranking in these 5 years (2015 - 2019), as shown in Figure 2, has remained the same rank. It is ranked 50th, equal to the rank in 2015. (IMD World Competitiveness Center, 2019)

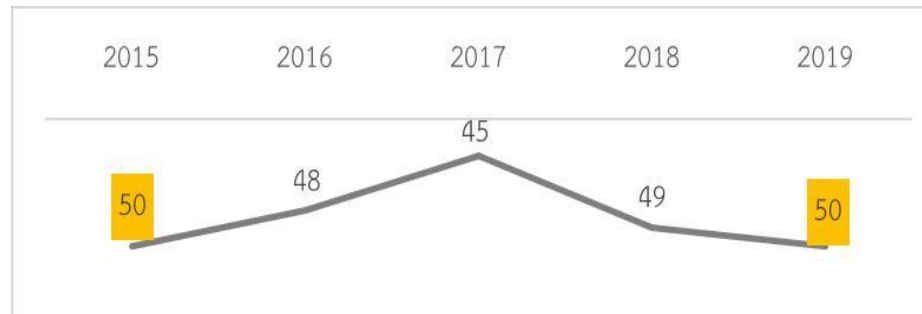


FIGURE 2
THAILAND FUTURE READINESS RANK YEAR 2015-2019

Based on WEF's Global Competitiveness report and IMD Competitiveness Ranking report mentioned above, and various challenges in the digital age, technology can increase competitiveness, acquiring new customers, innovating, creating, and developing new innovations (Westerman et al., 2011). Technology has penetrated almost every aspect of life and has created new ways of communication and collaboration (Loebbecke & Picot, 2015). This digital infrastructure has accelerated the emergence of new technologies that enable change in the way we live and work, how the organization and structure of all industries are organized (Fichman et al., 2014). Digital technology is becoming a major driving force for organizations seeking a competitive advantage (Sun et al., 2018). The use of digital technology will help businesses reduce costs, save time, and work more efficiently (Wade, 2015). The world today is the digital world (Valacich & Schneider, 2015). Therefore, the researcher is interested in an adaptation approach to improve the organization that will increase the competitiveness of the industrial business sector of Thailand.

Digital Economy

In this new age, the new economic and social relations are gradually changing. Strong leadership to be responsible for change or to represent change in this new era. Modern leaders must be leaders who know, gather people from all around, build networks, and share visions. The organizational structures will be simplified and provide a flexible work environment. Learning in digital technology must be continued throughout the working life. Organizations need technology tools that enable their entire organization to work together to help manage the complexity of businesses in the digital age. New management processes are introduced; workflow modifications for information integration encourage collaboration. Developments in the new economy have created new forms of organization in the application of information

technology that will increase the efficiency and effectiveness of the organization. (Tapscott, 1996) Digital economy means an economy and society that uses information and communication technology or digital technology. It is a key mechanism to drive the reform of the production process, business operation, trade, service, as well as other economic and social activities that affect economic development, development of the quality of life of people in society.

The approach elements of the adaptation of the Thai industrial business to support the digital economy means making the organization fit or better in the digital age. It consists of five key components: the transformational leadership, the organizational structure, the skills and capability management, the application of technology, and the business process management.

Transformational Leadership

Transformational leaders have been characterized by four separate characteristics. These four factors include idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration (Bass & Avolio, 1994). During this change, leadership is essential. Modern leaders must be the leaders who are known to gather people from all around to create a network to share their vision with virtual powers. The new age of information technology is therefore created to support a network of intelligence that comes from everyone. Gather the power of knowledge to transform both organizations and individuals (Tapscott, 1996). Business leaders are trying to adapt their organizations to use digital technology. Organizational leaders must learn to change, adapt, understand the effects of disruption, and develop digital capabilities. Find new ways to do things, build a corporate culture of continual innovation to take full advantage of the Fourth Industrial Revolution (Schwab, 2017). Organizational leaders are working towards achieving their goals, starting from establishing organizational strategies based on organizational structures, goals, operational systems, personnel, skills used in the workplace. Behavior patterns and goals needed to result in an organization successful (Waterman Jr et al., 1980).

