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# The role of Leadership Styles and Organizational Capabilities on Performance in digital era: private hospitals and clinics, Thailand

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## Abstract

The objective of this paper is to examine the impact of leadership styles and organizational capabilities on performance in digital era, considering the mediating role of dynamic capabilities, organizational learning capabilities, knowledge management capabilities, and organizational innovation capabilities. This study tested the research model using structural equation modelling (SEM). A structured 40 items questionnaire exploring the relationship between leadership styles and organizational capabilities on performance was developed. Total of 400 valid questionnaires were collected from 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, knowledge management capabilities, and 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 by integrating leadership styles and organizational capabilities that include dynamic capabilities. This research also advance the usage of resource based view (RBV) and dynamic capabilities (DC) lenses to understand the mechanism how leadership styles and organizational capabilities enhance performance in private healthcare service provider context.

**Keywords:** Dynamic capabilities, Organizational innovation capabilities, Performance, Resource based view, Transformational leadership

## 1. Introduction

Improving performance is considered as one of the most important objectives for the organizations (Nwankpa, 2016). In strategic management, resource bases view (RBV) theory of the firm has been accepted as one of the most dominant theoretical perspectives (Newbert, 2007). RBV has been used to explain sources of better Performance whether operational performance or financial performance (Adnan, 2018; Flynn et al, 2017). RBV 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). RBV seems to be diffused into healthcare organization as a promising theory for healthcare management (Ferlie, 2014). 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. Maintaining performance in digital era according to RBV faced a new challenge as the existing theory was not be compatible with rapidly changing or dynamic environment. Dynamic capabilities (DC) extend beyond resource based view of the firm (RBV) and emphasize on capabilities that can modify the resources to increase the firm's strength to cope with changing environment. RBV or DC's use in digital era for healthcare sector is even more scarce in the literature. Applying RBV and exploring the mechanism of how RBV can explain the sources of firm performance in digital era for 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). Thailand has low cost of medical care, good quality, and the hub of travel and aviation which support medical tourism. Thailand also has adequate size of population and increasing aging population that support the cost reduction of medical and management expenses. 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

This study focus on the factors that may be the sources of performance in digital era by using RBV theory. The mechanism or structural paths of how these factors interact or align is explored and confirmed. These factors are leadership styles (transformational leadership and transactional leadership), IT capabilities, dynamic capabilities, organizational learning capabilities, knowledge management capabilities, and organizational innovation capabilities. Limited studies have empirically tested the relationship between these organizational capabilities and performance in digital context.

This study contributes to theoretical and practical usage of the resource-based view and dynamic capabilities approach in the domain of private healthcare service provider organizations. This research also advance the usage of RBV and DC lenses to understand the mechanism how organizational capabilities enhance performance in private healthcare service provider context.

## 2. Theoretical background, research framework, and hypotheses

### 2.1 Theoretical background

Resource based view (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). The static nature of Barney's (1991) RBV

over time is one of the primary critiques. Firm resources comprise of all assets, capabilities, firm attribute, organizational processes, knowledge, information, etc.

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 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, 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.

Organizational capabilities refer to the ability of an organization to utilize resources and perform coordinated task in order to achieve a particular end result or performance (Helfat and Peteraf, 2003). Organizational capabilities can be classified into operational capabilities and dynamic capabilities (Helfat ,2003).

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 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 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.

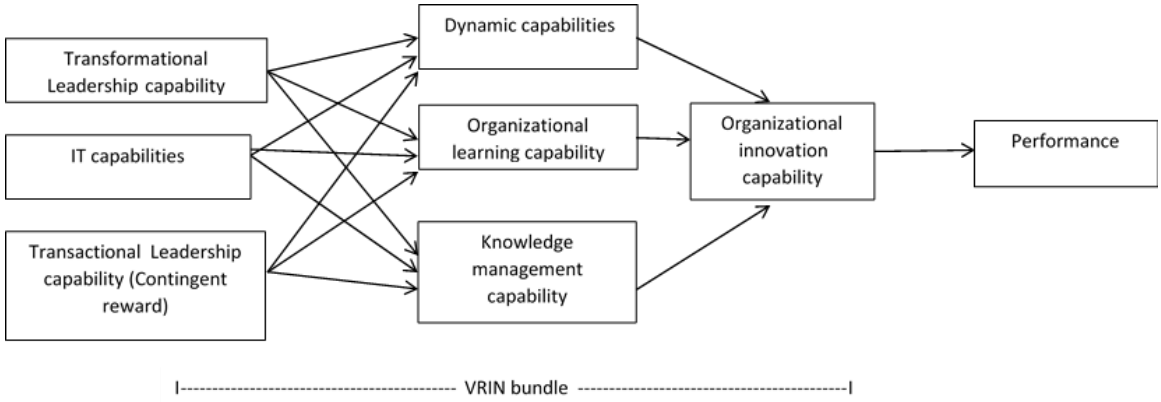
Innovation capabilities is defined as "the potential to generate new ideas, identify new market opportunities and implement marketable innovations by leveraging on existing resources and capabilities" (Hii and Neely, 2000, p. 5). Regarding the components of innovation capabilities, Adler and Shenbar (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.

