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Digital Leadership and Dynamic Managerial Capabilities

Nirwan M.T. Ali[1a,b], Abdullah W. Jabid[2], Hartaty Hadady[3], Abdul Hadi Sirat [4]
Student of Management Doctoral Program, University of Khairun[1a]
Provincial Government of North Maluku[1b]
Faculty of Economics and Business, University of Khairun[2,3,4]
nirwanali@unkhair.ac.id[1]

Abstract
The purpose of this research is to examine the influence between digital leadership and dynamic managerial capabilities. This research itself was conducted in the City of Ternate. The population in this study are all business actors both online and offline in Ternate City. Determination of the sample in this study using purposive sampling with a judgment sampling approach with the condition that the respondent is intended to have the capacity as a business leader and the business has a net worth of more than 50 million rupiahs up to a maximum of 500 million rupiahs. Besides that, only businesses are traded online. This aims to measure leadership digitally and dynamically the ability of a leader, totaling 106 people. Testing the hypothesis in this study using simple linear regression. The results of hypothesis testing indicate that the hypothesis proposed in this study is supported. Next, recommendations for future research are discussed.

Keywords:
Digital Leadership, Dynamic Managerial Capabilities, Small Business, Simple Linear Regression, Ternate City

INTRODUCTION

Digital technologies are increasingly being used to drive change in various industries. They have an impact on two aspects: (1) in terms of process and organization, they positively affect costs, increase competitiveness and opportunities for new business; (2) due to the nature of digital technology to equalize the global playing field, it has an impact on increasing income. Therefore, many companies develop process-intensive knowledge to accelerate decision-making and effectiveness, flexibility, automation, and intelligent digitization (Gerlitz, 2015; Zhang et al., 2015). Market turbulence has been able to change the style of strategic leadership, organization and innovation. The market becomes volatile because of digital technology, resulting in leadership which is a dynamic or continuous learning process in optimizing and adapting to deal with complexity (Scholastica & Maurice, 2013; Chidoko & Mashavira, 2014; Yuliansyah, 2015; Kadasala, Narayanan, & Liu, 2016). The digital era requires new capabilities to create digitalization urgency, to drive this vision forward, and to apply the right leadership model (Kohnke, 2017). The role of leadership in the digital era is important to ensure the creation of organizational development and mobilization capabilities in a sustainable manner. Developability is closely related to innovation, especially disruptive innovation. Disruptive innovation stems from a company's failure to anticipate changing customer and market bases (Christensen, 1997; Vecchiato, 2017); therefore, market changes are part of accelerating innovation. Organizational mobilization is linked to the decision-making process, requiring dynamism to sense change, seize opportunities, and reconfigure the organization (Abiodun, 2014; Sabri & Sweis, 2015; Elkhayat & ElBannan, 2018; Syadullah, 2018; Forgha, Serge, & Ajong, 2018; Pisano, 2015; Schoemaker, Heaton, & Teece, 2018; Teece, 2014). This collective ability is aimed at sustainability (Mihardjo, Sasmoko, Alamsyah, & Elidjen, 2019).

Many studies have examined the basis of capability development and organizational mobilization in adapting to change; however, its relation to how the decision-making process influences high levels of dynamism in terms of sensing change, seizing opportunities, and reconfiguring organizations, and thereby driving digital innovation, has not been explored in depth (Schoemaker et al., 2018). In addition, studies on the role of market changes in accelerating the innovation process need to be examined, especially in relation to the development of disruptive innovations to support dynamic capabilities (Mihardjo & Rukmana, 2018; Mihardjo et al., 2019). Therefore, this study examines the impact of the development of digital leadership on dynamic capability innovation in the context of small businesses in Ternate City.

In the context of leadership, digital leadership refers to core competence in communication, content, and computing as a contribution toward a knowledge society (Goethals, Sorenson, & Burns, 2012). The nature of digital leadership is dynamic and central to driving digital transformation (Oberer & Erkollar, 2018), integrating culture and competence in optimizing digital technology to create value (Mihardjo & Rukmana, 2018). The characteristics of leadership in the digital age comprise (Toduk & Gande, 2016): (1) entrepreneurship related to creativity and innovation, (2) digital skills to make a competitive difference with technology and strengthen the personal value of knowledge, (3) implementing digital technology to create strong domestic and global networks and enable collaboration, and (4) inspiring loyal participation in an overall vision. Another study found five similar characteristics: (1) being creative (2) continuously looking to make a difference, (3) participating in a global vision to drive change and collaboration, (4) remaining inquisitive to learn and adapt to change, and (5) acquiring in-depth knowledge and competence (Zhu, 2015). Yet another study also found leaders are required to be not only creative and innovative but also able to collaborate to seize opportunities (Sandell, 2013; Owusu-Antwi, Banerjee, & Antwi, 2017; Ahmed, Rehan, Chhapra, & Supro, 2018). Hence, in this study, we used the following dimensions of digital leadership: creativity, in-depth knowledge, global vision and collaboration, reflectiveness, and inquisitiveness.

