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The Influence of Digital Literacy and Digital Capability on Personal Innovativeness on Final Year Student of Telkom University

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Abstract

Telkom University has hopes for its graduates to be able to create a culture of research and innovation that is useful in improving the quality of life of the community. Efforts to realize these expectations are needed digital literacy and digital capability as a foundation and provision in thinking, learning, communicating, working together, and working that will later foster personal innovativeness. The purpose of this study was to see how big the condition of digital literacy, digital capability, and personal innovativeness and how the influence of digital literacy and digital capability on personal innovativeness in Telkom University graduate students. The study used quantitative methods with questionnaires as data retrieval as many as 377 respondents. The respondents involved were telkom university's final-level students. The questionnaire in the study had 36 statements with a five-point likert scale measurement. The sampling method used is probability with the proptionate stratified random sampling technique. The results of this study are explained through data analysis techniques in the form of descriptive analysis, multiple linear regression, hypothesis tests, and coefficients of determination. The results obtained from this study indicate that digital literacy has a significant positive effect on personal innovation and digital ability has a significant positive effect on personal innovation. The coefficient of determination test shows that digital literacy and digital ability variables have an influence of 35.8% on personal innovation, while the other 64.2% is influenced by other variables.

Keywords
digital literacy; digital capability; personal innovativeness

I. Introduction

People's lives have become more modern, the development of technology affects all lines of people's lives which force them to adapt to these developments so as not to be left behind. The existence of technology will help every aspect of community activities to be more efficient. Technology no longer uses human resources, but rather on automated operating systems and computerized systems. The impacts and consequences of technology can be positive or negative. This can be used by individuals as a facility in developing themselves.

With the existence of technology, it should be able to become the basis for the level of individual innovation. Personal innovativeness has proven to be a useful tool in developing short-term and long-term strategic plans directed at integrating technology in schools, particularly in higher education institutions (Abbas et al., 2019; Martin & Grudziecki, 2006). However, each individual has a different view of innovation. There are individuals who are able to adopt innovations more quickly, but there are also individuals who prefer to adopt them later. Currently, Indonesia is ranked 85th out of 131 countries in

the Global Innovation Index, which has not changed since 2018. The Global Index Innovation is one of the leading references to measure the performance of economic innovation as well as a comparison tool for policy makers, business people, and other stakeholders. can evaluate the country's innovation progress every year. Increasing personal innovativeness in Telkom University final year students is very important because it is only one step closer to the world of work where individual innovation is needed to create new ideas. In addition, Telkom University has hopes for alma mater graduates to be able to create a culture of research and innovation that is useful in improving the quality of life of the community.

An aspect where an individual's innovative profile is seen is through the changing world that is becoming completely digital. Nowadays, digital capability has become one of the qualifications needed by companies. In Khin & Ho (2018) research, it is stated that increasing digital capability can make a person an innovation leader and also the company's performance. Human resources are needed in utilizing digital technology to innovate. Human Resources (HR) is the most important component in a company or organization to run the business it does. Organization must have a goal to be achieved by the organizational members (Niati et al., 2021). Development is a change towards improvement. Changes towards improvement require the mobilization of all human resources and reason to realize what is aspired (Shah et al, 2020). The development of human resources is a process of changing the human resources who belong to an organization, from one situation to another, which is better to prepare a future responsibility in achieving organizational goals (Werdhiastutie et al, 2020).

One of the frameworks needed to achieve digital capability is to increase digital literacy skills. Digital literacy is an important skill for adaptation in modern times like this. According to research by Güngör & Kurtipek (2020), digital literacy has an influence on personal innovativeness, because an individual's curiosity towards digitalization can be said that adaptation and continuity of use are related to the individual's perspective on innovation. In fact, everyone is open to innovation which ultimately increases them to innovate in the digital world.