Competitive advantage is a relative performance of competitors in a specific market environment. Competitive advantage typically refers to superior financial performance which can be described as value creation or above normal returns (Winter 1995; Peteraf and Barney, 2003). In this study, we use the term "performance" which is comprehensive and measurable as a dependent factor.

### 2.2 Research framework

Building on the background literature discussed above, Figure 1 illustrate the research model. The study proposed that leadership styles (transformational leadership and transactional leadership) and IT capability have indirect effect on firm performance through the mediating effect of dynamic capabilities, organizational learning capability, and knowledge management capability which in turn effect organizational innovation capabilities and firm performance respectively. The specific hypotheses are discussed below.

*Figure 1: Research Model*




## 2.3 Hypothesis

Both transactional (contingent reward) and transformational leadership styles are found to be positively associated with dynamic capabilities (sensing, seizing and reconfiguration), directly and indirectly (Lopez-Cabrales, 2017). Therefore, we propose that :

H1: Transformational leadership have positive impact on dynamic capabilities

H2: Transactional leadership (contingent reward) have positive impact on dynamic capabilties

Transformational leadership had a strong and significant influence on organizational learning which in turn affect organizational innovation and performance respectively (Aragon-Correa, J. A., 2005; Garcia-Morales, 2007). Noruzy (2012) had studied the relationship between transformational leadership, organizational learning, knowledge management, organizational innovation and performance in Iranian manufacturing firms. It was found that transformational leadership indirectly influenced organizational performance through organizational learning, knowledge management, and organizational innovation. Akay (2018) similarly discovered that transformational leadership was the key contributing factor for organizational learning and knowledge management which in turn influence organizational innovation. Therefore, we propose that:

H3: Transformational leadership have positive impact on organizational learning capabilties

H4: Transformational leadership have positive impact on knowledge management capabilities

H5: Organizational learning capabilties have positive impact on Organizational innovation capabilities

H6: Knowledge management capabilities have positive impact on Organizational innovation capabilities

H7 :Organizational innovation capabilities have positive impact on Performance

Dynamic capabilities have indirect effect on performance and direct effect on organizational innovation capabilities (Ferreira, 2018).

H8: Dynamic capabilties have positive impact on Organizational innovation capabilities
Ngyyen (2009) examined the influence of transformational and transactional leadership behaviors on knowledge management. The results showed that both transformational and transactional leadership especially contingent reward were positively related to knowledge management. Furthermore, contingent reward proxy of transactional leadership was found to have a significant impact on organizational learning (Zagoršek, 2009; Alsabbagh, 2016). Therefore, we propose that :

H9: Transactional leadership (contingent reward) have positive impact on knowledge management capabilities

H10: Transactional leadership (contingent reward) have positive impact on organizational learning capabilties
IT capabilities was studied and found to have direct effect on performance according to resource based view of the firm (Bharadwaj, 2000). Later, researches on IT capability has found that IT capabilities had a significant and direct positive impact on organizational learning (Tippins and Sohi, 2003), dynamic capabilities (Pavlou and El Sawy, 2005), and knowledge management capability (Tanriverdi, 2005). Therefore, we propose that :

H11 : IT capabilties have positive impact on dynamic capabilties

H12 : IT capabilties have positive impact on organizational learning capabilties

H13 : IT capabilties have positive impact on knowledge management capabilities

## 3. Methods

The purpose of this study was to understand the relationships between leadership styles, IT capabilities, dynamic capabilities, organizational learning capabilities, knowledge management capabilities, organizational innovation capabilities and performance for healthcare sector in digital era. The research also aimed to determine the modelling and causal effects of these variables. The survey method where primary data was collected formed the basis of the chosen methodology for this research study. This study therefore use quantitative approach to test the research model.

