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THE MODEL OF LEADERSHIP STYLES, IT CAPABILITIES AND THEIR INDIRECT LINK TO PERFORMANCE IN DIGITAL ERA: PRIVATE HOSPITALS AND CLINICS, BANGKOK, THAILAND

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Abstract

The objective of this paper was to develop and test the conceptual model of the indirect effect of leadership styles (transformational leadership and transactional leadership) and IT capabilities on performance in digital era, considering the mediating role of dynamic capabilities, organizational learning capabilities, and knowledge management capabilities which in turn affect organizational innovation capabilities. The theoretical framework in this research was developed from the resource based view theory of the firm (RBV). This study tested the research model by using structural equation modelling (SEM). A structured 40 items questionnaire exploring the relationship between the variables was developed. Total of 400 valid questionnaires were collected from the management of private hospitals and clinics in Thailand. The results showed that there are indirect effects of transformational leadership and IT capabilities on performance mediated by dynamic capabilities, organizational learning capabilities, and knowledge management capabilities which in turn affect organizational innovation capabilities. This study contributes to theoretical and practical usage of the resource-based view in the domain of private healthcare service provider organizations in digital era by discovering the common mechanism or chains of variables that link leadership styles and IT capabilities to performance.

Introduction

Improving performance is considered as one of the most important objectives for the organizations (Nwankpa, 2016). In strategic management, resource based view (RBV) theory of the firm has been accepted as one of the most dominant theoretical perspectives (Newbert, 2007). Resource based view theory of the firm (RBV) has been used to explain sources of better performance (Adnan, 2018; Flynn et al, 2017). Resource based view (RBV) theory of the firm regards the firm as a bundle of resources and suggests that their attributes significantly affect the firm's competitive advantage and, by implication, its performance (Barney, 1986, 1991; Penrose, 1959; Peteraf, 1993; Wernerfelt, 1984). Resource based view theory of the firm (RBV) seems to be diffused into healthcare organization as a promising theory for healthcare management (Ferlie, 2014). Resource based view theory of the firm (RBV)'s use in healthcare management that are empirically tested is limited.

In digital era, digital technologies have influenced how business operate. Greater numbers of companies are trying to leverage digital technologies to compete and perform by adapting, transforming, and creating new organizational capabilities. Limited research has studied and empirically tested the model of resource based view theory of the firm (RBV) in the context of digital era. Resource based view theory of the firm (RBV)'s use in digital era for healthcare sector is even more scarce in the literature. This first gap in the literature has generated new call for research. Applying resource based view theory of the firm (RBV) and exploring the mechanism or model of how resource based view theory of the firm (RBV) can explain the sources of firm performance in digital era for private healthcare sector is an area of interest not only to academics but practitioners.

Hospital business in Thailand has been considered the prominent and competitive sector. In Thailand, healthcare sector accounted for 3.56%, 3.8%, and 4% of national GDP in 1994, 2012, and 2017 respectively (Tangcharoensathien, 2000; Krungsri research, 2019). To seize the opportunities and adapt to digital era, healthcare sector has to manage, integrate, and renew their resources and capabilities. Alike other industries, this sector struggle to adapt and survive in digital era

Regarding the link between leadership styles-performance and IT capabilities-performance according to resource based view theory of the firm (RBV), they are studied separately. The relationship between IT capabilities and performance are mediated by organizational learning, dynamic capabilities, and knowledge management capabilities (Pavlou and El Sawy, 2005; Tippins and Sohi, 2003; Tanriverdi, 2005). Leadership styles especially transformational leadership is indirectly related to performance via organizational learning and knowledge management which in turn affect organizational innovation and performance respectively (Aragon-Correa, J. A., 2005; Garcia-Morales, 2007; Noruzy, 2013; Akay, 2018). The argument is that IT capabilities and leadership styles could be integrated and studied together under the same mechanism or chains of variables how they indirectly affect performance in

digital era. From the gaps in the literature mentioned above, the research questions are addressed accordingly.

1. What is the model of antecedents of performance according to resource based view (RBV) theory of the firm in digital era for private healthcare sector?

2. How do leadership styles (transformational leadership and transactional leadership) and IT capabilities indirectly enhance performance via the mediating effects of dynamic capabilities, organizational learning capabilities, knowledge management capabilities, organizational innovation capabilities for private hospital business in digital era?