II. Review of Literature

2.1 Digital Literacy

According to Salsabila (2019) digital literacy is an individual's interest, attitude and ability to use digital technology and communication tools such as gadgets to access, manage, integrate, analyze, evaluate information, build new knowledge, create and communicate with others in order to participate effectively. in society. Meanwhile, according to Martin & Grudziecki (2006) digital literacy can be said as awareness, attitude, and individual ability to properly use digital tools and facilities that function to identify, manage, integrate, evaluate, analyze, and shape digital resources. form new knowledge, create media expressions and communicate with others and reflect on these processes. Then another opinion was put forward by Keskin & Royle (2015) and Suherman & Yusuf (2021) that digital literacy is defined as active participation in educational, social, and vocational life by having the ability to use digital learning tools, manage digital learning platforms, and use advanced digital devices safely and ethically.

2.2 Digital Capability

Moorman & Slottegraaf (1999) defines technology capability as a company's technological capability to formulate and develop new products and related processes. Digital capabilities can be defined as a company's skills, talents, and expertise to manage digital technology for new product developments. Another definition is mentioned by Maçada et al (Maçada et al., 2020) Digital Capability as the ability that enables an organization to provide instant answers both internally and externally, using digital channels that contribute to generating value for the company. Digital capability is a term used to describe the digital practices that people and organizations need. Such practices in the modern world are necessary for the success of individual operations and the proper functioning of businesses (Balyk et al., 2020)

2.3 Personal Innovativeness

According to Yigit & Aksay (2015)personal innovativeness is a factor that determines whether someone accepts innovation before others. Individuals react differently to new ideas, applications or products according to the characteristics of the individual's innovation. Then another opinion was put forward by Celik (2013) which states that personal innovativeness is a unique individual difference in orientation to risk taking, openness to experience, creativity, and leadership towards innovation. Personal innovativeness is defined as the tendency to take risks shown in certain individuals and these individuals are willing to take opportunities and try new things and can overcome high levels of uncertainty (Leonard-Barton & Deschamps, 1988)