The concept of dynamic managerial capabilities offers a fruitful perspective on innovation by explicitly relating managerial capabilities to organizational behavior in dynamic environments (Adner & Helfat, 2003). Dynamic capability is related with the organization's ability to adequately and timely adapt towards the changing environments by reconfiguring the internal or external processes and resources, through the existing competencies (Eisenhardt & Martin, 2000; Gaur, Kumar, & Singh, 2014). Dynamic capability is the agent of evaluation and change that allows the company to assess what changes are needed for the resource base and their ability to remain competitive, especially to face the changing market environment (Wilden, Gudergan, Nielsen, & Lings, 2013). Dynamic capabilities originate from the interplay between managers' innate abilities and past experiences (Beck & Wiersema, 2013). More specifically, managers are responsible for coordinating and developing company assets, orchestrating complementary and cospecialized assets, developing new business models, and making critical investment decisions to drive innovation (Adner & Helfat, 2003; Helfat et al., 2007). These managerial decisions consequently function as boundary conditions for company behavior, as they – at least in the short term – restrict the number of feasible pathways for corporate and competitive strategies (Beck & Wiersema, 2013). Therefore, dynamic managerial capabilities are the foundation of

sustained competitive advantages and cause performance differences between firms (Helfat & Martin, 2015).

In the context of leadership, digital leadership refers to core competence in communication, content, and computing as a contribution toward a knowledge society (Goethals et al., 2012). The nature of digital leadership is dynamic and central to driving digital transformation (Oberer & Erkollar, 2018). Dynamic capability emerges as an enhancement of the resource-based view, addressing issues with the routine process—in terms of resources, process, product, and services—that the organization needs to adapt (Helfat & Peteraf, 2003; Schoemaker et al., 2018). The results of the study reveal that digital leadership is related to dynamic capability (Mihardjo & Rukmana, 2018). Furthermore, Mihardjo et al., (2019) also indicated a relationship between the two variables at the manager level. For this reason, the hypothesis proposed is: Digital leadership has an effect on dynamic managerial capabilities

METHOD

The population in this study are all business leaders who sell their products online and offline in North Maluku Province. Determination of the sample in this study using purposive sampling with a judgment sampling approach with the condition that the respondent is intended to have the capacity as a business leader and the business has a net worth of more than 50 million rupiahs up to a maximum of 500 million rupiahs. Besides that, only businesses are traded online. This aims to measure leadership digitally and dynamically the ability of a leader, totaling 106 people. According to Roscoe, Lang, & Sheth, (1975), a sample size of 30-500 is considered appropriate for quantitative research. This study used validity and reliability tests with a factor loading value of 0.5 (Hair, Black, Babin, & Anderson, 2010) and Cronbach's Alpha 0.6 (Ghozali, 2018). Testing the hypothesis in this study used regression analysis (Hair et al., 2018). The questionnaire in this study uses previous research, such as digital leadership variables using a questionnaire developed by Sandell, (2013) and Zhu, (2015). The dynamic managerial capabilities variable was adopted from research by Bamel & Bamel, (2018), Schilke, Hu, & Helfat, (2018), Gnizy, & Grinstein, (2014). The questionnaire in this study uses a Likert scale of 5 (strongly disagree to strongly agree).

RESULTS AND DISCUSSION

The results of the distribution of the questionnaires showed that of the 120 questionnaires distributed, only 110 (96.36%) questionnaires were returned and 106 (88.33%) questionnaires were declared fit for further testing. Therefore, the response rate in this study was 88.33%. The characteristics of the respondents in this study were age, gender, company age and business category. The characteristics of the respondents in this study showed that most of the respondents were less than 35 years old (67 respondents or 63.2% less than 35 years and 39 people or 36.8% more than 35 years), then business leaders were dominated by women compared to males (73 respondents or 68% and 33 respondents or 31.1%), furthermore the businesses studied were mostly aged between 1-5 years compared to 6-10 years (81 businesses or 76.4% compared to 25 businesses or 23.6%). Finally, for the business category, only three types of businesses sell their products online, namely care and health, fashion, food and drink, with a difference in the number that is not much different. For health and care businesses, there are 37 businesses or 34.9%, fashion is 41

businesses or 38.7%, food and drink is 28 businesses or 26.4%. This finding is in accordance with the results of research by Arilaha, Fahri, & Buamonabot, (2021) and Bailusy, Buamonabot, Fahri, & Arilaha, (2022).