Organizational Structure

Traditional organizational structures will be simplified and provide a flexible work environment. The team will come from a combination of different sectors around the world. In the new economy, the organization is agile to survive, while the looming organization will eventually die as it is difficult for them to change and adapt to the conditions in the new economy (Tapscott, 1996). Successful organizations are increasingly transforming their hierarchical structures into forms of collaboration and networking and generating incentives will become even more important. Driven by collaboration between employees and businesses, organizations will be organized in a more distributed, remote workforce and dynamic group manner. There will be an ongoing exchange of information and insights about work and things (Schwab, 2017).

Skills & Capability Management

Human Resources work is to be proactive, looking for opportunities that allow the organization to learn and create new appropriate environments. Creating a research organization that creates new paradigms and forwarding to the whole organization is a big challenge. Learning in information technology and digital technology must be done continuously.

Throughout the working life in various work activities, employees learn as they work every day, and the organization and the workforce must help create learning in the organization (Tapscott, 1996). To cope with the fourth industrial revolution, organizations need to equip their people with the skills that are linked in the increasingly intelligent mechanical systems. They also need to develop critical thinking skills, problem solving skills, human resource management skills, and working with other skills. Organizations must review new skills and skills in digital technology. To drive the emerging competition there are new strategies for attracting and retaining talent and skill. It is essential to the success of an organization (Schwab, 2017).

Application of Technology

Organizations need technology tools that enable their entire organization to work together to help manage the complexities of businesses in the digital age. Business activities are done digitally through the Internet, using information technology to communicate and to keep track of everything (Tapscott, 1996). The power of innovation and developed technology will increase the productivity of the organization. To foster greater positive outcomes, organizations that see the optimism of development and technology use digital technology in a range of activities that could turn things around and affect their development and increase their wealth (Schwab, 2017). The organization's attitude towards new technologies includes the ability to leverage technology with different technologies in their use and different forms of value creation. Information technology and digital technology strategies are becoming a major driving force for organizations seeking a competitive advantage (Matt et al., 2015).

Business Process Management

As products and services become more digital, traditional work processes are reengineered, new management processes are introduced. The transformation of work procedures for data linkage, promoting collaboration, digital transformation, creating new business models that respond to customer needs, become more agile and convenient (Tapscott, 1996). Operating models are transformed into new digital formats. Different effects in the digital age call on organizations to rethink their operating models. Organizations must operate faster and more flexibly. The key operating models arising from the network impact of digitization are platforms, coupled with the need for more customer-centric and data-enriched products to open new forms of optimization (Schwab, 2017). Process transformation is about customer experience and innovation. Likewise, new processes need to be established and supported with relevant technologies to ensure the transformation is carried out throughout the organization (Sia et al., 2016).

Objective

The purpose of the study was to develop the structural equation model of the guidelines for adaptation of the Thai industrial business to support the digital economy.

Hypotheses

In accordance with the objective and related literature, the researcher determined six hypotheses based on the related theories as follows.

H₁ The Transformational Leadership variables directly influence the Application of Technology variables.

Corporate executives strive to transform their business into a more efficient one, to gain a competitive advantage and increase shareholder value. In addition, modern organizations are also adopting new technologies to achieve the desired performance through technological advancements (Estridge, 2018). Leaders must demonstrate support for change to be effective within the organization. Implement new technologies, management strategies, appropriate change in the organization, and formulating change management policies (Yuvaraj, 2016).

H₂ The Transformational Leadership variables directly influence the Organizational Structure variables.

Transformational leadership affects the idea generation and implementation of the organizational structure. Leaders who want to develop an innovative workforce and a competitive organization in a hectic environment recommend both organizational structures and leadership styles while creating a positive relationship environment between supervisors and employees within the organization (Agbim, 2013). Leaders create atmospheres and foster trust in creating a positive environment for work teams that results in increased efficiency and innovation (Gross, 2014).

H₃ The Application of Technology variables directly influence the Skills and Capability Management variables.

Technology and organizational factors influence knowledge sharing (Soto-Acosta et al., 2017). Information and communication technologies influence knowledge management processes within organizations and influence innovation and collaborative learning. If the organization values the application of technology, it fosters the management of skills and abilities in the organization (García-Álvarez, 2015).

H₄ The Organizational Structure variables directly influence the Skills and Capability Management variables.

The spontaneity of the organizational structure is positively correlated with the organizational learning ability (Mallén et al., 2016). The organizational structure plays a key role in shaping the organizational learning process (Tworek et al., 2015). Organizations play a key role in helping organizations develop employee competence (Huang et al., 2010).