### 3.1 Data collection

This research investigate private hospitals and clinics that are headquartered in Bangkok, Thailand. Constructs are measured at organizational level. A number of 400 respondents (N=400) were aimed. Randomized sampling method were used to collect data from 400 manager level or above personnel. The list of private hospitals and clinics are according to the private hospital association of Thailand and the association of private clinics. Specifically, 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. The first step was to identify potential respondent by phone calls or social network application. After the confirmation by phone or social network application, Structured questionnaires are mailed or uploaded online for the respondent to answer.

### 3.2 Procedures

The quantitative procedures will include descriptive statistics and inferential statistics. For descriptive statistics, frequency, mean, and SD are measured for each constructs. To test and explore the relationships between the constructs, structural equation modeling (SEM) technique was used. Confirmatory factor analysis (CFA) will be done to assess the validity of data whether it fit the hypothesized model. Convergence and discriminant will also be testes for construct validity. For reliability, Cronbach's Alpha was performed at the construct level. All the constructs measured above the benchmark of 0.7 are accepted. Structural model fitness was tested by the goodness of fit index such as Chi-square, factor loading, RMSEA, SRMR, GFI, TLI, CFI, and CMIN/DF. Measurement model modification was done until at least acceptable model fit is 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 > 0.90 (Hair et al., 2006) |
| 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 < 2.0 (Paswan, 2009) |

*Source: (adopted from Holmes-Smith et al., 2004)*

Once all constructs in the measurement model were validated and fit indices achieved, the structural model were then tested for path analysis. Modification of structural model was done until at least acceptable model fit was achieved.

### 3.3 Constructs and Measurements

Althought variations across the studies were found, the conceptual measurements were consistent. We summarized the measures of each construct as follows. 5 point likert scales were used for the questionnaires of each construct. To develop measures for each construct,

we adopted items from literatures as shown in table 2. Each construct is a first-order factor consisted of 5 items.

*Table 2: Construct and literature source*

| Construct | Literature source |
|---|---|
| Transformational leadership | Noruzy (2012), Garcia Morales et al. (2012), Ur Rehman et al. (2019). |
| Transactional leadership | Ur Rehman et al. (2019), Pearce (2002). |
| Dynamic capabilities | Drnevich (2011) |
| Organizational learning capabilities | Garcia Morales et al. (2012), Ur Rehman et al. (2019) |
| Knowledge management capabilities | Al-bahussin (2013), Noruzy (2012). |
| Organization innovation capabilities | Akman (2008), Nwankpa (2016). |
| Performance | Gowen (2009), Garcia Morales et al. (2012), and Noruzy (2012) |

## 4. Results

There are 2 parts of this section: measurement model and structural model. Data are screened for missing data. There were no negative items that need to be reversed. By examining the questionnaires, 3.38% missing cases were identified of which those cases were removed from the data analysis. Double check was performed in the data entry process to increase accuracy. Frequency distribution statistics showed 4 mistakes in data entry process.

### 4.1 Measurement Model

Various tests were conducted to examine the validity and reliability of the measurement model. Confirmatory factor analysis (CFA) was conducted for all latent variables use in the research model. Factor loading is accepted at the value greater than 0.50 and preferably 0.70 or above as recommended by Hair et al. (1998). 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 3. All values indicated that all constructs met the tests for validity and reliability.

