A Proposed Conceptual Framework for Organizational Readiness of Firms for Digital Business Transformation Strategy

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ABSTRACT

Pre-digital firms are facing real threat from the digital disruption caused by the rapid digital technologies development. Digital business transformation has become a hot topic among scholars and practitioners as a proper response to the digital disruption. However as per previous studies, most of the reported digital transformation initiatives fail to meet organizations ambitions, indicating the need for more research in this area. The lack for acceptable theoretical model that can help managers better understand the process of achieving digital transformation objectives motivated the researcher to conduct this study aiming to propose a model that helps managers to assess their firm's organizational readiness for digital transformation. The study will examine the roles of leadership and organizational culture in enhancing firm's readiness for digital transformation. The researcher will empirically validate the proposed model with 260 telecom employees in Yemen and using Structure Equation Modeling (SEM) to analyze the data. The researcher recommends to extend the proposed models to include technological and environmental factors that influence firm's readiness for digital business transformation. The proposed model will be a new contribution to the body of knowledge of digital transformation.

Keywords: Disruption; Digital; Transformation; Dynamic; Readiness; Capabilities

الملخص

تواجه ما يعرف بشركات ما قبل الحقبة الرقمية تهديدًا حقيقيًا مما يوصف بالاضطراب الرقمي الناجم عن التطور السريع للتكنولوجيات الرقمية. وعليه أصبح التحول الرقمي للأعمال موضوعًا ساخنًا بين العلماء واصحاب العمل كاستراتيجية مناسبة لمواجهة الاضطراب الرقمي. ومع ذلك. وفقًا للدراسات السابقة، فإن معظم مبادرات التحول الرقمي التي تم توثيقها عنها تفشل في تلبية الطموحات التنظيمية، مما يشير إلى الحاجة إلى مزيد من البحث في هذا المجال. عدم وجود نموذج نظري مقبول يمكن أن يساعد المدراء على فهم عملية تحقيق أهداف التحول الرقمي بشكل أفضل حفز الباحث لإجراء هذه الدراسة التي تهدف إلى اقتراح نموذج يساعد المدراء على تقييم الاستعداد التنظيمي لشركاتهم للتحول الرقمي. ستبحث الدراسة في أدوار القيادة والثقافة التنظيمية في تعزيز استعداد الشركات للتحول الرقمي.

سيقوم الباحث باختبار تجريبي للنموذج المقترح مع عينة من 260 موظف اتصالات في اليمن واستخدام نمذجة معادلة الهيكلية (SEM) لتحليل البيانات. يوصي الباحث بتوسيع النموذج المقترح لتشمل العوامل التكنولوجية والبيئية التي تؤثر على استعداد الشركات للتحويل الرقمي للأعمال. سيكون النموذج المقترح مساهمة جديدة في مجموعة المعرفة للتحول الرقمي.

