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Digital Competence and Strategic Thinking

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Abstract
This study aims to examine the relationship between digital competence and strategic thinking. This research was conducted in South Halmahera Regency. The population in this study are businesses located in South Halmahera Regency. The sample in the study was determined based on a purposive sampling approach. The requirements used in this study were that someone in the sample had a position as a small business leader who was already online with a maximum total asset of 500 million rupiah, totaling 179 respondents. Testing the hypothesis in this study using simple linear regression. The results of hypothesis testing show that the hypothesis is supported in this study. Next, recommendations for future research are discussed.

Keywords:
Digital Competence, Strategic Thinking, Small Business, South Halmahera Regency, Simple Linear Regression

INTRODUCTION

In the context of a 21st century digital society, digital competence (DC) represents a set of knowledge, skills and attitudes required when using information technology (IT) and digital media to perform tasks, solve problems, communicate, collaborate and manage information (Ferrari, 2012). Understanding the competence of IT users is also important for organizations that must benefit from IT investments (Jasperson, Carter, & Zmud, 2005; Uria-Recio, 2019; Wagner, Newell, & Piccoli, 2010). Therefore, IT user competency has been defined as the user's potential to apply technology to the maximum extent possible to maximize the performance of a particular job task" or "properly exploit the capabilities of the appropriate software in the most relevant circumstances (Marcolin, Compeau, Munro, & Huff, 2000; Boudreau, 2003; Buamonabot, Arilaha, & Fahri, 2021: Buamonabot, Nurlaila, & Nurdin, 2019: Sudarwo, Anfas, & Buamonabot, 2018; Sudarwo, Anfas, & Buamonabot, 2019; Buamonabot, Syahdan, Arilaha, & Fahri, 2020).

Employee and professional competencies are now very important from the company's point of view (Szwajlik, 2021). Ability to adopt and use new or existing information technologies to analyze, select and critically evaluate digital information to research and solve work-related problems as well as develop shared knowledge while engaging in organizational activities (Morrison & Rooney, 2017). When this can be done on an ongoing basis it will have an impact on how to think ahead, be able to respond quickly to trends and take risks by identifying and taking advantage of opportunities, it can be said that the company has been able to think strategically. Strategic thinking itself is the ability to involve ideas and implement unique business processes and take advantage of opportunities that will lead to competitive advantage by having the ability to balance attention between daily operational issues and long-term strategic initiatives with what is happening at all levels of the organization and business environment larger organizations, proactively seeking knowledge and upgrading skills.

The research results of Lakstigala & Balina, (2019) reveal that organizations with DC are more likely to accept innovation, knowledge and IT skills. Afrilia, Rhizky, Putri, & Ratnasari, (2023) that DC can also be applied in government organizations. In addition, Pettersson, (2018) in a review of the literature also provides recommendations for future research on the relationship between DC and organizational infrastructure, competent digital leadership, policies, strategic leadership, and the development of new approaches that can enhance DC in the educational context. Furthermore, Falloon, (2020) emphasizes a more holistic and broader-based conceptualization of technical and literacy as well as functioning ethically, safely, and productively in a diverse and digitally mediated environment in young people. Potemkin & Rasskazova, (2020) also put emphasis on a resource approach to corporate development strategy in which priority attention should be paid to the formation, use and development of human resources. Finally, Vieru, (2015)(also argues that there is a need for a conceptual model to assess DC in the SME environment.

Based on the explanation above, it shows that the results of research that reveal the relationship between DC and strategic thinking are still very limited, so the relationship between these two variables is a novelty in this study. The main objective of this research is to examine the influence between DC and strategic thinking in the context of small businesses in South Halmahera Regency.

There are a lot of different ways to study DC (Van Laar, Van Deursen, Van Dijk, & De Haan, 2017). As Calvani, Fini, Ranieri, & Picci, (2012) say, the three parts of DC are technical skills, cognitive skills, and ethical awareness. They say that technical literacy is a mix of visual literacy, technical idea understanding, and the ability to apply that knowledge in real-world situations, which they call technical literacy (Zhao, Mushtaque, & Deng, 2022).

As a core competence, DC is sensitive to the organizational context and it would not be reasonable to think of a unique model of DC acceptable at all times and in all organizational contexts that are usually characterized by idiosyncratic practices, norms, and values. DC stands as an important challenge for the information system research in the SME context. We consider DC as a multidimensional concept illustrated by a set of knowledge, skills and attitudes needed to be functional in an organizational digital environment. Its acquisition in an organizational context may be defined as a mindset, enabling the individual to adapt to new practices and norms requirements set by the evolving IT (Bassellier, Reich, & Benbasat, 2001; Bassellier & Benbasat, 2004). In addition, being at ease with new IT only happens when the technology is embedded in the organizational practices. These practices entail contextual knowledge and certain beliefs and values about IT and socially interact with them in certain ways (Wagner et al., 2010). In other words, IT needs to be appropriated by users. Appropriation entails a specific way to interact with the materiality of the IT (it requires specific attitudes), of understanding them (holding specific knowledge), and of being able to use them (having specific skills) (Vieru, 2015).