3. Which leadership style (transformational leadership or transactional leadership) is relevant in the model of antecedents of performance according to RBV in digital era for private healthcare sector?

Objectives of the study

1. To develop the conceptual framework of the relationship between leadership styles, IT capabilities, dynamic capabilities, organizational learning capabilities, knowledge management capabilities, organizational innovation capabilities, and performance in digital era for private hospitals and clinics in Thailand.

2. To investigate the indirect effects of IT capabilities and leadership styles on performance and the direct effects of IT capabilities and leadership styles on organizational learning capabilities, knowledge management capabilities which in turn affect organizational innovation capabilities.

3. To examine both overall model fit according to research framework and the relationships among leadership styles (transformational leadership and transactional leadership), IT capabilities, organizational learning capabilities, knowledge management capabilities, organizational innovation capabilities and performance by using the structural equation modelling (SEM).

Literature review and hypotheses

Resource based view theory of the firm (RBV)

Resource based view theory of the firm (RBV) assumes that the firm can create long term sustainable competitive advantage by leveraging their internal resources which are heterogeneous, rare, non-substitutable, and inimitable to implement value-creating strategy that cannot be easily duplicated by competing firms (Barney, 1991). Firm resources comprise of all assets, capabilities, firm attribute, organizational processes, knowledge, information, etc.

IT capabilities

IT capabilities or IT competency is defined as how the firm use technologies to manage its information effectively. While IT is the generic terms used to refer to computer, telecommunications,

programs, etc (Tippins and Sohi, 2003). There has been a mind-set shift from IT process view to IT capability view in literatures. IT capability or IS capability approach has become more common than traditional strategic information system approach (Carcary, 2016). Based on resource based view theory of the firm, most researchers classified IT capabilities or IT competency into three dimensions : IT knowledge, IT operation, and IT infrastructure.

Transformational leadership

Transformational leadership is defined as a leadership approach that causes change in individuals and social systems. In its ideal form, it creates valuable and positive change in the followers with the end goal of developing followers into leaders. The foundation of transformational leadership rests on what Bass and Avolio (1994) refer to as the four I's of transformational leadership, which comprise three factors (Avolio and Yammarino, 2002; Avolio et al., 1999; Bass, 1988; Bycio et al., 1995): idealized influence/inspirational motivation, intellectual stimulation and individualized consideration.

Transactional leadership

Transactional Leadership, also known as managerial leadership, focuses on the role of supervision, organization, and group performance; transactional leadership is a style of leadership in which the leader promotes compliance of his followers through both rewards and punishments. Unlike Transformational leadership, leaders using the transactional approach are not looking to change the future, they are looking to merely keep things the same. These leaders pay attention to followers' work in order to find faults and deviations. This type of leadership is effective in crisis and emergency situations, as well as when projects need to be carried out in a specific fashion. Bass (1990) has denoted that transactional leadership can be characterized by 2 elements: contingent rewards and management by exception.

Dynamic capabilities

Dynamic capabilities are defined as the firm's ability to integrate, build, and reconfigure external and internal competences to cope with dynamic market or rapidly changing environment (Teece et al. ,1997). Dynamic capabilities are a group of identifiable and specific processes, paths, and positions. These include integration/coordination, structural assets, reconfiguration and transformation, path deficiency, product development, strategic decision making, alliancing, knowledge creation, etc. (Eisenhardt & Martin, 2000).

Organizational learning

Organizational learning refers to the capacity or processes within a firm enabling the acquisition of, access to and revision of organizational memory, thereby providing directions for organizational action (Robey et al., 2002). Huber (1991) elaborated each of

the components of organizational learning as follows. Knowledge acquisition is the development or creation of skills, insights, and relationships. Knowledge sharing is the dissemination of knowledge to others. Knowledge utilization is the integration of the learning so that it is assimilated, broadly available, and can also be generalized to new situations.

Knowledge management

Knowledge management is defined as a discipline with the objectives of promoting knowledge growth, knowledge communication, and knowledge preservation within an organization (Steels, 1993). Gold, Malhotra, and Segars (2001) pointed out that KMC consists of knowledge infrastructures and knowledge management (KM) processes. Knowledge infrastructure includes technology, structure, and culture; while KM processes include the organizational capabilities of knowledge acquisition, conversion, application, and protection.