مفردات: الاضطراب الرقمي، التحول الرقمي، القدرات التنظيمية، الاستعدادية

1. Introduction:

Pre-digital firms are facing real threat due to digital disruption facilitated by the rapid digital technology's development. Digital disruption happened occurred when new entrants introduced new innovated services based on digital technologies as that can partially or completely replace traditional services. Roger (2016) referred to the change result by the digital technologies as a revolution that changed the pre-digital rules and concepts. Due to digital disruption, the market structure and the rules of competition have been changed and completely different competitive opportunities and risks are being born (Porter & Heppelmann, 2014). Startups such as Uber, WhatsApp, Amazon, Airbnb surprise business leaders with their abilities to define successful business models based on digital technologies (Sanchez, 2017). The mention disruption is now affecting strategies of many industries including transportation, telecommunication, accommodation, manufacturing and others (Karimi & Walter, 2015, Stewart et al.; 2016). Telecommunication industry as other industries is being disrupted by digital services that offer telecommunication media for people over the internet and they have been known as Over the Top (OTT) services such as Skype, WhatsApp, Imo and other. Such services are substituting traditional telecommunication services due to its attractive features for users (Onyeji-Nwogu et. al, 2017). As to confirm this impact, the researcher has collected annual traffic reports and growth of Internet users in Yemen from the Ministry of Telecommunication that cover the period of 2006 - 2018. The graph in Figure 1 below shows a growth of International Direct Dialling (IDD) and Mobile Messaging before and after 2012. By 2012 and while Internet users keep growing and with the appearance of digital communication applications over the internet such as Skype, WhatsApp and other applications that offer customer better experience, the traditional telecommunication services usage started to decline. For example, IDD annual growth reached 40% in 2008 then dropped to negative growth of 20% by end 2017. Similarly, the total number of mobile SMS messaging dropped from 76 Million messages in 2008 to less than 38 Million messages in 2017. Hence both IDD and SMS messaging usage decline with time as Internet users keep increasing as shown. The justification of this drop is that customers in Yemen preferring the OTT services in performing communication over the traditional services and this phenomenon is increasing with time.

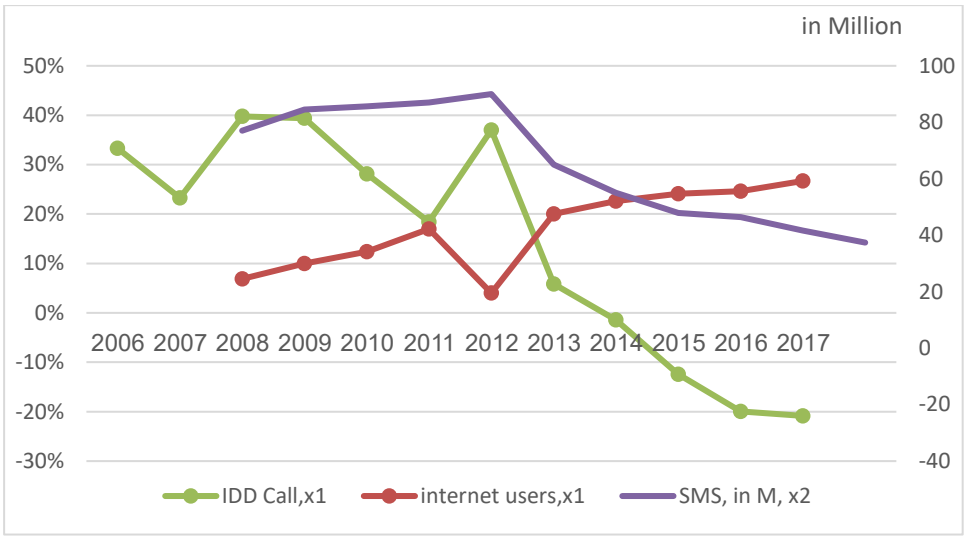

Figure: 1: Internet Users versus IDD calls and mobile SMS
Source of Data: Ministry of Telecommunication, Yemen

As per (Mihardjo & Sasmoko, 2019), telecommunication firms need to transform their services in new way to reduce the gap in business model innovations and develop new distinguished digital capabilities. Digital transformation is defined by Kotarba, (2018) as the modification of business models with the effective use of digital technologies that changes consumer and social behaviours. Digital transformation becomes a hot topic among scholars and partitions. Despite this focus on digital transformation, as per Nwaiwu (2018), there is still no consensus on a framework for digital transformation that can assist scholars and practitioners better understand the process to achieve digital business transformation objectives in a firm. Many managers don't see digital transformation is an easy process to implement (Afandi, 2017). According to Fitzgerald et al. (2014), many firms actually struggle to achieve the full benefits from this process. Many Scholars as per (Orji, 2019, Afandi, 2017; Sow & Aborbie, 2018; Mihardjo & Sasmoko, 2019) referred these difficulties to the missing required capabilities and the ignoring of development of the skills required by digital transformation. Hence there is a need to develop new frameworks that describe the preparedness of firms for digital transformation which represent a justified gap to conduct this study. The researcher is examining the role of leadership and culture values in improving firm's readiness for digital business transformation.

