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THE INFLUENCE OF DIGITAL LITERACY MEDIATION ON THE EFFECT OF ENTREPRENEURSHIP KNOWLEDGE ON *TECHNOPRENUERSHIP*

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Abstract: This research is motivated by the low level of student technoprenuership. This study aims to determine and analyze the Effect of Digital Literacy Mediation on the Effect of Entrepreneurship Knowledge on Technoprenuership. This research method is an explanatory survey with a quantitative approach. The population in this study were students at universities in Indonesia. The sample in this study were 100 students who were taken using random sampling. Data collection was carried out by distributing questionnaires to students via the Google form. The instruments used have been tested for validity and reliability. The collected data were then analyzed using descriptive statistics, inferential statistics, and regression analysis. The results of this study indicate that 1) Entrepreneurial knowledge has a positive and significant effect on technoprenuership and 2) Digital literacy mediates the effect of entrepreneurial knowledge on technoprenuership. This finding suggests that if students want to improve technopreneurship, then students must increase their entrepreneurial knowledge and be supported by digital literacy.

Keywords: *Digital Literacy, Entrepreneurship Knowledge, Technoprenuership*

1. Introduction

Technopreneurship is the process of identifying, developing and executing technology-based business opportunities. It is a combination of business capabilities and technology that is used to create new products or services, and develop profitable markets (Marti'ah, 2017) . Technopreneurship is very important in creating jobs and increasing economic productivity. S e seo people who want to be technoprenuership must be someone who have capabilities in technology as well as capabilities in business fields such as management, marketing, and finance. In addition, a technopreneur must have the ability to take risks and think innovatively in developing new ideas (Sudarsih, 2013). Technopreneurship is very important in economic development and the government often provides support in the form of technopreneurship empowerment programs, such as providing funds for working capital, business assistance, and providing certification for technology products being developed (Syaifulloh, 2021).

Some of the problems related to technoprenuership such as capital and funding, namely Starting a technology business requires large funds, and it is often difficult to find the right funding. In addition, the problem of protecting intellectual property rights is that new technologies are often protected by patents and copyrights, which can be a problem for technopreneurs in protecting their business. Furthermore, the problem of limited resources is that technology businesses require large resources, including technology and infrastructure, and it is often difficult to find the right resources. Not only that, the problem of lack of knowledge and digital literacy regarding technoprenuership is also an obstacle to technopreneurship (Winarni, et

al, 2021). One of the factors that is thought to influence technoprenuership is entrepreneurial knowledge. Entrepreneurial knowledge is knowledge about how to start, manage and expand a business (Hendrawan, JS, & Sirine, 2017). This includes aspects such as business opportunity identification, business planning, marketing, resource management, and financial management. Entrepreneurial knowledge also includes interpersonal and leadership skills, such as communication, negotiation, and decision-making skills. Entrepreneurial knowledge is very important for entrepreneurs, as it helps them understand how to manage a business successfully and minimize the risk of failure. It also helps entrepreneurs find new opportunities and maintain their business success in the long term (Nursito & Jati, 2013).

In addition to entrepreneurial knowledge, digital literacy is also thought to influence technoprenuership. Digital literacy is the ability to use information and communication technology (ICT) properly and effectively to seek, use and manipulate information (Naufal, 2021). This includes the ability to understand and use technology applications, access and utilize information via the internet, and understand security and privacy issues related to the use of ICTs. Digital literacy is very important because it helps individuals understand and use technology to improve their quality of life. In addition, digital literacy helps people find and access relevant and useful information via the internet (Sutrisna, 2020).

Research on the Effect of Digital Literacy Mediation on the Effect of Entrepreneurship Knowledge on Technoprenuership has been carried out by many previous researchers (Manullang, 2022; Yanti, 2021; Hasanah, UU, & Setiaji, 2019; Hasmiah, J., Tahir, T., Hasan, M ., & Said, 2021; Salsabila, 2019; Putri, DY, & Jayatri, 2021; Nurohmah, 2017; Wijaya, UT, & Tanumihardja, 2014; Aprilianty, 2012; Aini, Q., & Oktafani, 2020) which states Knowledge Entrepreneurship Against Technoprenuership.