Innovation capabilities

Innovation capabilities is defined as "the potential to generate new ideas, identify new market opportunities and implement marketable innovations by leveraging on existing resources and capabilities" (Hii and Neely, 2000, p. 5). Regarding the components of innovation capabilities, Adler and Shenbar (1990) stated that innovative capability is defined as: (1) the capacity of developing new products satisfying market needs; (2) the capacity of applying appropriate process technologies to produce these new products; (3) the capacity of developing and adopting new product and processing technologies to satisfy the future needs; and (4) the capacity of responding to accidental technology activities and unexpected opportunities created by the competitors.

Performance

Firm performance is a measure of how well a firm is able to meet its goals and objectives compared with its primary competitors (Cao & Zhang 2011). Cho & Pucik (2005) stated that superior firm performance is typically characterized with profitability, growth and market value. Firm Performance is a complex and multi-dimensional construct (Kaplan and Norton, 1996).

The link between IT capabilities and performance

Bharadwaj (2000) employ the resource-based view to develop the theoretical links and empirically examine the association between IT capability and business performance and suggest that additional research is needed to identify the full chain of variables connecting IT capability to firm performance. Later, more researchers have studied the link between IT capabilities and performance. The relationship between IT capabilities and performance are mediated by organizational learning, dynamic capabilities, and knowledge management capabilities (Pavlou and El Sawy, 2005;

Tippins and Sohi, 2003; Tanriverdi, 2005).

The link between leadership styles and performance

Another important antecedent of performance in digital era is leadership style. Digital business transformation is about leadership (Bowersox, 2005). Regarding the link between leadership style and performance, transformational leadership has a significant influence on organizational learning and knowledge management which in turn affect organizational innovation and performance respectively (Aragon-Correa, J. A., 2005; Garcia-Morales, 2007; Noruzy, 201; Akay, 2018).

Conceptual framework and hypotheses

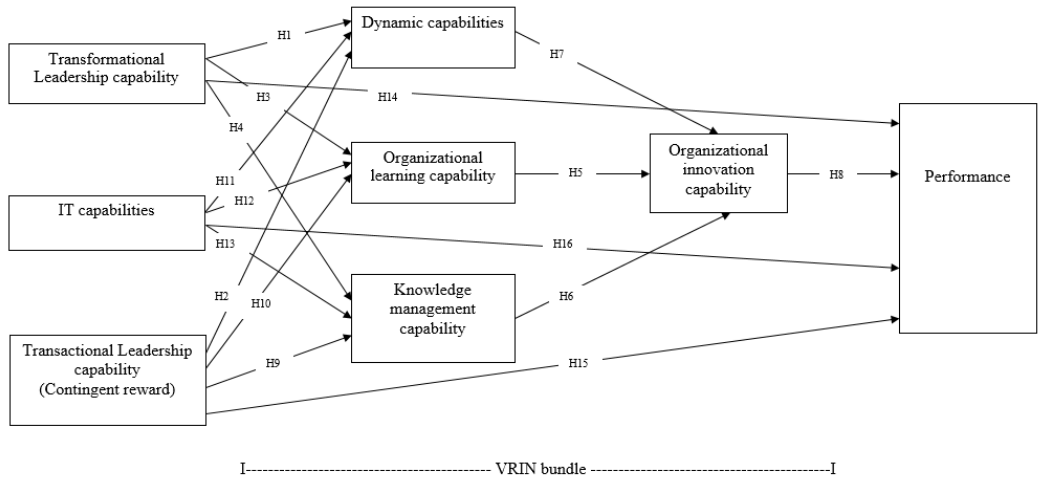

Figure 1 Conceptual framework and hypotheses

Population and sample

The target population in this research is personnel responsible for managing Thai private hospitals and clinics in Bangkok, Thailand. The respondents' position in the organizations should be managers or management level who are able to answer questions regarding the strategy, leadership, and management decisions. These include managers, medical director, chief executive officer (CEO), and owner/shareholder who is involved in management decisions. The target population is attained by the private hospital association of Thailand and the association of private clinics.

For structural equation modelling (SEM), there is no consensus in the literature regarding what would be the appropriate sample size for SEM (Baron and Kenny 1999, Fritz and MacKinnon, 2007). Kline (2011) guided that an adequate sample size should be 10 times of the amount of parameters in path analysis. There are 40 items in this research. Hence, at least 400 valid responses should be acquired. Therefore, the sample size for this study is 400.