2. Literature review:

With the development of new disruptive services that effect many industries, the digital transformation become an attractive topic for many researchers. The technological development changed the source of competitive advantages (Packmohr, Mosconi, Santa-Eulalia, 2019). Many Scholars focused on challenges and opportunities of digital transformation and they tried to develop models for the digital transformation phenomenon. Nevertheless, there is still no full agreement on a solid framework for digital transformation that can answer all aspect in relation to digital transformation strategy as per a comprehensive review conducted by Nwaiwu (2018). The readiness of firms for digital transformation that is being addressed in this study among topics are being investigated by scholars and few of them tried to develop a readiness model for digital transformation. The researcher focuses in this study on the association relationship between operational capabilities and in particular leadership and culture values and the firm's organizational

readiness for digital transformation. The outcome of this study will constitute of a model for the digital transformation readiness that will represent a significant contribution in the body of knowledge of the digital transformation strategy.

2.1 Organizational Readiness for Digital Transformation

The readiness for change term is an old business term used by scholars in different areas. The readiness for change in a firm as per (Albano, 2010) is referring to the level to which people are prepared to perform organizational development practices. The readiness assessment is needed prior major change within an organization. Organizational readiness was described by (Weiner, 2009) as shared organizational team change commitment and belief in their shared capability to accomplish that change. Many changes failed because organizational readiness was not assessed for this change (Albano, 2010). There are two approaches that conceptualize organizational readiness found in literature. The first approach considers the psychological state of organizational team is related to organizational change (Armenakis et al., 1993). Organizational readiness as per this approach can be assessed by team's Change Commitment and Change efficacy (Albano, 2010). The second approach embraces the professional view was developed by Campbell et al. (2001) who suggested six dimensions of eHealth readiness (turf, efficacy, practice context, apprehension, time to learn and ownership). Based on both approaches, Albano (2010) developed a model consists of three components that have been recognized as relevant in the assessment of the overall organizational readiness for change: the innovation-oriented climate, the information maturity and the cooperation maturity. In this research, the researcher needs to measure the readiness of organizational firms to proceed with the digital transformation which represents fundamental change that effect all business process and operation. Hence the researcher uses Weiner, (2009) framework to measure organizational readiness construct with the two components; Change Commitment and Change efficacy.

2.2 Digital Leadership

Leadership is a topic that is attracting attention of many scholars whenever firm's performance is the interest issue. There are many theories found describing the role of leadership in firm's success and how leadership skills been developed.

Leadership has been understood in terms of individual traits, behaviour, influence over other people (Yukl, 2013). Stogdill (1974) defined leadership as the incorporate and keep of structure in expectation and interaction. Leaders in any firm are the main reason for the performance enhancement. The better leadership skills at any firm the better performance expected in that firm. As per (DeRue & Ashford, 2010), five essential components that define leadership including leaders - followers, influence, organizational targets, people, and change,

Different theories in relation to leadership have been found in literature including g**reat man theory, trait theory, behavioural theories, contingency theories, transaction theories and transformational theories. Great man** theory developed by Dowd on 1936 considers great leaders are innate and not made (Madanchian et al., 2016). Then the concept of this theory was extended in Trait theory. Trait theory explains leadership as individuals born traits that make them good leaders (Madanchian et al., 2016). Researchers support this thought suggested range of traits that they claim that are reasons for successful leadership (Fleenor, 2006). Examples of characteristics considered as traits of effective leaders are: intelligence, self-confidence, strategic focus, energy, decision makers, knowledge, tolerance of stress, determine when facing problems and result-orientation (Madanchian et al., 2016). Other researchers see leadership characteristics doesn't make any difference between leaders and followers (Fleenor, 2006). As a result, the thought of leadership as situational approaches was introduced which involve behavioural theories of leadership. Stogdill