*Table 3: Summary of the Measurement Model*

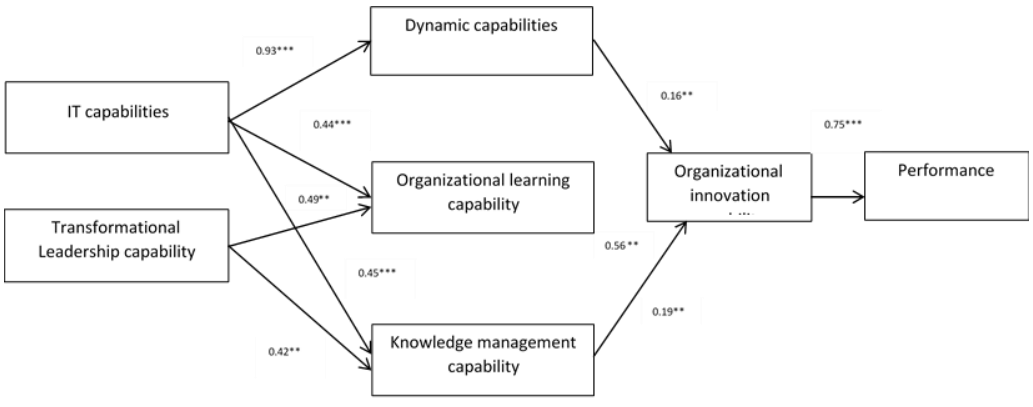
| Variables | Indicators | Loading/Weights | Cronbach's Alpha | Composite Reliability | AVE |
|---|---|---|---|---|---|
| TFL (Transformational leadership) | TFL1 | 0.74 | 0.90 | 0.90 | 0.63 |
| | TFL2 | 0.8 | | | |
| | TFL3 | 0.87 | | | |
| | TFL4 | 0.75 | | | |
| | TFL5 | 0.81 | | | |
| TSL (Transactional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

| | | | | | |
|---|---|---|---|---|---|
| (Organizational innovation capabilities) | OIC2 | 0.85 | | | |
| | OIC3 | 0.84 | | | |
| | OIC4 | 0.83 | | | |
| | OIC5 | 0.7 | | | |
| P (Performance) | P1 | 0.74 | 0.85 | 0.85 | 0.54 |
| | P2 | 0.61 | | | |
| | P3 | 0.69 | | | |
| | P4 | 0.82 | | | |
| | P5 | 0.79 | | | |

### 4.2 Structural Model

The first model was tested according to the hypothesis. Covariance were done until the final path model revealed acceptable fit indices. The final path model is shown in figure 2. Therefore the results indicated a reasonable fit between the model and the data. The final path model is accepted as the empirical model of this research.

*Figure 2: Final path model with standardized coefficients.*




## 5. Discussion and implications

This section presents the discussions and implications of the results of the current study. The results of the study are discussed with regard to the existing literature. Both theoretical and practical implications of these results are presented.

Our findings showed that Transformational leadership have the effects on Organizational learning capabilities, Knowledge management capabilities which in turn effect organizational

innovation capabilities and performance consequently. 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 any significant effect on dynamic capbilities. Most previous studies did not test the relationship between Transformational leadership and dynamic capbilities. Lopez-Cabrales (2015) argued 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 have indirect effect with organizational innovation capabilities and performance through the mediating effects of dynamic capabilities, Organizational learning capabilities, and Knowledge management capabilities. These findings are in line with Tippins and Sohi (2003), Pavlou and El Sawy (2005) and Tanriverdi (2005). Bharadwaj (2000) argued that IT capabilities have direct effect with performance.

This paper bridge a gap in the literature concerning the relationship between leadership styles, organizational capabilities, and performance. The research demonstrated the importance of integrating IT capabilities, dynamic capabilities, Organizational learning capabilities, Knowledge management capabilities, and organizational innovation capabilities as parts of organizational capabilities that together with transformational leadership enhance performance in digital era.

The findings are also relevant for practice. First, managers and executives of private hospitals and clinics should develop transformational leadership and IT capabilities for their organizations in digital era. Second, dynamic capabilities, Organizational learning capabilities, and Knowledge management capabilities have to be created. Last, a culture of innovation should be fostered to build organizational innovation capabilities in order to achieve better performance in digital era.

## 6. Limitations and future research

First, this study investigate only transformational leadership and transactional leadership style. Future study could consider other new and emerging leadership style like digital leadership. Second, this research use subjective measures of performance. Future study could use both subjective and objective measures of performance. Third, there are other variables that interrelate or moderate with the factors in this study such as organizational culture, organization structure, environmental dynamism, etc. Future study could include these in the research model. Finally, 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.

## 7. Conclusion

The results showed that transformational leadership and IT capabilities have indirect effects on performance via Dynamic capabilties, Organizational learning capabilities, Knowledge management capabilities which in turn effect organizational innovation capabilities. 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 capabilties, organizational learning capabilities, knowledge management capabilities and organizational innovation capabilities. They also need to understand the mechanism or the interactions between each capability. From this study, the empirical model for leadership styles and organizational capabilities for performance in digital era is establised.