Data collection process

The information was collected through self-administered structured questionnaires distributed personally by the researcher to ensure a high response rate. The majority (95%) of the data are gathered from online based questionnaires while the rest are from paper based questionnaire. The questionnaires are in English and are translated into Thai to enable the participants to understand information clearly. The researcher identified potential respondent by phone calls or social network application. After the confirmation by phone or social network application, structured questionnaires are uploaded online for the respondent to answer. The period of data collection was from September 2019 to December 2019. The questionnaires were distributed to private hospitals and clinics in Bangkok by randomized sampling method.

Questionnaire design

Questionnaires are divided into 2 parts. Part1: Sample characteristics are classified as respondent profile and company profile as follows: Respondent profile include gender, age (years), education, job title. Company profile include number of employees and age of the organization (years). Part2: Eight variables assembling the conceptual framework of this research include transformational leadership, transactional leadership, IT capabilities, dynamic capabilities, organizational learning capabilities, knowledge management capabilities, organizational innovation capabilities, and performance. To identify the target population, the screening question is placed at the beginning of the questionnaire before sample demographics to check whether the respondent is involved in the management decisions or not.

Data analysis

Demographics data were analyzed by frequency and percentage. Descriptive statistics of the constructs were measured by utilizing five-point likert scales to assess mean scores and standard deviation. Structural equation model (SEM) was used to test the relationship between the constructs. Measurement model and structural model fitness are tested by the goodness of fit indices such as Chi-square, factor loading, RMSEA, SRMR, GFI, TLI, CFI, and CMIN/DF. Model modification was done until acceptable model fit was achieved. Level of acceptance of fit indices are demonstrated in table 1.

Table 1 Fit indices and level of acceptance

Name of category	Name of index	Level of acceptance
1. Absolute fit	Chi-Square	P-value > 0.05. (Hair et al., 2006)
	RMSEA	RMSEA < 0.08 (Hair et al., 2006)
	RMR	RMR< 0.08 (Hair et al., 2006)
	GFI	GFI > 0.80 (Baumgartner and Homburg, 1995)
2. Incremental fit	CFI	CFI > 0.90 (Marsh, Hau, & Wen, 2004)
	TLI	NFI > 0.90 (Bentler and Bonnet, 1980)
3. Parsimonious fit	Chisq/df	Chi-Square/ df < 3.0 (Kline, 1998)

Results

Descriptive analysis

Regarding personal data, the statistics show that the majority of respondents are female (N=245 or 61.3%) as shown in Table 2. The age of respondents varied widely. The highest percentage is age group is 35-49 (N=223 or 55.8%) followed by age group 25-34 (N=118 or 29.5%). Most of respondents (%) have the education level of bachelor degree (N=148 or 37%). In terms of job title of the respondents, all of them are at management level consisting of managers, medical director, CEO, owner/shareholder who is involved in management decisions, and others. Others were found to be consisted of medical doctor who is involved in management decisions, marketing director, department director, senior head of department, head of laboratory, executive director, purchasing manager, and deputy director. Regarding company characteristics, the result show that the number of employees are mostly 10-49 (N=108 or 27%) followed by 1-9 (N=86 or 21.5%). Age of organization varied widely. The highest percentage is 30 years or more (N=112 or 28%) followed by age group 11-20 years (N=85 or 21.25%) as shown in Table 2.

Table 2 Respondent and company profile

Demographic Features	Frequency	Percent
Gender		
Male	155	38.8
Female	245	61.3
Your age		
under 25	0	0
25-34	118	29.5
35-49	223	55.8
50-64	51	12.8
65 or above	8	2
Your education		
Below Bachelor degree	5	1.3
Bachelor degree	148	37
Master degree	104	26
Doctoral degree	22	5.5
Medical doctor	121	30.3
Other	0	0
Your job title		
Manager	103	25.75
Medical director	26	6.5
Chief Executive Officer	12	3
Owner/shareholder	141	35.25
Other	118	29.5
Number of employees working in your organization		
1-9	86	21.5
10-49	108	27
50-199	67	16.75
200-499	55	13.75
500-999	34	8.5
1000-4999	45	11.25
above 5000	5	1.25
Age of your organization		
1-5	68	17
6-10 years	72	18
11-20 years	85	21.25
21-30 years	63	15.75
30 years or more	112	28

As demonstrated in table 3, means, standard deviations, and level of agreement are presented in order to describe company's characteristics in terms of their transformational leadership, transactional leadership, IT capabilities, dynamic capabilities, organizational learning capabilities, knowledge management capabilities, organizational innovation capabilities, and performance.