2.4 Research Framework

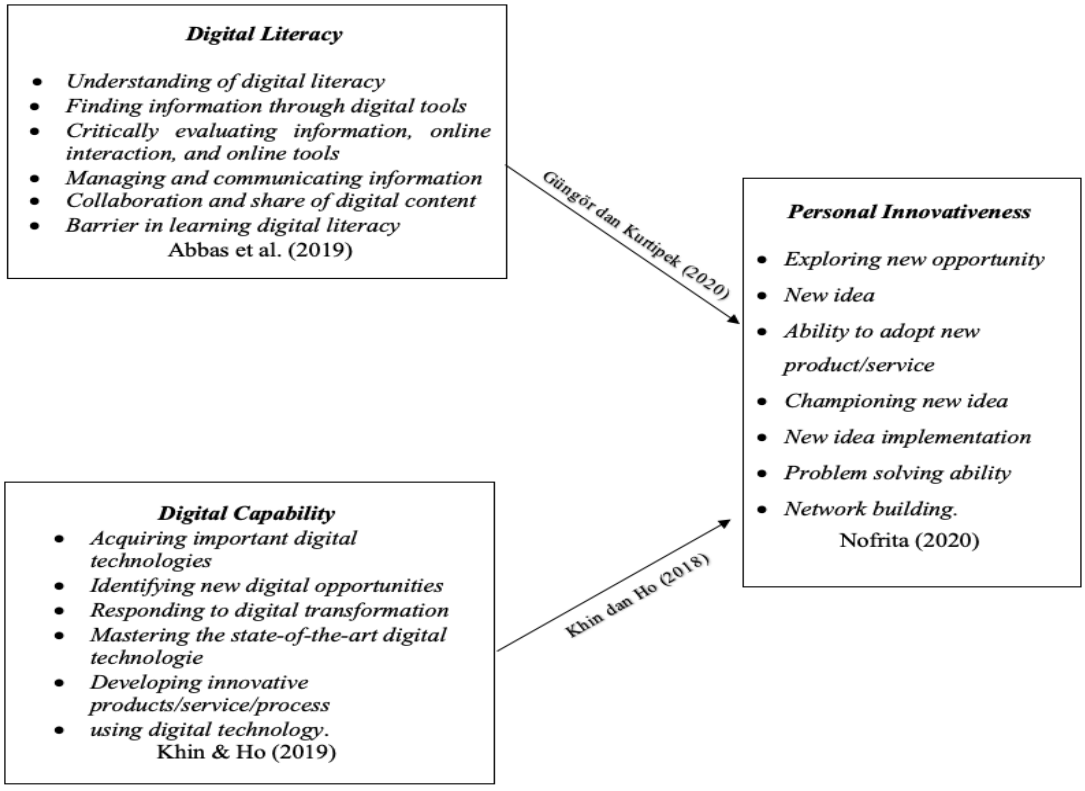


Figure 1. *Framework*

Based on the framework of thought that has been put forward, the following hypotheses can be formulated:
H1: Digital Literacy has a significant effect on Personal Innovativeness
H2: Digital Capability has a significant effect on Personal Innovativeness

III. Research Method

This study uses a quantitative approach with a descriptive type of research. This research was conducted by distributing a survey in the form of a questionnaire as a research instrument. In carrying out the survey, the research conditions were not manipulated by the authors. Based on the involvement of researchers, the unit of analysis in the study is the individual. Furthermore, based on the level of researcher involvement, this study used a non-contrived setting. Meanwhile, based on the time of the study, this study used a cross-sectional study.

The measurement scale in this study uses a Likert scale with five scales. This study uses a probability sampling technique with the withdrawal of proportional stratified random sampling, because the population in this study has heterogeneous and proportional stratified members, namely Telkom University final year students with faculty classification. The sample in this study was 377 respondents based on the results of the slovin formula.

IV. Results and Discussion

4.1 Descriptive Analysis

The results of the analysis of distributing questionnaires to 377 final year students at Telkom University regarding the level of digital literacy, the results of respondents' responses were obtained by 87.6% or included in the very good category**.** The results of respondents' responses regarding the digital capability variable get a percentage of 88.7%, which means it is in the very good category. The results of respondents' responses regarding the digital capability variable get a percentage of 88.7%, which means it is in the very good category.

4.2 Classical Assumption Test

a. Normality Test

Table 1. Normality Test

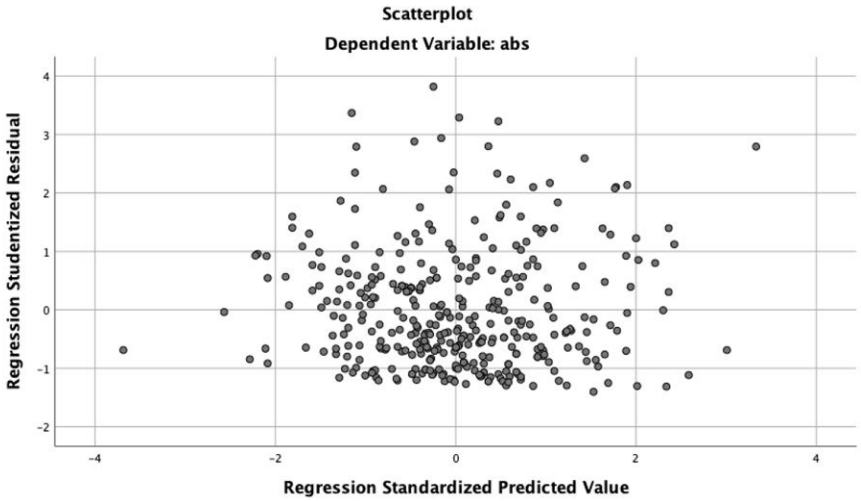
One-Sample Kolmogorov-Smirnov Test

		Unstandardized Residual
N		377
Normal Parameters[a,b]	Mean	.0000000
	Std. Deviation	5.26905247
Most Extreme Differences	Absolute	.044
	Positive	.024
	Negative	-.044
Test Statistic		.044
Asymp. Sig. (2-tailed)		.075[c]

Source: Data Processed SPSS 26.00

Based on the results of the normality test, it can be seen in table 1 that the significant value in the processed data is greater than 0.05, which is 0.075. This indicates that the data in this study are normally distributed.

b. Heteroscedasticity Test



Source: Data Processed SPSS 26.00

Figure 2. *Heteroscedasticity Test*

Based on the results of the heteroscedasticity test, it can be seen that the scatterplot does not form a certain pattern and the points on the scatterplot spread randomly. So, the regression can be said that this study does not experience heteroscedasticity disorders so that the regression model can be declared feasible for testing.