## References

[1] Adnan, M., Abdulhamid, T., & Sohail, B. (2018). Predicting Firm Performance Through Resource-Based Framework. *European Journal of Business & Management*, *10*(1), 31-36.

[2] Akay, E., & Demirel, A. G. (2017). Transformational leadership and innovation: An empirical study of direct and indirect effects in HR consulting companies. *International Journal of Business & Management*, *13*(1), 131-142.

[3] Akman, G., & Yilmaz, C. (2008). Innovative capability, innovation strategy and market orientation: an empirical analysis in Turkish software industry. *International journal of innovation management*, *12*(01), 69-111.

[4] Al-Bahussin, S. A., & El-Garaihy, W. H. (2013). The impact of human resource management practices, organisational culture, organisational innovation and knowledge management on organisational performance in large Saudi organisations: Structural equation modeling with conceptual framework. *International Journal of Business and management*, *8*(22), 1.

[5] Alsabbagh, M., & Khalil, A. H. (2016). The impact of leadership styles on organizational learning (an empirical study on the education sector in Damascus city). *International Journal of Academic Research in Business and Social Sciences*, *6*(5), 197-216.

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

[7] Barney, J. (1991). Firm resources and sustained competitive advantage. Journal of management, 17(1), 99-120.

[8] Bass, B. M., & Avolio, B. J. (1992). Multifactor leadership questionnaire-short form 6S. *Binghamton, NY: Center for Leadership Studies*.

[9] Bharadwaj, A. S. (2000). A resource-based perspective on information technology capability and firm performance: an empirical investigation. *MIS quarterly*, 169-196.

[10] Carcary, M., Doherty, E., & Conway, G. (2016, September). A dynamic capability approach to digital transformation: a focus on key foundational themes. In *The European Conference on Information Systems Management* (p. 20). Academic Conferences International Limited.

[11] Lopez-Cabrales, A., Bornay-Barrachina, M., & Diaz-Fernandez, M. (2017). Leadership and dynamic capabilities: the role of HR systems. *Personnel Review*, *46*(2), 255-276.

[12] Drnevich, P. L., & Kriauciunas, A. P. (2011). Clarifying the conditions and limits of the contributions of ordinary and dynamic capabilities to relative firm performance. *Strategic management journal*, *32*(3), 254-279

[13] Eisenhardt, K. M., & Martin, J. A. (2000). Dynamic capabilities: what are they?. Strategic management journal, 21(10-11), 1105-1121.

[14] Ferlie, E. (2014). Resource based view: a promising new theory for healthcare organizations: comment on" Resource based view of the firm as a theoretical lens on the organisational consequences of quality improvement". *International journal of health policy and management*, *3*(6), 347.

[15] Ferreira, J., Cardim, S., & Branco, F. (2018, June). Dynamic capabilities, marketing and innovation capabilities and their impact on competitive advantage and firm performance. In *2018 13th Iberian Conference on Information Systems and Technologies (CISTI)* (pp. 1-7). IEEE.

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

[17] Gold, A. H., Malhotra, A., & Segars, A. H. (2001). Knowledge management: An organizational capabilities perspective. *Journal of management information systems*, *18*(1), 185-214.

[18] Gowen III, C. R., Henagan, S. C., & McFadden, K. L. (2009). Knowledge management as a mediator for the efficacy of transformational leadership and quality management initiatives in US health care. *Health care management review*, *34*(2), 129-140.

[19] Hair, A. (1998). Tatham, and Black. *Multivariate Analysis*.

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

[21] Nwankpa, J. K., & Roumani, Y. (2016). IT capability and digital transformation: a firm performance perspective.

[22] Rehman, S. U., Bhatti, A., & Chaudhry, N. I. (2019). Mediating effect of innovative culture and organizational learning between leadership styles at third-order and

organizational performance in Malaysian SMEs. *Journal of Global Entrepreneurship Research*, *9*(1), 36.

[23] Tangcharoensathien, V., & Lertiendumrong, J. (2000). Health-system performance. *The Lancet*, *356*, S31.

[24] Tippins, M. J., & Sohi, R. S. (2003). IT competency and firm performance: is organizational learning a missing link?. Strategic management journal, 24(8), 745-761.

[25] Wernerfelt, B. (1984). A resource-based view of the firm. Strategic management journal, 5(2), 171-180.