Table 3 Mean and standard deviation of variables (N=400)

Variable	Mean	Standard Deviation	Level of Agreement
Transformational leadership	3.61	0.864	Agree
Transactional leadership	3.89	0.871	Agree
IT capabilities	3.95	0.879	Agree
Dynamic capabilities	3.87	0.832	Agree
Organizational learning capabilities	3.90	0.823	Agree
Knowledge management capabilities	3.73	0.852	Agree
Organizational innovation capabilities	3.86	0.886	Agree
Variable	**Mean**	**Standard Deviation**	**Level of Perceived performance**
Performance	2.91	0.815	Average

Validity and reliability testing

Various tests were conducted to examine the validity and reliability of the measurement model. Confirmatory factor analysis (CFA) was used to test the validity of latent variables in the research model. Stevens (1992) recommends that factor loading is accepted at the value greater than 0.40. Hair et al. (2006, p128) mention that sample size of 350 should have sufficient factor loading of 0.3. Average variance extracted (AVE) was tested to indicate convergent validity of the constructs. A score of 0.50 or above is desirable. Cronbach's alpha and composite reliability are examined for reliability. Both measurements are aimed at 0.70 or higher. The summary of values of factor loading, Cronbach's alpha, composite reliability, and Average variance extracted (AVE) are demonstrated in Table 4. All values indicated that all constructs met the tests for validity and reliability.

Table 4 Reliability and validity of the constructs (N=400)

Variables	Indicators	Loading/ Weights	Cronbach's Alpha	Composite Reliability	AVE
TFL	TFL1	0.74	0.90	0.90	0.63
(Transformational	TFL2	0.8			
leadership)	TFL3	0.87			
	TFL4	0.75			
	TFL5	0.81			
TSL	TSL1	0.79	0.87	0.87	0.58
(Transactional	TSL2	0.73			
leadership :	TSL3	0.8			
contingent	TSL4	0.73			
reward)	TSL5	0.74			
ITC	ITC1	0.75	0.89	0.89	0.63
(IT capabilities)	ITC2	0.84			
	ITC3	0.85			
	ITC4	0.71			
	ITC5	0.81			
DC	DC1	0.77	0.92	0.92	0.69
(Dynamic	DC2	0.86			
capabilities)	DC3	0.9			
	DC4	0.79			
	DC5	0.84			
OLC	OLC1	0.84	0.89	0.89	0.62
(Organizational	OLC2	0.91			
learning	OLC3	0.81			
capabilities)	OLC4	0.77			
	OLC5	0.55			
KMC	KMC1	0.68	0.91	0.91	0.66
(Knowledge	KMC2	0.75			
management	KMC3	0.94			
capabilities)	KMC4	0.9			
	KMC5	0.76			
OIC	OIC1	0.78	0.90	0.90	0.64
(Organizational	OIC2	0.85			
innovation	OIC3	0.84			
capabilities)	OIC4	0.83			
	OIC5	0.7			
P	P1	0.74	0.85	0.85	0.54
(Performance)	P2	0.61			
	P3	0.69			
	P4	0.82			
	P5	0.79			

The goodness of fit test

Table 5 showed the goodness of fit of the model. Chi-square was accepted as it met the criteria of P-value > 0.05 (Hair et al., 2006). CMIN/DF met the criteria at the minimum threshold of Chi-Square/df < 3.0 (Kline, 1998). In case of RMR and GFI, and AGFI. The rule of thumb for acceptance for these tests was: RMR < 0.06 (Hair et al., 2006) and GFI > 0.80 (Baumgartner and Homburg, 1995). In the research model, RMR and GFI met the criteria. Thus, for this set of criteria, the default model was acceptable. For IFI/TLI and CFI, the acceptance threshold was set at ≥ 0.90 based on standard levels from Marsh, Hau, & Wen (2004) and Bentler and Bonnet (1980). RMSEA was accepted for goodness of fit. The threshold for this factor was RMSEA < 0.08 (Hair et al., 2006). Based on this analysis, the researcher determined that the model had adequate goodness of fit for the research.