H₅ The Application of Technology variables directly influence the Business Process Management variables.

Technological innovations and have a significant impact on overall operations, performance, costs, efficiency, delivery, flexible performance, and breakthroughs. Past research has shown that digital technology has great potential for product and service innovation (Abdollahzadegan et al., 2013). Enterprise Resource Planning (ERP) can be used to control management and governance processes to identify inefficient processes by dividing the process into small activities, indicating the reduction of non-value-added activities. It is a systematic way to reduce the inefficiency of the process. If the organization values the application of technology,

it will promote the management of business processes in the organization (Raschke & Sen, 2013).

H₆ The Skills and Capability Management variables directly influence the Business Process Management variables.

IT capability management is the most influential factor in helping digitize success. Ability to use information technology to leverage the cloud delivery model to achieve success in cloud computing and ultimately, enterprise performance (Garrison et al., 2015). Organizations can drive technology capabilities for developing new products. The results support the influence of leading user collaboration on technology capabilities as well as the positive linear influence of customer and supplier collaboration (Tinoco & Ambrose, 2017).

METHODOLOGY

This study was designed as an inductive research with mixed methodology

1. The qualitative research with in-depth interview: population in this research included nine experts who were selected through the purposive sampling method with the criteria of qualifications of experts undertaken by the doctor of Business Administration Program, Faculty of Administration, King Mongkut's University of Technology North Bangkok. There were three groups of these experts: (1) three representatives of business organization, (2) three representatives of government sector, and (3) three representatives of academic institutions.
2. The quantitative research: population in this research included industrial business executives whose use digital technology in their operations in Thailand and registered with the Department of Business Development, the Ministry of Commerce with a total population of 12,119 businesses (Department of Business Development, 2019). Large enterprise was defined as an industrial with fixed assets of >200 million Baht. Medium and small enterprise was defined as an industrial with fixed assets of ≤ 200 million Baht. The 500 samples were selected (Comrey & Lee, 2013) using a multi-stage sampling method for statistical analysis, comprising 250 data from large enterprises and 250 data from medium and small enterprises.
3. The qualitative research with group discussion to support the model: population in this research included seven experts who were selected through the purposive sampling method with the criteria of with the criteria of qualifications of experts undertaken by the doctor of Business Administration Program, Faculty of Administration, King Mongkut's University of Technology North Bangkok.

RESULTS

The results of analysis of the guidelines of the adaptation of Thai industrial business to support the digital economy were described as follows.

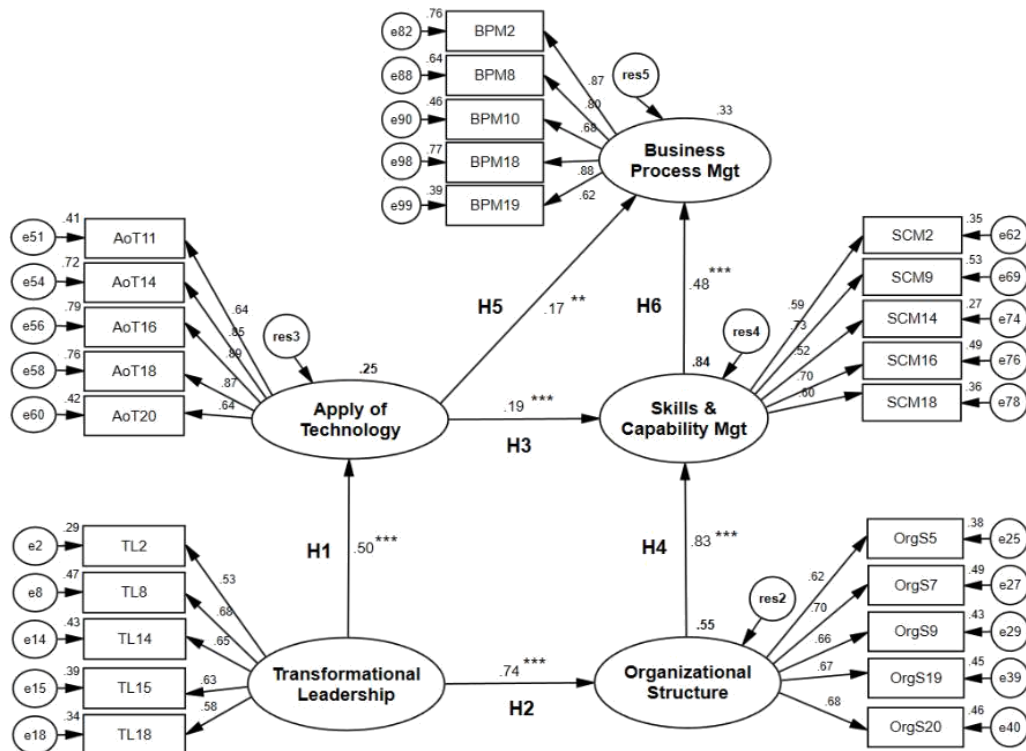
Guidelines for adaptation of the Thai industrial business to support the digital economy	Medium & Small Enterprises			Large Enterprises		
	X	S.D.	Significant level	X	S.D.	Significant level
Overall	4.14	0.43	High	4.16	0.45	High
1. Transformational Leadership	4.10	0.48	High	4.12	0.49	High
2. Organizational Structure	4.12	0.53	High	4.16	0.53	High
3. Skills & Capability Management	4.13	0.54	High	4.16	0.56	High
4. Application of Technology	4.08	0.54	High	4.10	0.53	High
5. Business Process Management	4.25	0.53	High	4.25	0.56	High