expected that effective leadership is determined by situation and the leader's personal traits (Madanchian et al., 2016). The behaviours needed for leader's role as an influencer may vary between being inspirational, motivational and visionary to a role which involves the development of suitable organizational context (Oke et al., 2009). Bass and Avolio, (1993) referred to these as transformational and transactional leadership styles. Leadership styles are very important for firms and can lead to achieve the goals so that when a firm change is needed, the matching leadership style may put this change easy to implement. Effective leaders are expected to generate higher levels of organizational commitment so it is expected that transformational leaders will generate a higher level of commitment through vision elaborated type of commitment (Nordin, 2012). According to Deetz et al. (2000), when employees are highly committed to an organizational mission, they are more likely to go forward with company goal actions that are not necessarily meet individuals or departmental priorities. However, the leadership capabilities shall not be constant skills and shall continue to be modified as needed. The rapid development in technologies and the introducing the new digital technologies make it necessarily for leaders to adapt themselves and their skills with digital capabilities. Many firms failed in the digital era because a lack of proper leadership capabilities in those firms. NOKIA phones found themselves lost their position as a leader for mobile phone. The researcher argues that the lack of digital-based Leadership capabilities is one of the main reasons for NOKIA failure as NOKIA seems didn't have proper and strategic vision to reshape their business as to respond to the growing developments in the open software of smartphone in that time. Other big trademarks also failed to respond to digital disruption such as Excite.com search engine, Blockbuster Videos, Xerox Graphic Computing. As per (Westerman, Bonnet and Mcafee, 2014), firms failed in the digital era seems failed to develop digital capabilities including the leadership capabilities that can set a digital vision and elaborated to all teams to be smoothly executed. Many recent studies focused on the role of leadership on digital transformation and most of them found positive association between leadership capabilities and the success of digital transformation process (Afandi, 2017; Larjovuori et al., 2018; Sow & Aborbie, 2018; W Wasono & Furinto, 2018; Wahyu Wasono Mihardjo & Sasmoko, 2019). More studies found that most of organizational challenges such as lack of urgency, unclear vision, unaligned strategies all can be resolved through effective leadership (Afandi, 2017).

2.3 Organizational Culture

Digital transformation strategy execution is not straightforward, and firms need to considers many conditions before and during digital transformation and among these is the organizational culture (Osmundsen, Iden, Bendik, 2018). To meet business improvements, comprehensive organization changes are required. Firms are required to transform and digitalize their entire business models and the adopting existing organizational conditions, such as structures, processes and culture (Fitzgerald et al. 2014). Culture is often perceived as a valuable strategic asset that support business transformation and the exploitation of digital technologies (Downes and Nunes 2014). Many scholars agreed that culture fundamentally impacts the success of business transformations (Hartl & Hess, 2017). As per McKinsey's 2016 survey of global executives found that culture is the most significant self-reported barrier to digital effectiveness as more than 33% of respondents consider cultural and behavioral challenges as the most significant challenges to meeting digital priorities (Goran et al.; 2016). Organizational culture values involve characteristics set of behaviour that define how things get done within a firm and determine the way employees interact with each other (Shin et al., 2012 , Hemerling et al., 2018). The effect of organizational values on the firm's strategic orientation can be seen in terms of sensing or exploitation of opportunities (Matzler et al., 2013). The role of culture becomes more

important in the digital environments as it need a team with an open mindset, easy to adapt and accept to change. A proposition suggested by Venkatraman (1994) as cited by (Parida et al., 2016) that condition the effective exploitation of IT deployment benefits by organizational and culture transformation. Fitzgerald et al. (2014) argues that the establishment of a digital mindset and a change of organizational culture is essential success factor for digital transformation. Recent studies (Haddud & McAllen, 2018) also found that migration into digital is not only about introducing new technologies, but it is more about conducting changes in business process, people. Furthermore, studies found that the failure of many digital transformation initiatives is referring to the unsupported culture (Hartl & Hess, 2017). In other words, to avoid the failure in digital transformation, firms need to embrace couple of organizational culture values that improve the internal environment readiness for the innovation and change Albano, (2010). A research conducted by Kane et al., (2015) referred to the assumption that organizational culture is critically essential to effectively achieve all benefits of digital technologies in the workplace. In a Delphi study conducted by Hartl and Hess (2017) to identify the supported culture values for a successful digital transformation, he found that the most dominant organizational values identified are openness to change and customer centricity.