One of the components of strategic thinking is being able to imagine what the future will be like and balancing immediate goals with those of the longer term. When an organization applies strategic thinking, the goals of the organization become more precise, and the corporation focuses on achieving those goals. The very last component of strategic thinking is the recognition that it is a hypothesis-driven

process. Intellectuals with a strategic mindset consider questions like “what would happen if…?” Regarding these assumptions, strategic thinking enables theorists to reveal possibilities (Shirvani & Shojaie, 2011). Therefore, one of the most important principles of strategic thinking is having a comprehension of the organization’s history as well as its present and future (O’Shannassy, 2010).

According to Liedtka, (1998), strategic thinking typically demonstrates the following five main characteristics: a scheme point of view, intent-focused thinking, pondering in time, assumption-driven thinking, and astute opportunism. The exclusion of strategic thinking has been identified as an important factor in organizational effectiveness, despite the fact that strategic thinking is recognized as one of the primary capabilities of high-performing leaders. Several studies concluded that strategic thinking was one of the most important fields and that the absence of strategic thinking was the most important challenge facing businesses. Investigations on the factors that coincide with strategy development have been conducted to a limited capacity (Bonn, 2005; Goldman & Casey, 2010; Shirvani & Shojaie, 2011).

In addition, there are not many studies that have been conducted that examine the significance of organizational factors and how leaders may react to these factors when it comes to strategic thinking throughout the organization (Bonn, 2005; Goldman & Casey, 2010). Since leadership is required in both for-profit and non-profit institutions, this fact alone is sufficient to justify the necessity for strategic thinking (Zabriskie & Huellmantel, 1991). There has not yet been an investigation into the recognition of strategic thinking competencies and the techniques to measure them (Goldman & Scott, 2016).

According to Ebersole, (2017), in order to be considered a strategic thinker, an individual is required to have the following capabilities: the capability to use both the left (logical) and right (creative) sides of their brain; the capacity to establish a strictly delineated and centered business vision as well as an individual vision; the potential to accurately describe their goals and establish a strategic intervention plan among each objective broken down into projects and each assignment possessing a list of required supplies and a timeframe; and the capacity to accurately describe their personal vision.

Digital competence is considered as a challenge and can be applied to various types of businesses, be it small, micro and medium (Vieru, 2015). Carey, (2019) revealed that the adaptation of this "digital thinking process" will facilitate strategic thinking about digital skills that are determined based on job descriptions. For that, the hypothesis proposed is Digital competence influences strategic thinking.

METHOD

This research was conducted in South Halmahera Regency and took place from May to June 2023. The population in this study were businesses located in South Halmahera Regency. The sample in the study was determined based on a purposive sampling approach. The requirements used in this study are that someone who is the sample has a position as a leader of a small business with a maximum total asset of 500 million rupiah and trades their products online. According to Roscoe, Lang, & Sheth, (1975), a sample is sufficient if it has at least 30 respondents and a maximum of 500 respondents. Thus, the total sample in this study amounted to 179 respondents. Test the validity of using factor analysis with a factor load value ≥ 0.5. Furthermore, for the reliability test, a Cronbach alpha value

above 0.7 was used (Hair, Babin, Anderson, & Black, 2018). Testing the hypothesis in this study uses regression analysis with reference to (Ghozali, 2018). The DC questionnaire in this study refers to Szwajlik research, (2021). Furthermore, the strategic thinking questionnaire was adopted from the research of Dhir, Dhir, & Samanta, (2018). These two variables use a 5-point Likert scale (strongly disagree-strongly agree).

RESULTS AND DISCUSSION

Based on the results of distributing the questionnaires, it was shown that of the 115 questionnaires distributed, only 110 (94.44%) questionnaires were returned and 102 (88.70%) questionnaires were declared fit for further testing. Therefore, the response rate in this study was 94.44%. The characteristics of the respondents in this study were gender, age, and business category. The characteristics of the respondents in this study showed that most of the respondents were under 30 years old (59 respondents or 57.8% under 30 years and 43 people or 42.2% over 30 years of age). Furthermore, business leaders are dominated by women compared to men (58 respondents or 56.9% and 44 respondents or 43.1%). Finally, for the business category, only two types of businesses sell their products online, namely fashion, food and drink. For fashion businesses there were 41 businesses or 40.2%, food and drink businesses totaled 61 or 59.8% (Arilaha, Fahri, & Buamonabot, 2021; Bailusy, Buamonabot, Fahri, & Arilaha, 2022).