1. The business executive of both medium & small and large enterprises gave importance on the guidelines for adaptation of the Thai industrial business sector to support the entry of the digital economy by reporting 5 factors shown in Table 1. Table 1 presents factors in the guidelines for adaptation of the Thai industrial business sector showing high importance of both medium & small and large enterprises at 4.14 and 4.16, respectively. When considering each aspect for medium & small enterprises, the importance is on every factor with the highest on business process management at 4.25 followed by skills & capability management at 4.13 then organizational structure at 4.12, transformational leadership at 4.10 and application of technology at 4.08 respectively. For large enterprises the business executive gave high importance on every factor with highest on business process management at 4.25 followed by organizational structure at 4.16 (S.D. = 0.53) then skills and capability management at 4.16 (S.D. = 0.56), transformational leadership at 4.12 and application of technology at 4.10 respectively.
2. The comparison of important level of the guidelines for adaptation of the Thai industrial business sector to support the entry of the digital economy between medium & small and large enterprises using independent t-test statistic in SPSS statistical program showed no significant difference in statistical at level 0.05 between mean of factors important level of medium & small and large enterprises.
3. The evaluation of structural equation modelling of the guidelines for adaptation of the Thai industrial business sector to support the entry of the digital economy showed that the Chi-square probability (CMIN-p) level was at 0.000, relative Chi-square (CMIN/DF) at 4.227, goodness of fit index (GFI) at 0.509, and root mean square error of approximation (RMSEA) at 0.08 which still could not pass the criteria of the model as criteria shown in Table 2.

Evaluating the Data-Model Fit		Criteria	Reference
1	CMIN-p	Value > 0.05	Arbuckle (2016) IBM SPSS AMOS v.21
2	CMIN/DF	Value < 2	Arbuckle (2016) IBM SPSS AMOS v.21
3	GFI	Value > 0.90	Arbuckle (2016) IBM SPSS AMOS v.21
4	RMSEA	Value < 0.08	Arbuckle (2016) IBM SPSS AMOS v.21

The results of the structural equation model analysis of the guidelines of the adaptation of Thai industrial business to support the digital economy were described as follows.

The researcher adjusted the model regarding the modification indices as suggested by Arbuckle through considering the results of the software with academic theory to exclude some inappropriate observed variables one by one and evaluate the new model. And this new model was reevaluated until all four statistical results proved with the empirical data. After the model adjusted, it was found that there were (1) the chi-square probability (CMIN-p) of 0.055 and this was >0.05 indicating a statistical insignificance, (2) the relative chi-squared (CMIN/DF) of 1.142 which was <2, (3) the goodness of fit index (GFI) of 0.953 which was >0.90, and (4) the root mean square error of approximation (RMSEA) of 0.017 which was <0.08 so these all 4 statistical results passed the evaluation criteria. Therefore, the structural equation model of the guidelines of the adaptation of Thai industrial business to support the digital economy after adjusted perfectly fit the empirical data as shown in Figure 3.