2.4Underlying theories

The Resources Based View (RBV) suggested that firms can create and sustain competitive advantage only by developing resources that are rare and difficult for competitors to imitate (Saá-Pérez & GarcÍa-FalcÓn, 2002). According to Amit and Schoemaker (1993), the firm's resources are those available factors that are owned or controlled by the organization and capabilities are among those resources. Capabilities refer to a firm's capability to deploy resources, usually in combination, applying organizational processes to effect a desired end. (Saá-Pérez & GarcÍa-FalcÓn, 2002). As per RBV theory, firm capabilities are resources managed by a firm or strengths that enable the firm to decide on and implement strategies that enhance its efficiency and effectiveness (Barney, 1991). Technological Organizational Environmental Framework (TOE) developed by Tornatzky and Fleischer in 1990 to examine factors influencing adoption of innovation. It specifies three areas of an enterprise's context that impact the process by which it adopts and implements a technological innovation: technological context, organizational context, and environmental context (Oliveira & Martins, 2011). TOE helped scholars to group all factors identified to influence innovation adoption into three categories:

1- Technological factors : Technological factors that influence digital transformation includes technology and this includes applications, equipment's, infrastructure, services availability, security and quality.
2- Organizational factors: Organizational factors includes all resources and capabilities inside the organization that include, Strategy, leadership, culture, ICT Capabilities, structure, process, operation, financial capability, innovation, dynamic capabilities.
3- Environmental factors. Environmental factors include external factors such as regulations, customer readiness, competition, firm size.

Many scholars adopted TOE in the context of digital transformation studies to develop frameworks to explain the success factors of digital transformation process. Examples of these studies including: (Aboelmaged, 2014) adoption of e-maintenance technology; (Awa, H. O., Ukoha, O., & Emecheta, B. C. 2016) adoption of ERP application and (Sun et al., 2018, Leung et al., R. 2015) adoption of Big Data.

2.5 The Conceptual Framework

Based on the Resources Based value theory (RBV), Technological Organizational Environmental Framework (TOE), the researcher is proposing a new model that can be used

to assess organizational readiness of firms for digital transformation as shown in Figure 2 below. The developed model shows a direct positive association between digital leadership and Organizational Culture from one side and the Organizational Readiness for Digital Transformation. The model explains that firms equipped with digital leadership capabilities and supported organizational culture for change will have better organizational readiness for digital business transformation. This firm will be able to respond to digital disruption faced by most of pre-digital firms.

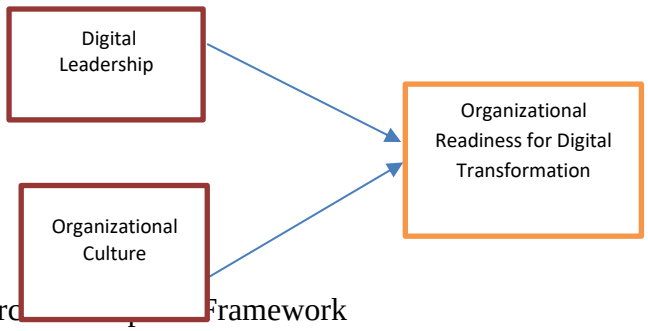

Figure 2: Research Framework

3. Methodology:

The researcher is conducting a quantitative study to validate the proposed model. The 260-size sample is selected randomly from Telecommunication seniors in Yemen to respond to closed-ended questionnaire. The collected data is then analyzed with SEM using AMOS to validate the mode.