Based on the background and previous studies on the Effect of Digital Literacy Mediation on the Effect of Entrepreneurship Knowledge on Technoprenuership, the authors are interested in studying the Effect of Digital Literacy Mediation on the Effect of Entrepreneurship Knowledge on Technoprenuership. This study aims to determine and analyze the Effect of Digital Literacy Mediation on the Effect of Entrepreneurship Knowledge on Technoprenuership. The findings of this study are expected to be able to provide insight to readers about the Effects of Digital Literacy Mediation on the Effect of Entrepreneurial Knowledge on Technoprenuership.

2. Research Method

This research method is an explanatory survey with a quantitative approach. The population in this study were students at universities in Indonesia. The sample in this study were 100 students who were taken using random sampling. Data collection was carried out by distributing questionnaires to students via the Google form. Measurement of digital literacy variables uses eight indicators from Hague (2020), namely Functional Skills Beyond, Creativity, Collaboration, Communication, Ability to Find and Select Information, Critical Thinking and Evaluation, Cultural and Social Understanding and E-Safety. Measurement of the Entrepreneurship Knowledge Variable uses three indicators from Mustofa (2014), namely taking business risks, analyzing business opportunities, and formulating problem solutions. Meanwhile, the measurement of the technoprenuership variable uses eight indicators from Hariyono and Andriani (2020), namely knowledge of materials, mastery of tools, assembly methods, security, ability to start a business, marketing, management, and business management.

The instruments used have been tested for validity and reliability. The data that has been collected is analyzed using a Likert scale scoring system of 5 points from strongly disagree (1) to

strongly agree (5) to obtain interval data and is given a score or value. Hypothesis testing was carried out using multiple regression Moderate Regression Analysis (MRA), with a research model as shown in Figure 1.

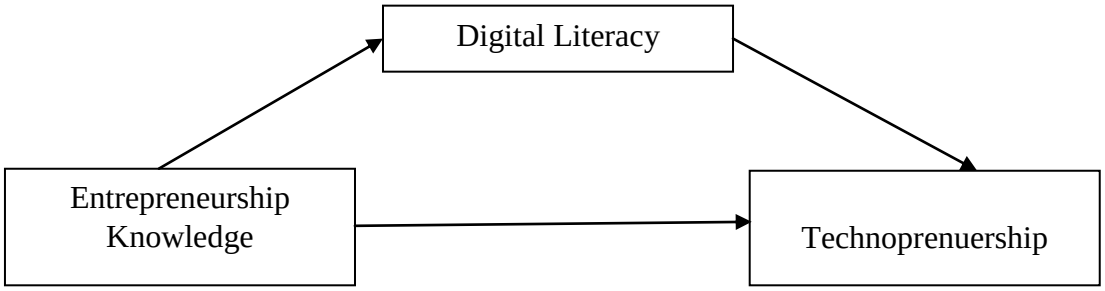

Figure 1. Research Model

3. Results and Discussion

3.1. Results

Overview of Research Respondents

The number of samples in this study were 100 students. Descriptively the results of the collection and processing of research data are presented in the description below:

a) Respondents Based on Gender

Based on gender, the distribution of respondents can be seen in Table 1 which is presented below:

Table 1.
Distribution of Respondents by Gender

Gender	Frequency	%
Man	50	50
Woman	50	50
Total	**100**	**100**

Source: Data Processing, 2022

Based on Table 1 above, it is known that the respondents in this study were mostly male and female, namely 50%.

b) Respondents Based on Age

The sample of this research is university students so that it can be seen that the age of undergraduate students is in the range of 18-25 years. Based on age, the distribution of respondents can be seen in Table 2 which is presented below:

Table 2.
Distribution of Respondents by Age

Age	Frequency	%
18 s. d 20 years	40	40
21 to 23 years	35	35
24 to 25 Years	25	25
Total	**100**	**100**

Source: Data Processing, 2022

Based on Table 2 above, it is known that the respondents in this study were more respondents aged 18 to 20 years, namely 40%, while the respondents who were at least 24 to 25 years old, namely 25%.