Based on the results of the validity and reliability tests in table 2, it is clear that there are two variables, namely DC and strategic thinking. For the DC variable, there are nine question items that measure this variable. DC variable testing was tested in two stages using factor analysis. For the first stage that does not meet the requirements for factor loading of more than 0.5 is the sixth question item. Furthermore, after the second test, no questions were discarded because all question items already had factor loading values above 0.5 (Komp-Dgt1 0.802, Komp-Dgt2 0.786, Komp-Dgt3 0.710, Komp-Dgt4 0.828, Komp-Dgt5 0.813, Komp. -Dgt7 0.551, Komp-Dgt8 0.586, and Komp-Dgt9 0.684. After that, reliability testing was carried out and the results showed that the eight items met the specified standard value of 0.861. As with DC variables, strategic thinking variables were also tested in two stages For the first stage of a total of 17 question items that measure strategic thinking, there are four question items that must be excluded because they do not meet the factor loading value of 0.5, namely the sixth, fifteenth, sixteenth, and seventeenth question items. there are more questions that must be issued because they meet the requirements for a factor loading value of 0.5, so that the total items that meet factor loading are 13 question items that measure strategic thinking (Pemi-Strat1, Pemi-Strat2, Pemi-Strat3, Pemi-Strat4, Pemi-Strat5, Pemi-Strat7, Pemi-Strat8, Pemi-Strat9, Pemi-Strat10, Pemi-Strat11, Pemi-Strat12, Pemi-Strat13 and Pemi-Strat14). After the validity test, the reliability test was then carried out for the strategic thinking variable. The results show that the Cronbach alpha value is above 0.7, namely 0.880.

Table 2. Validity and Reliability Testing Results

Factor and Scale	Factor-1	Factor-2
Komp-Dgt1	0,802	
Komp-Dgt2	0,786	

Factor and Scale	Factor-1	Factor-2
Komp-Dgt3	0,710	
Komp-Dgt4	0,828	
Komp-Dgt5	0,813	
Komp-Dgt7	0,551	
Komp-Dgt8	0,586	
Komp-Dgt9	0,684	
Digital Competence (Komp-Dgt) = Cronbach α = 0,861		
Pemi-Strat1		0,555
Pemi-Strat2		0,642
Pemi-Strat3		0,656
Pemi-Strat4		0,721
Pemi-Strat5		0,731
Pemi-Strat7		0,631
Pemi-Strat8		0,753
Pemi-Strat9		0,651
Pemi-Strat10		0,648
Pemi-Strat11		0,707
Pemi-Strat12		0,603
Pemi-Strat13		0,594
Pemi-Strat14		0,537
Strategic Thinking (Pemi-Strat) = Cronbach α = 0,880		

Source: data processed

Descriptive analysis of small business managers in South Halmahera Regency includes DC and strategic thinking. The results of processing descriptive statistical data in Table 3 show that respondents have good DC. This can be seen from the perception of agree mode. Similar to DC, strategic thinking is also perceived by respondents who are leaders of small businesses and most agree that they have prepared their business in relation to the changes that have occurred.

Table 3: Respondents Perception

Variables	(%) Strongly Disagree	(%) Disagree	(%) Neutral	(%) Agree	(%) Strongly Agree	Mode
Competence Digital	-	-	28,43	55,88	15,69	Agree
Strategic Thinking	-	-	19,61	66,67	13,73	Agree

Source: data processed

Based on the results of hypothesis testing in table 4, it shows that strategic thinking is influenced by DC ($\beta = 0.732$, $t = 16.617$, $P < 0.05$). This means that the proposed hypothesis is declared supported in this study.

Table 4: Hypotheses Testing

Independent Variable	Strategic Thinking		
	β	t	Sig
Competence Digital	0,732	16,617	0,000

Source: data processed

The results of hypothesis testing reveal that DC has a positive effect on strategic thinking. This is in accordance with the opinion of Potemkin & Rasskazova, (2020) that when strategic thinking is well defined as the intellectual process of an

organization to adapt to changes in the market and achieve improvements by functioning strategically on these changes. Technological change is one of the transformations that need to be carried out by organizations to improve their business. These changes must begin with the development of relevant professional competencies among employees. The results of this study are also in accordance with the results of the research conducted by Kocak & Pawlowski, (2021) and Murawski, Bühler, Blatz, & Bick, (2019) that there is a relationship between the two variables.

CONCLUSION

This study emphasizes two main contributions. First, this study discusses a new finding, namely the relationship between DC and strategic thinking in the context of quantitative research. The results also confirm previous research. In addition, this research has some limitations. First, there is a possibility of bias in the general method used by respondents with self-reporting. Respondents answered questions based on their subjective judgment which could lead to perceptual bias. Second, this research was conducted in the context of SMEs, it would be better for future research to examine the context of public or government services. Future research should examine the antecedents of digital technology adaptation and strategic thinking such as structure, resources, culture and other organizational factors.

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