Table 1 also shows the results of testing the validity and reliability of digital leadership variables and dynamic managerial capabilities. Validity testing using factor analysis for digital leadership variables is carried out in two stages and this variable consists of 19 question items. In the first stage of testing, it showed that there were four question items that had to be excluded because they did not meet a factor loading of 0.5 namely Dgt-Leadr6, Dgt-Leadr17, Dgt-Leadr18 and Dgt-Leadr19). After that, in the second stage, we tested without including four items that did not meet the factor loading and the results showed that there were no question items that had to be discarded because they met the factor loading requirements of 0.5. For this reason, there are 15 question items that measure digital leadership variables, namely Dgt-Leadr1 (0.614), Dgt-Leadr2 (0.637), Dgt-Leadr3 (0.687), Dgt-Leadr4 (0.715), Dgt-Leadr5 (0.741), Dgt-Leadr7 (0.675), Dgt-Leadr8 (0.734), Dgt-Leadr9 (0.804), Dgt-Leadr10 (0.721), Dgt-Leadr11 (0.766), Dgt-Leadr12 (0.817), Dgt-Leadr13 (0.771), Dgt-Leadr14 (0.705), Dgt-Leadr15 (0.658) and Dgt-Leadr16 (0.730). After testing the validity of the digital leadership variable, it is continued with reliability testing. The results show that it meets the required Cronbach alpha value of 0.929 for 15 question items. In contrast to testing the validity of the digital leadership variable, for the dynamic managerial capabilities variable it shows that out of the four questions no question items were discarded because they met a factor loading value greater than 0.5 namely DMC1 (0.893), DMC2 (0.893), DMC3 (0.752) and DMC4 (0.655). Next, reliability testing is carried out for the dynamic managerial capabilities' variable. The test results show that the four question items that measure the dynamic managerial capabilities variable have fulfilled the Cronbach alpha 0.7 rule, namely 0.815.

Table 1. Validity and Reliability Testing Results

Factor and Scale	Factor-1	Factor-2
Dgt-Leadr1	0,614	
Dgt-Leadr2	0,637	
Dgt-Leadr3	0,687	
Dgt-Leadr4	0,715	
Dgt-Leadr5	0,741	
Dgt-Leadr7	0,675	
Dgt-Leadr8	0,734	
Dgt-Leadr9	0,804	
Dgt-Leadr10	0,721	
Dgt-Leadr11	0,766	
Dgt-Leadr12	0,817	
Dgt-Leadr13	0,771	
Dgt-Leadr14	0,705	
Dgt-Leadr15	0,658	
Dgt-Leadr16	0,730	
Digital Leadership (Dgt-Leadr) = Cronbach α = 0,929		
DMC1		0,893
DMC2		0,893
DMC3		0,752
DMC4		0,655
Dynamic Managerial Capabilities (DMC) = Cronbach α = 0,815		

Source: data processed

The results of the descriptive analysis for employees who have positions as heads of fields in the local government of Ternate City consist of digital leadership and dynamic leadership capabilities. The results of the study show that field heads perceive digital leadership to be more responsive and literate in technology. Furthermore, field heads also perceive dynamic leadership capabilities in good condition. This means that the head of the field has been able to align organizational strategy with a highly competitive environment.

Table 2: Respondents Perception

Variables	(%) Strongly Disagree	(%) Disagree	(%) Neutral	(%) Agree	(%) Strongly Agree	Mode
Strategy Flexibility	1,74	6,09	36,52	52,17	3,48	Agree
Sustainability Digital Innovation	1,74	3,48	27,83	47,83	19,13	Agree

Source: data processed

Based on the results of hypothesis testing in table 3, it shows that dynamic managerial capabilities are affected by digital leadership ($\beta = 0.920$, $t = 8.939$, $P < 0.05$). This means that the proposed hypothesis is declared supported in this study.

Table 3: Hypotheses Testing

Independent Variable	Sustainability Digital Innovation		
	β	t	Sig
Strategy Flexibility	0,576	7,017	0,000

Source: data processed

The results of the study reveal that digital leadership is positively related to dynamic managerial capabilities. This means that in accordance with the opinion expressed by (Mihardjo et al., (2019) that in order to adapt to a dynamic environment in the digital era requires special leadership that combines leadership capabilities by optimizing digital opportunities and threats to ensure a sustainable organization and profitable. Leaders must develop individual capacities and competencies to better manage uncertainty and create organizations with strong dynamic capabilities to adapt to change; Likewise, leaders must define a vision and develop growth for the future. The findings of this study are in line with previous research by Mihardjo & Rukmana, (2018) and Mihardjo et al., (2019) that the two variables studied, namely digital leadership and dynamic managerial capabilities, are positively related.

CONCLUSION

Based on the results of the research above, it can be concluded that first, providing new findings of digital leadership has a positive effect on dynamic managerial capabilities. Second, future research can add other variables such as other types of leadership such as transformational, transactional and paternalistic or strategy execution to see which leadership style someone can execute strategy in an organization. In addition, future research can also test other contexts such as larger businesses, be it at the medium or large level or larger companies or government institutions.

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