Overview of Research Variables

In this study, the technoprenuership variable is the dependent variable, while the use of entrepreneurial knowledge and digital literacy is the independent variable. The results were obtained based on all technoprenuership statements consisting of 16 questions, entrepreneurial knowledge consisting of 11 statements and digital literacy consisting of 16 statements. In detail, the score of each variable can be seen in Table 1 and Table 2.

Table 3.
Technoprenuership Variable Scores , Entrepreneurial Knowledge , and Digital Literacy

Total Items	Score					Total Score
	Very don't agree	Don't agree	Doubt	Agree	Strongly agree	
Technoprenuership score						
16	4155	4488	1512	112	6	10273
Entrepreneurship Knowledge Level Score						
11	1695	4788	1626	40	4	8155
Digital Literacy Level Score						
16	1930	4228	1191	116	14	7479

Source: Data Processing, 2022

Table 4.
Level Category Technoprenuership Variables , Entrepreneurship Knowledge , and Digital Literacy

Category	**range**
Creativity Level Category	
Tall	> 8396
Currently	4198 – 8396
Low	< 4198
Google Classroom Level Categories	
Tall	> 7633
Currently	3816 – 7633
Low	< 3816
Teacher Competency Level Category	
Tall	> 6870
Currently	3435 – 6870
Low	< 3435

Source: Data Processing , 2022

Based on Table 3 and Table 4, it shows that the level of technoprenuership is in the high category with a range of 10,273. Based on Table 1 and Table 2, it shows that the level of entrepreneurial knowledge is in the high category, with a range of 8,155. Based on Table 1 and Table 2, it shows that digital literacy level is in the high category with a range of 7479.

MRA Statistical Test Results

Tests in this study, namely testing the validity and reliability were obtained using the *SPSS Version 24 program* . Based on the results, it can be seen that all the results of the validity test of $r_{count} > r_{table}$ of 1.976 with $\alpha = 0.05$ or 5%, it can be concluded that all statement items for research variables are declared valid and feasible to be used as research instruments. The results of the reliability test show that the value is more than the value of r table (1.976) with α of 0.05 meaning that all research variables are declared reliable so that all the instruments contained in this study are instruments that can be trusted .

Furthermore, the results of multiple regression *Moderate Regression Analysis* (MRA) influence the use *google classroom* on student creativity and usage *google classroom* , student creativity and teacher competence as mediation are shown in Figure 2, Figure 3, Table 3, and Table 4.

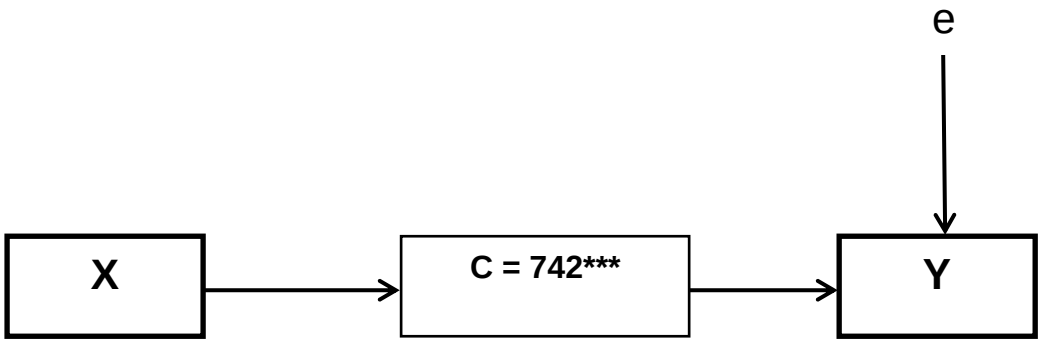

Figure 2 .
The Direct Effect of Using Entrepreneurial Knowledge on Technoprenuership