c. Multicollinearity Test

Table 2. Multicollinearity Test

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	23.741	2.767		8.581	.000		
	Digital Literacy	.316	.047	.289	6.729	.000	.934	1.071
	Digital Capability	.488	.046	.455	10.603	.000	.934	1.071

a. Dependent Variable: Personal Innovativeness

Source: Data Processed SPSS 26.00

Based on the results of the multicollinearity test using the IBM SPSS, it can be seen from table 2 that the tolerance value of the digital literacy (X1) and digital capability (X2) variables has a value of 0.934 and a VIF value of 1.071. From these results, it can be seen that the tolerance value for digital literacy and digital capability variables is 0.934 > 0.01 and the VIF value is 1.071 < 10, so it can be concluded that there is no occurrence of multicollinearity.

4.3 Multiple Linear Regression

Table 3. Results of Multiple Linear Regression Analysis

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	23.741	2.767		8.581	.000
	Digital Literacy	.316	.047	.289	6.729	.000
	Digital Capability	.488	.046	.455	10.603	.000

a. Dependent Variable: Personal Innovativeness

Source: Data Processed SPSS 26.00

Based on Table 3, it can be seen that the multiple linear equations are as follows:

$$Y = \alpha + b_1X_1 + b_2X_2$$
$$Y = 23,741 + 0,316X_1 + 0,488X_2$$

It can be seen that the constant value from the above equation is 23,741 which the number shows that if personal innovativeness (Y) is influenced by the independent variables digital literacy (X_1) and digital capability (X_2), the average value of the dependent variable personal innovativeness (Y) is 23,741. That is, there is a unidirectional relationship between the dependent variable of personal innovativeness and the independent variables of digital literacy and digital capability. The value of the regression coefficient on the digital literacy variable is 0.316. This means that every time there is an increase in digital literacy (X_1), there will be an increase in personal innovativeness (Y), which is 0.316. The value of the regression coefficient on the digital capability variable is 0.488. That is, if there is an increase in digital capability (X_2), there will also be an increase in personal innovativeness (Y) of 0.488.

4.4 Hypothesis Testing

To be able to find out which hypothesis will be accepted, it is necessary to determine t_table, you can use = 0.05/2 = 0.025 and df of n-(k+1) = 374, then we get t_(table) of 1.966. From the results of Table 3, it can be concluded:

a. The Digital Literacy variable has t_count (6.729) > t_table (1.966) or significant value (0.000) < (0.05), then H0 is rejected and H1 is accepted, which means that there is an influence of digital literacy on personal innovativeness.
b. The Digital Capability variable has t_count (10.603) > t_table (1.966) or significant value (0.000) < (0.05), then H0 is rejected and H1 is accepted, which means that there is an influence of digital capability on personal innovativeness

4.5 Coefficient of Determination Test

Table 4. Results of the Coefficient of Determination

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.598[a]	.358	.354	3.122

Source: Data Processed SPSS 26.00

From the results of the above calculation, it is known that the value of the coefficient of determination is 35.8%. This means that digital literacy and digital capability affect personal innovativeness by 35.8%, while 64.2% is influenced by other variables.

V. Conclusion

Based on the tests that have been carried out, it can be concluded that the level of digital literacy in Telkom University students is in the very good category, which is 87.6%. This is because final year students at Telkom University can search for information via the internet. The level of digital capability for Telkom University students is in the very good category, which is 88.7%. This is because telkom university final year students are able to face technological changes by adding new knowledge. The level of personal innovativeness in final year students is in the very good category, which is 88.5%. This is because the final year students of Telkom University always pay attention to the surrounding conditions to get new ideas.

The results obtained from this study have a significant influence between digital literacy on personal innovativeness. This shows that because of the t-test (6.729) it is greater than the t-table (1.966). The results obtained from this study have a significant effect between digital capability and personal innovativeness. This shows that because the t-test (10.603) is greater than the t-table (1.966). This research contributes in examining the relationship between the influence of digital capability on personal innovativeness, which has not been studied previously.

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