4. Conclusion:

The proposed model will be a significant contribution to the body of knowledge in relation to digital transformation. This model will also emphasize the importance of leadership digital capabilities and the supported organizational culture for change to secure the successful operations of digital transformation and to achieve the maximum benefits of this process. The model from the other hand will assist managers to assess their firms against readiness for digital transformation and identify any gaps in terms of organizational capabilities and skills to be addressed. This model still needs to be extended in future studies to include other technological and environmental factors that have impact on firm's readiness for digital transformation. It is also recommended to examine this model in different industries with different environment conditions.

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6. References:

Aboelmaged, M. G. (2014), "Predicting e-readiness at firm-level: An analysis of technological, organizational and environmental (TOE) effects on e-maintenance readiness in manufacturing firms", International Journal of Information Management, 34(5), 639–651.

Afandi, W. (2017), "The role of strategic leadership in digital transformation process", IJRRAS, 33, (2), 19-22.

Albano, V. (2010), "Organizational Readiness and Success of the EHR-S Adoption", Management of the Interconnected World (pp. 145–152). 7908-2404-9_18

Amit, R. and Schoemaker, P.J. (1993), "Strategic Assets and Organizational Rent", Strategic

Management Journal, 14: 33–46.
Armenakis, A. A., Harris, S. G., & Mossholder, K. W. (1993), “Creating Readiness for Organizational Change", Human Relations, 46(6), 681–703.

Awa, H. O., Ukoha, O., & Emecheta, B. C. (2016), "Using T-O-E theoretical framework to study the adoption of ERP solution", Cogent Business & Management, 3(1), 1-23.
Barney, (1991), "Firms Resources and Sustained Competitive Advantage", Emerlad Group Publishing Limited. Advances in Strategic Management, Volume 17 Pages 203-227.
Bass, B. M., & Avolio, B. J. (1994), "Transformational Leadership and Organizational Culture", International Journal of Public Administration, 17(3–4), 541–554.
Bharadwaj, A. S. (2000), "A Resource-Based Perspective on Information Technology Capability and Firm Performance: An Empirical Investigation", MIS Quarterly, 24, (1), 169.

Campbell JD et al (2001), "Introducing telemedicine technology to rural physicians and setting", J Family Pract 50 (5), 419–424.
Deetz, S. A., Tracy, S. J., & Simpson, J. L. (2000), "Leading organizations through transitions: Communication and cultural change. London, SAGE Publications, Newbury Park, California
DeRue, D., & Ashford, S. (2010), "Who will lead and who will follow? Social process of leadership identity construction in organizations", Academy of Management Review, 35(4), 627–647.
Downes, Nunes. (2014), "Big Bang Disruption: Strategy in the Age of Devastating Innovation", Portfolio Hardcover.

Fleenor (2006), "TRAIT APPROACH TO LEADERSHIP", Publisher: Sage, Newbury Park, California
Fitzgerald, M., Kruschwitz, N., Bonnet, D., and Welch, M. (2014). "Embracing Digital Technology: A New Strategic Imperative", MIT Sloan Management Review (55:2), pp. 1-12.

Goran, J., LaBerge, L., & Srinivasan, R. (2017), "Culture for a digital age" McKinsy Quarterly, 1-10.

Haddud, A., & McAllen, D. (2018), "Digital Workplace Management: Exploring Aspects Related to Culture, Innovation, and Leadership", Portland International Conference on Management of Engineering and Technology (PICMET), 1–6.

Hartl, E., & Hess, T. (2017), "The Role of Cultural Values for Digital Transformation: Insights from a Delphi Study", Conference: Proceedings of the 23rd Americas Conference on Information Systems (AMCIS 2017), At: Boston, USA
Hemerling, J., Kilmann, J., Danoesastro, M., Stutts, L., & Ahern, C. (2018), "It’s Not a Digital Transformation Without a Digital Culture" Consulting Group, https://www.bcg.com/publications/2018/not-digital-transformation-without-digital-culture.aspx, accessed on 26/6/2020.