Table 5 Goodness of fit of the model

Chi-square	CMIN/DF	GFI	TLI/NFI	CFI	RMR	RMSEA
P=0.27	1.034	0.875	0.996	0.997	0.032	0.013

SEM outcomes

The fit indices were tested and the proposed model had an adequate fit to the data. The final analysis is the path analysis which test and quantify the relationship between each variable in the research by analyzing the regression weights and standardized regression weights. The significant and non-significant paths are shown in straight and broken lines respectively in Figure 2. Statistical coefficients range from 0.16 (dynamic capabilities to organizational innovation capabilities) to 0.93 (IT capabilities to dynamic capabilities).

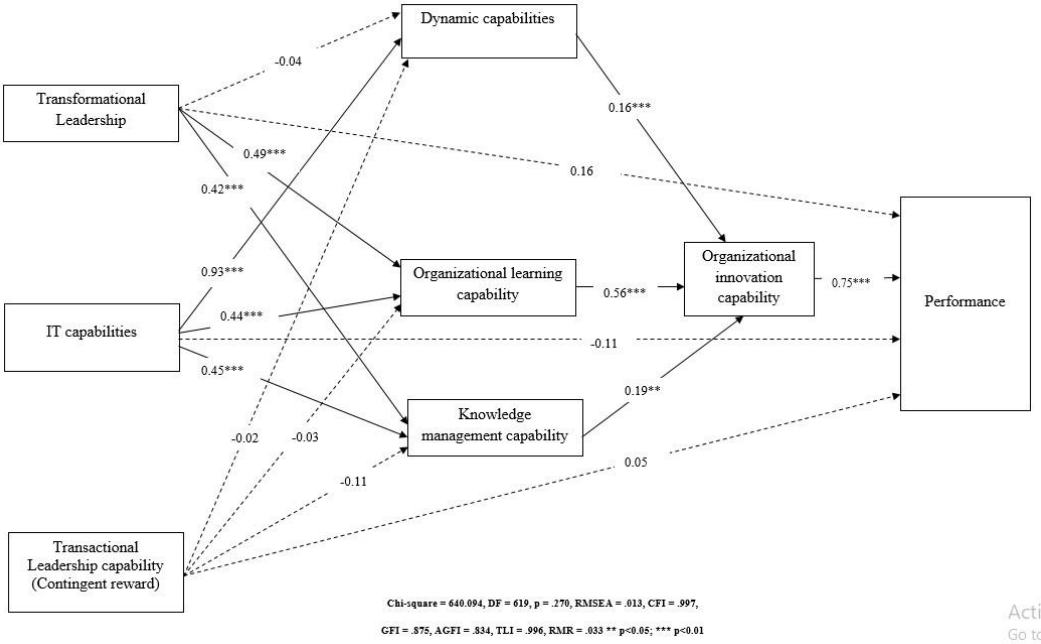

Figure 2 Path model with standardized coefficients.

Hypothesis testing

There are 16 hypotheses in this research of which the results are summarized in table 6.

Table 6 Hypothesis testing

Hypothesis	statement	outcome
H1	Transformational leadership have significant direct effect on dynamic capabilities	Not-accepted
H2	Transactional leadership have significant direct effect on dynamic capabilities	Not-accepted
H3	Transformational leadership have significant direct effect on organizational learning capabilities	Accepted
H4	Transformational leadership have significant direct effect on knowledge management capabilities	Accepted
H5	Organizational learning capabilities have significant direct effect on Organizational innovation capabilities	Accepted
H6	Knowledge management capabilities have significant direct effect on Organizational innovation capabilities	Accepted
H7	Dynamic capabilities have significant direct effect on Organizational innovation capabilities	Accepted
H8	Organizational innovation capabilities have significant direct effect on Performance	Accepted
H9	Transactional leadership have significant direct effect on knowledge management capabilities	Not-accepted
H10	Transactional leadership have significant direct effect on organizational learning capabilities	Not-accepted
H11	IT capabilities have significant direct effect on dynamic capabilities	Accepted
H12	IT capabilities have significant direct effect on organizational learning capabilities	Accepted
H13	IT capabilities have significant direct effect on knowledge management capabilities	Accepted
H14	Transformational leadership have significant direct effect on performance	Not-accepted
H15	Transactional leadership have significant direct effect on performance	Not-accepted
H16	IT capabilities have significant direct effect on performance	Not-accepted

Regarding the testing of indirect effect of transformational leadership, transactional leadership, and IT capabilities on performance, the results of direct effects, indirect effect, and total effect of transformational leadership, transactional leadership, and IT capabilities on performance are shown in table 7.