Chi-square = 307.144 ,df = 269, p=.055
 CMIN/DF =1.142, GFI = .953, RMSEA = .017

FIGURE 3
SIMULATION MODEL: GUIDELINES FOR ADAPTATION OF THE THAI INDUSTRIAL BUSINESS TO SUPPORT THE DIGITAL ECONOMY

From Figure 3, it was found that the structural equation model of the guidelines for adaptation of the Thai industrial business to support the digital economy after adjusted consisted of five latent variables; (1) one exogenous latent variable which was the Transformational Leadership variable, and (2) four endogenous latent variables which were the Organizational Structure, Skills & Capability Management, Application of Technology and Business Process Management variables.

From Table 3, the Transformational Leadership variable was found to have a variance of 0.17. It directly influenced (1) the Application of Technology variable with a standardized regression weight of 0.50, at a statistically significant level of 0.001, a squared multiple correlation (R^2) of 0.25 and a variance of 0.17, (2) the Organizational Structure variable with a standardized regression weight of 0.74, at a statistically significant level of 0.001, a squared multiple correlation (R^2) 0.55, and a variance of 0.11.

The Application of Technology variables directly influenced (1) the Skills & Capability Management variables with the standardized regression weight of 0.19, at a statistically significant level of 0.001, a squared multiple correlation (R^2) of 0.84, and a variance of 0.03, (2) the Business Process Management variable with a standardized regression weight of 0.17, at a statistically significant level of 0.01, a squared multiple correlation (R^2) 0.33, and a variance of 0.35.

The Organizational Structure variables directly influenced the Skills & Capability Management variables with the standardized regression weight of 0.83, at a statistically significant level of 0.001, a squared multiple correlation (R^2) of 0.84, and a variance of 0.03.

The Skills & Capability Management variables directly influenced the Business Process Management variables with the standardized regression weight of 0.48, at a statistically significant level of 0.001, a squared multiple correlation (R^2) of 0.33, and a variance of 0.35.

Variable	Estimate	R ²	Variance	C.R.	P-value
	Regression Weight				
Transformational Leadership			0.17		
Application of technology	0.50	0.25	0.17	7.42	***
Organizational Structure	0.74	0.55	0.11	8.72	***
Application of Technology		0.25	0.17		
Skills & Capability Mgt	0.19	0.84	0.03	4.41	***
Business Process Mgt	0.17	0.33	0.35	3.20	**
Organizational Structure		0.55	0.11		
Skills & Capability Mgt	0.83	0.84	0.03	10.11	***
Skills & Capability Mgt		0.84	0.03		
Business Process Mgt	0.48	0.33	0.35	7.75	***
Application of Technology		0.25			
AoT11	0.64	0.41	0.32		***
AoT14	0.85	0.72	0.18	15.67	***
AoT16	0.89	0.79	0.13	16.20	***
AoT18	0.87	0.76	0.15	15.95	***
AoT20	0.65	0.42	0.38	12.63	***
Skills & Capability Mgt		0.84			
SCM2	0.59	0.35	0.40		***
SCM9	0.73	0.53	0.31	12.31	***
SCM14	0.52	0.27	0.53	9.69	***
SCM16	0.70	0.49	0.29	11.97	***
SCM18	0.60	0.36	0.39	10.71	***
Transformational Leadership					
TL2	0.54	0.29	0.43		***
TL8	0.68	0.47	0.31	10.22	***
TL14	0.65	0.43	0.36	9.99	***
TL15	0.63	0.40	0.34	9.76	***
TL18	0.58	0.34	0.36	9.35	***
Organizational Structure		0.55			
OrgS5	0.62	0.38	0.39		***
OrgS7	0.70	0.50	0.26	12.46	***
OrgS9	0.66	0.43	0.38	11.84	***
OrgS19	0.67	0.45	0.34	12.04	***
OrgS20	0.68	0.46	0.31	12.18	***
Business Process Mgt		0.33			
BPM2	0.87	0.76	0.17		***
BPM8	0.80	0.64	0.21	21.93	***
BPM10	0.68	0.46	0.36	17.17	***
BPM18	0.88	0.77	0.15	25.28	***
BPM19	0.62	0.38	0.37	15.28	***

Noted: *** Significant level at 0.001 ** Significant level at 0.01

The estimate regression weight of observed variables can be explained as follows.