Karimi, J., & Walter, Z. (2015), "The Role of Dynamic Capabilities in Responding to Digital Disruption: A Factor-Based Study of the Newspaper Industry", Journal of Management Information Systems, 32(1), 39–81
Kane, g. C., palmer, d., phillips, a. N., & kiron, d. (2015), “is your business ready for a digital future? Business transformation", *business transformation*, 56(4), 36-45.

Koch, T., & Windsperger, J. (2017), “Seeing through the network: Competitive advantage in the digital economy", Journal of Organization Design, 6(1), 6.

Kotarba, M. (2018), "Digital Transformation of Business Models", Foundations of Management, 10(1), 123–142.

Larjovuori, R.-L., Bordi, L., & Heikkilä-Tammi, K. (2018), "Leadership in the digital business transformation”, Proceedings of the 22nd International Academic Mindtrek Conference on - Mindtrek ’18, 212–221.

Leung, D., Lo, A., Fong, L. H. N., & Law, R. (2015), "Applying the Technology-Organization-Environment framework to explore ICT initial and continued adoption: An exploratory study of an independent hotel in Hong Kong", Tourism Recreation Research, 40(3), 391–406

Lin, Y., & Wu, L.-Y. (2014), "Exploring the role of dynamic capabilities in firm performance under the resource-based view framework", Journal of Business Research, 67(3), 407–413.

Madanchian, M., Hussein, N., Noordin, F., & Taherdoost, H. (2016), “Leadership Theories; an Overview of Early Stages", Recent Advances in Energy, Environment and Financial Science 5, 198-201.

Matzler, K., Abfalter, D. E., Mooradian, T. A., & Bailom, F. (2013), "Corporate culture as an antecedent of successful exploration and exploitation", International Journal of Innovation Management, 17(05), 1-23.

Mihardjo, Sasmoko, Alamsjah, & Elidjen. (2018), "THE ROLE OF DISTINCTIVE ORGANISATIONAL CAPABILITY IN FORMULATING CO-CREATION STRATEGY AND BUSINESS MODEL INNOVATION", Polish Journal of Management Studies, 18(2), 197–208.

Mikalef, P., & Pateli, A. (2017), " Information technology-enabled dynamic capabilities and their indirect effect on competitive performance: Findings from PLS-SEM and fsQCA", Journal of Business Research, 70, 1–16.

Nordin, N. (2012), "The influence of leadership behavior and organizational commitment on organizational readiness for change in a higher learning institution”, Asia Pacific Education Review, 13(2), 239–249.

Nwaiwu, F. (2018), "Review and Comparison of Conceptual Frameworks on Digital Business Transformation", Journal of Competitiveness, 10(3), 86–100.

Nwankpa, J. K., & Roumani, Y. (2016), " IT Capability and Digital Transformation: A Firm Performance Perspective", Thirty Seventh International Conference on Information Systems, Dublin 2016. 1-16.

Oliveira, T and Martins, M, F, (2011), “Literature Review of Information Technology Adoption Models at Firm Level” The Electronic Journal Information Systems Evaluation Volume 14 Issue 1, pp110- 121.

Oke, A., Munshi, N., & Walumbwa, F. O. (2009), "The Influence of Leadership on Innovation Processes and Activities", Organizational Dynamics, Vol. 38 No. 1, 64–72.

Onyeji-Nwogu, Morgan Bazilian, and Todd Moss. (2017), "Challenges and Solutions for the Electricity Sector in African Markets. "CGD Policy Paper. Washington, DC: Center for Global Development.
Orji, c. I. (2019), "Digital business transformation: towards an integrated capability framework for digitization and business value generation. **Journal of global business and technology; huntington station** vol. 15, 1**,** 47-57.