1.Transformational leadership has significant indirect effect on performance through the mediating effect of dynamic capabilities, organizational learning capabilities, and knowledge management capabilities which in turn affect organizational innovation capabilities.

2.Transactional leadership has no significant indirect effect on performance through other variables.

3.IT capabilities has significant indirect effect on performance through the mediating effect of dynamic capabilities, organizational learning capabilities, and knowledge management capabilities which in turn affect organizational innovation capabilities.

Table 7 Direct effect, indirect effect, and total effect

Variable	Direct effect on performance	Indirect effect on performance	Total effect on performance
Transformational leadership	0.16	0.23*	0.39*
IT capabilities	-0.11	0.33*	0.22*
Transactional leadership (contingent reward)	0.05	-0.03	0.02

** P<.05*

Conclusion

In conclusion, the results showed that transformational leadership and IT capabilities indirectly enhance performance via the mediating effects of dynamic capabilities, organizational learning capabilities, knowledge management capabilities which in turn have positive effect on organizational innovation capabilities. Regarding leadership styles, it can be inferred that transformational leadership is more relevant in the context of digital era than transactional leadership. Therefore, we conclude that if Thai hospitals and clinics intend to achieve better performance on digital era, they should consider building these capabilities including transformational leadership, IT capabilities, dynamic capabilities, organizational learning capabilities, knowledge management capabilities and organizational innovation capabilities. They also need to understand the mechanism or the interactions between each capability.

Discussion

Our findings showed that transformational leadership have indirect effects on performance via the mediating effects of dynamic capabilities, organizational learning capabilities, knowledge management capabilities which in turn effect organizational innovation capabilities. These findings are consistent with previous studies, particularly those developed by Aragon-Correa (2005), J. A., Garcia-Morales (2007), Noruzy (2012), and Akay (2018). Transformational leadership did not have significant direct effect on dynamic capabilities. Most previous studies did not test the relationship between transformational leadership and dynamic capabilities. Lopez-Cabrales (2015) argue that transformational leadership was found to be positively associated with sensing and seizing proxy of dynamic capabilities. Transactional leadership (contingent rewards) did not have significant effects on other variables in this study. Transactional leadership has not been applied or studied much at the strategic level.

Previous literatures suggest that transformational leadership has better performance outcomes than transactional leadership (Epitropaki and Martin, 2005; Lopez-Cabrales, 2015). IT capabilities also have indirect effect on performance via the mediating effects of dynamic capabilities, organizational learning capabilities, knowledge management capabilities which in turn effect organizational innovation capabilities. These findings are in line with Tippins and Sohi (2003), Pavlou and El Sawy (2005) and Tanriverdi (2005).

All above discussions suggest that IT capabilities and transformational leadership themselves may not be enough to enhance performance in digital era. They have to work through the buildings of dynamic capabilities, organizational learning capabilities, and knowledge management capabilities which in turn affect organizational innovation capabilities and eventually lead to performance.

Implications

This paper bridges a gap in the literature concerning the indirect link between leadership styles, IT capabilities, and performance. The research demonstrated the importance of integrating IT capabilities and transformational leadership along with other relevant organizational capabilities such as dynamic capabilities, organizational learning capabilities, knowledge management capabilities, and organizational innovation capabilities to enhance performance in digital era. This research also showed that IT capabilities and leadership styles could be integrated and studied together under the same mechanism how they indirectly enhance performance in digital era for private healthcare sector.

Regarding managerial implications, the findings are also relevant for practice. Due to the difference in organization size, complexity, and flexibility of management between private hospitals and clinics, specific implications may be needed for each group. Private clinics are relatively smaller in organization size with less complexity and more flexibility in management when compared to private hospital. However, there are six common resources and capabilities that both private clinics and hospitals should have to enhance performance in digital era as follows.