The Application of Technology variable consists of the 5 observed variables by following; (1) Use an overall enterprise resource planning (ERP) system. (AoT16) of 0.89, (2) use digital technology to manage supply chains and business networks. (AoT18) of 0.87, (3) apply digital technology to the sale of products or services, to give customers new experiences. (AoT14) of 0.85, (4) use digital technology as a channel to attract customers. (AoT20) of 0.65, and (5) use digital technology to expand networks of collaboration, facilitating. (AoT11) of 0.64.

The Skills & Capability Management variable consist of the 5 observed variables by following; (1) develop personnel to acquire new technological skills in line with new and changing work processes. (SCM9) of 0.73, (2) bring in outside experts to help build and educate people in the organization, helping to develop digital skills faster. (SCM16) of 0.70, (3) continuously developing employees to adapt and acquire digital skills and new methods within a variety of contexts. (SCM18) of 0.60, (4) exploring the skills gaps that need to be developed for digital adaptation. (SCM2) of 0.59, and (5) practice the skills to understand and make the best use of digital technology (Digital Literacy) in communication and operations. (SCM14) of 0.52.

The Transformational Leadership factor consists of the 5 observed variables by following; (1) adopts and manages change appropriately, trying to optimize the organization to use digital technology as efficiently as possible. (TL8) of 0.65, (2) be a role model for employees, understanding digital technology (Digital Literacy) helping to inspire corporate digital inspiration. (TL14) of 0.64, (3) promote the creation of work networks that rely on digital technology. (TL15) of 0.63, (4) focus on new digital tools or devices that help develop or transform organizations by increasing efficiency and effectiveness for operations. (TL18) of 0.58, and (5) define and communicate the organization's digital goals for optimization (TL2) of 0.54.

The Organizational Structure variable consists of the 5 observed variables by following; (1) Restructuring the organization to operate in a fluid and evolving environment. (OrgS7) of 0.70, (2) the work is divided into proportions, responsibilities, and technological capabilities to foster creativity and innovation. (OrgS20) of 0.68, (3) organize small teams from different departments to think and perform innovation activities. (OrgS19) of 0.67, (4) the organizational structure facilitates rapid and agile decisions on digital transformation. (OrgS9) of 0.66, and (5) shifting the structure from multiple layers to a more collaborative and networking model. (OrgS5) of 0.62.

The Business Process Management variable consists of the 5 observed variables by following: (1) comprehensive communication of digital technology security systems to stakeholders, ensuring use. (BMP18) of 0.88, (2) create new work processes in accordance with the technology used. (BPM2) of 0.87, (3) review traditional business practices to keep up with the rapidly changing technology. (BPM8) of 0.80, (4) create a business model with emphasis on the use of new technologies, helping to use resources and raw materials efficiently. (BPM10) of 0.68, and (5) use multiple channels of communication with customers, including new online and traditional communication channels. (BMP19) of 0.62.

DISCUSSION

The most important issues derived from this research results of the guidelines of the adaptation of Thai industrial business to support the digital economy can be the ways for businesses to study and learn to establish the guidelines of the adaptation of Thai industrial business in the digital era with a rapidly technological changes and an increase in a

competitiveness to lead new business growth and opportunities. From the research results, the researcher discussed the results together with the review of related literatures in 5 points described as follows.