Osmundsen, K. (2018), "Competences for Digital Transformation: Insights from the Norwegian Energy Sector", Hawaii International Conference on System Sciences.
Parida, V., Oghazi, P., & Cedergren, S. (2016), "A study of how ICT capabilities can influence dynamic capabilities", Journal of Enterprise Information Management, 29(2), 179–201.

Porter, M. E., & Heppelmann, J. E., (2014)", "How Smart, Connected Products Are Transforming Competition" https://hbr.org/2014/11/how-smart-connected-products-are-transforming-competition, accessed on 26/6/2020.
Relly, M., Sharkey Scott, P.: Subsidiaries, (2009), "Competencies and the Implementation of Dynamic Capabilities", Irish Academy of Management Conference, NUI Galway.
David Rogers. (2016), "The digital transformation playbook: rethink your business", Columbia University Press.
Saá-Pérez, P. D., & GarcÍa-FalcÓn, J. M. (2002), "A resource-based view of human resource management and organizational capabilities development", The International Journal of Human Resource Management, 13(1), 123–140.

Sanchez, M. A. (2017), "Framework to assess organizational readiness for digital transformation", Dimensión Empresarial, 15(2).

Shin, J., Taylor, M. S., & Seo, M.-G. (2012), "Resources for Change: The Relationships of Organizational Inducements and Psychological Resilience to Employees' Attitudes and Behaviors Toward Organizational Change", Academy of Management Journal, 55(3), 727–748.

Sow, M., & Aborbie, S. (2018), " Impact of Leadership on Digital Transformation", Business and Economic Research, 8(3), 139.

Stewart et al, (2016), "Phantom Ex Machina: Digital Disruption's Role in Business Model
Stogdill, R. M. (1974), "*Handbook of leadership: A survey of theory and research"*, Free Press Transformation. Springer International Publishing Switzerland 2017.P3-21
Sun et al., (2018), "Understanding the Factors Affecting the Organizational Adoption of Big Data", Journal of Computer Information Systems, 58(3),
Teece, D. J., Pisano, G., & Shuen, A. (1997), "Dynamic Capabilities and Strategic Management", strategic Management Journal, Vol. 18:7, 509–533.

Vogelsang, K., Liere-Netheler, K., Packmohr, S., & Hoppe, U. (2019), " Success factors for fostering a digital transformation in manufacturing companies", Journal of Enterprise Transformation, 1–22.

W Wasono, L., & Furinto, A. (2018), "The effect of digital leadership and innovation management for incumbent telecommunication company in the digital disruptive era", International Journal of Engineering & Technology, 7(2.29), 125.

Wade, & Hulland. (2004), "Review: The Resource-Based View and Information Systems Research: Review, Extension, and Suggestions for Future Research", MIS Quarterly, 28(1), 107.

Wahyu Wasono Mihardjo, L., & Sasmoko, S. (2019), "Digital Transformation: Digital Leadership Role in Developing Business Model Innovation Mediated by Co-Creation Strategy for Telecommunication Incumbent Firms", In Strategy and Behaviors in the Digital Economy [Working Title]. IntechOpen.

Weiner, B. J. (2009), "A theory of organizational readiness for change", Implementation Science, 4(1), 67.

Westerman, Bonnet and Mcafee, (2014), "Leading Digital Turning Technology into Business Transformation", Harvard Business Review Press. Boston, Massachusetts

Wu, L.-Y. (2010), "Applicability of the resource-based and dynamic-capability views under environmental volatility". Journal of Business Research, 63(1), 27–31.

Yukl, G. A. (2013)., "Leadership in organizations", Pearson, (8th eds).

Zaidi, M. F. A., & Othman, S. N. (2012), "Understanding the Concept of Dynamic Capabilities by Dismantling Teece, Pisano, and Shuen (1997)'s Definition", International Journal of Academic Research in Business and Social Sciences, 2(8), 1-12.