First, private hospitals and clinics should start from recruiting or creating managers or executives who are transformational leaders. This kind of leader always lookout for new opportunities such as new medical treatments, new health trends, emerging customer segment, etc. The manager also need to transmit the organization's mission, vision, and purpose to all of the employees and encourage them to rethink about old problems in new ways. For example, the pain clinic has the mission to cure the pain of the patients by alleviating and treating every possible related disease. The employees of the pain clinic are then trained to prepare the clinic's environment, instruments, and medical treatments to comfort the patient and lessen their pain both physically and emotionally. The old problem clinics have smaller facility compared to hospitals could be solved by the relevant point of care. The manager or executive should also be able to increase the level of enthusiasm of the employees, motivate

and guide the employees on their job. For private hospitals, there is a challenge in creating the effectiveness of the role of transformation leaders due to less flexibility in management when compared to private clinics. Nevertheless, if executives of private hospitals could inspire and motivate the employees to break out of the routine, this will be a good start for them to transform in digital era. Transactional leadership may not be useful in this context since it only deal with short term and does not stimulate change to cope with fast changing environment.

Second, private hospitals and clinics should invest in IT capabilities. For private hospitals, there should be a proper IT department with IT manager or director who will direct and manage the use of IT for the organizations. Private clinics have smaller databases in which they could use IT outsourcing company to manage the clinic's IT system, platform, and database. IT or digital technologies such as internet and social media could be used to collect and analyze market information. There should be a vision regarding how IT or digital technologies contributes to business value. For example, hospital information system is exploited as the core program that hospital personnel use to generate a fast and smooth process of patient care and patient experience. Private hospitals and clinics should also have the knowledge to utilize and maintain digital based communication links with both the employees and the customers.

Third, both private hospitals and clinics should have dynamic capabilities to cope with changing market environments. They should frequently scan the environment for new business opportunities and make use of IT or digital technologies to implement new business process, create new customer relationship or even change way of doing business. For example, telehealth has been utilized by private hospitals and clinics to increase compliance and convenience for the patients. Private check-up clinics could use one-stop service mobile application for clients to book and pay for home service health check-up without having to visit the clinic.

Fourth, organizational learning capabilities should be cultivated. Once fostered, they are called learning organizations where employee learning is perceived as an investment, not an expense. New knowledge that enter the organization will create critical capabilities and skills for the employees. For private clinics, doctors who have the best technical knowledge in the business must be able to share and convey relevant knowledge to the manager and rest of the employees in the clinic.

Fifth, private hospitals and clinics should develop knowledge management capabilities. In order to do so, they must have processes for acquiring, integrating, and exchanging different sources and types of knowledge within and outside the organization. For example, they could frequently host a training or seminars with employees, customer, and business partners. These capabilities are very crucial for private hospitals where there are multiple departments and professions with complex structure.

Last, organizational innovation capabilities should be fostered. This could start from the management's comprehension that support and

encourage innovation. New ideas from customers, suppliers, and stakeholders are evaluated and included in product or service development activities which the employees are stimulated to participate. In this case, private clinics that are less complex but more flexible in management can have better opportunities in developing these capabilities. For example, they can implement newly approved innovative medical treatments such as new vaccines and stem cells in short time. Private hospitals will have to undergo many steps in the trials of new innovative projects before being successfully implemented due strict regulations. By this way, private hospitals and clinics are able to develop and produce new products or services continually. However, efforts to increase the quality of existing products or services should not be neglected.

Limitations and recommendation for future research

There are several limitations of this study that should be considered when interpreting its findings. First, this research only focuses on the constructs identified from theory and the nature of their relationships. Other constructs may exist, for example: organization structure, marketing capabilities, organizational culture, environmental dynamism, etc. Regarding leadership style, this study investigated only transformational leadership and transactional leadership. Future study could consider including these and other leadership styles like digital leadership, participative leadership, functional results oriented healthcare leadership, etc.

Second, this paper solely concentrated on private hospitals and clinics. Other groups of private healthcare providers such as spa, dental clinic, and wellness center may be included. Public hospital and clinics could provide different or wider evidence. Furthermore, this research did not reflect conditions of other healthcare business provider outside Bangkok and Thailand. It would be interesting to explore in other provinces of Thailand or outside Thailand.

Third, the subjective scale of perceived performance that the company perform within 3 years may not validate the result of the study. Future study could use both objective and subjective measurement of performance.

The final limitation is the study design. This research is cross-sectional which only reflect the time of data collection.

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