1. From the research results, when comparing the components of the guidelines for adaptation of the Thai industrial business to support the digital economy among the medium & small and large enterprises in overall aspect, there were no statistically different at a significant level of 0.05. As digital adaptation is happening across all industry segments. Leaders recognize change, want to make organizations more agile, improve their employees' skills, and reduce unnecessary steps. Digital technology has been adopted to reduce costs, add new capabilities, or gain a competitive advantage. The size of the organization has no correlation with the organization's adoption (Lin, 2014) and (Machim et al., 2020). Most of them adapt by adopting digital technology for different reasons. The expectation of cost reductions and new capabilities achieved by the application of digital technology (Hsu et al., 2014).
2. From the results of hypothesis testing, it was found that the organizational structure variable directly influenced the skills & capability management variable with the highest standardized regression weight of 0.83. The results of the study provide empirical data on the influence of organizational structures on skill and competence development. Due to the organizational structure operating in a fluid environment that is constantly evolving, partnerships and networks enable quick and agile decisions, fostering creativity, innovation, and continuous improvement. The degree of spontaneity of organizational structures positively correlated with organizational learning capabilities (Mallén et al., 2016). And in accordance with Tworek et al. (2015), empirical investigations using factor analysis confirmed that among the factors the role of the organism organizational structure determines the organizational learning ability.
3. The guidelines for adaptation of the Thai industrial business sector to support the digital economy in business process management variable the highest mean of 4.25, indicating the importance of the business process management. This reflects the importance that organizations are adjusting, removing unnecessary steps to look for results that impact more efficient work processes. Digital technology has become increasingly important in meeting business goals and its pervasive impact has resulted in radical restructuring of the entire industry. Organizations need dynamic tools to support themselves in managing the new processes that come with digital technology. The nature of these processes forces organizations to challenge them to strive for continuous improvement (Nylén & Holmström, 2015). Reducing unnecessary steps in inventory management has been used to reduce time of non-adding value at manufacturing plants. Resulting in a significant increase in efficiency and overall productivity (Mehta et al., 2017). Organizations often use business process reengineering to improve their competitiveness. Leadership, proper governance, strategic management, stakeholder impact analysis, creating reward and communication mechanisms, can be used to increase the chances of success in managing business processes and contribute to the overall competition of the organization (Taher & Krotov, 2016).
4. The guidelines for adaptation of the Thai industrial business to support the digital economy was found a reduction in the traditional work processes in the non-essential part with the highest mean of 4.36, indicated the importance of these variables due to the organization wants fast, efficient work and technology that allows certain steps can be minimized. Consequently, traditional business practices must be reviewed to keep up with the rapidly changing technology and to meet customer needs. Being able to use digital technology to control business management and procedures is a systematic way to reduce non-value-added or unnecessary activities in the process with information technology (Raschke & Sen, 2013). Organizations that continually invest in technology are also feeling the results of their application. The benefits of technology are not just to automate processes but also, they open new ways to do business (Fitzgerald et al., 2014).
5. From the correlation analysis between variables of the guidelines for adaptation of the Thai industrial business to support the digital economy after adjusting the structural equation model, it was found that the variables of using an overall enterprise resource planning (ERP) system had the highest correlation with the variables of using digital technology to manage the supply chain and business network with the value of 0.781. The impact of an enterprise resource planning (ERP) system on supply chain management (SCM) by linking the concept of information technology with the SCM. ERP contributes to SCM by improving supply chain integration to facilitate financing, product, and information

throughout the supply chain (Oghazi et al., 2018). The impact is in new tools for supply and demand management with innovative customer fulfillment. Today's industrial revolution has led to the development of more and more application software for transaction planning and support. Now, we have new digital technologies like drones, 3D printing, machine learning, Blockchain, and many more, all converging in a unified supply chain (O'Marah & Chen, 2019).

CONCLUSION

Transitioning to the digital economy has several key factors that organizations should consider people, processes, and technology as a balanced approach to drive organizational change. The initial elements are transformational leadership that directly and indirectly influences other elements, in line with empirical data. Organizational leaders play a role in initiating organizational change. From providing visions and goals, motivating and inspiring employees at all levels and ready to transform the organization to address the anticipated risks. Leaders in the digital age need to understand the direction of organizational change by quickly adapting them and making them ready to learn new skills all the time. Information technology skills and competencies are important and essential. The organization must be developed in accordance with the direction and technology applied by the organization. Digital Literacy is a skill to understand and use digital technology. It is a fundamental digital skill that will serve as a vital aid in the practice, communication, and collaboration with others in adapting to the context of change. Adaptation is not only a revenue winner, but also imperative in today's context where organizations are challenged by digital technology. Those who can adapt will still survive in the business; those who cannot adapt will be replaced. The trend of digital transformation and Covid-19 is the catalyst for today's organizations to be more adaptive, as they see the benefits of using information technology to help them operate in times of crisis. And forming new business models, where new innovations will lead to new business growth and opportunities.

Suggestion for Further Study

Based on studies and interviews with experts, it was found that qualitative research to study patterns or guidelines for industrial business adaptation from experienced executives can lead businesses to success in the face of various digital technology changes. An in-depth study on how to adapt industry businesses to support the digital economy should be conducted through in-depth interviewing techniques from senior leaders of many successful organizations, synthesized to obtain key information. It can be used to develop an adaptive approach to support entering the digital economy.

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