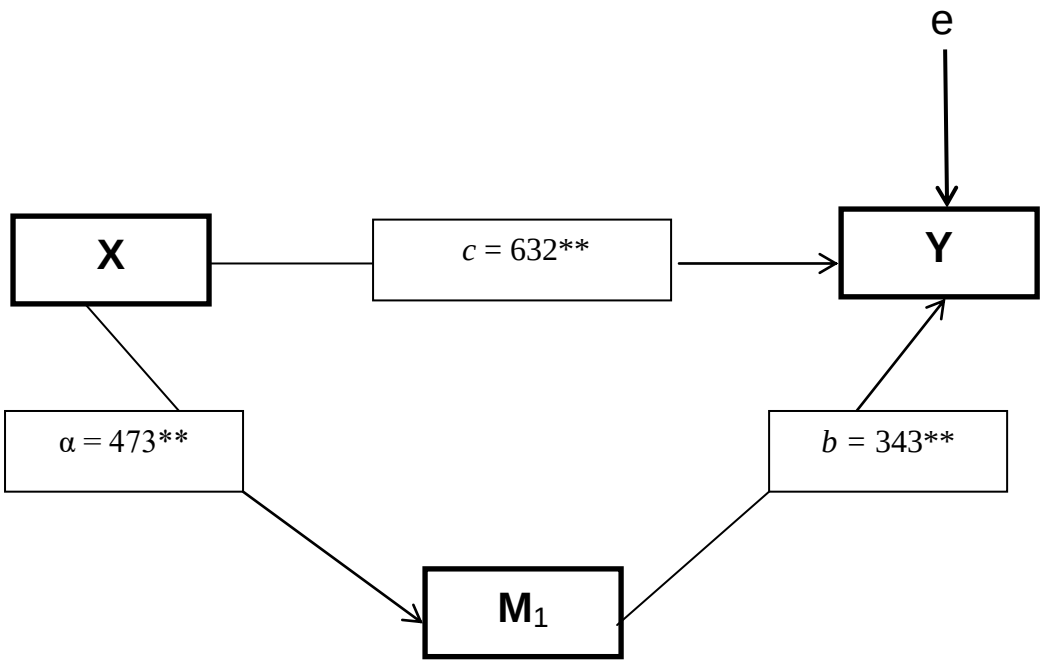

Figure 3.
Indirect Effect of Digital Literacy between Digital Knowledge and Technoprenuership

Table 5.
Regression Equation Results of the Effect of Entrepreneurship Knowledge on Technoprenuership

Model	R	R^2	B	std. error	Betas	(F) t	P
Model 1	0.637	0.405				(176,536)	
Constant			16,323	1914		8,527	0.000
Entrepreneurship Knowledge (X)			0.653	0.049	0.637	13,287	0.000

Table 6.
Results of Hierarchical Regression Effects of Digital Literacy Mediation between Entrepreneurship Knowledge and Technoprenuership

Model	R (p)	R^2 (Adjusted R^2)	R^2 Change (p)	B	std. error	Betas	(F) t	P
Model 1	0.672 (0.000)	0.452 (0.448)	0.471 (0.000)				(106312)	
Constant				11.148	0.149		5.188	0.000
X				0.506	0.057	0.493	8,902	0.000
M_1				0.317	0.068	0.259	4,676	0.000
Model 2	0.694 (0.041)	0.483 (0.475)	0.492 (0.041)				(105006)	
Constant				11,599	0.681		1,380	0.019
X				0.522	0.223	0.509	2,341	0.020
M_1				0.333	0.232	0.273	1,434	0.023
$X*M_1$				0.204	0.216	0.226	1974	0.041

Based on Table 5 it can be seen that the regression equation 1 obtained in this study is
Y = 16.323 + 0.653X
Based on these equations it can be seen that

1. A constant of 16,323 states that when the entrepreneurial knowledge variable is 0, Technoprenuership is 16,323.
2. The regression coefficient for the entrepreneurial knowledge variable is 0.653 in a positive direction, meaning that each additional value of the entrepreneurial knowledge variable will lead to an increase in the student Technoprenuership variable.

The coefficient of determination (R2) in this study is used to see the magnitude of the joint effect of exogenous variables in the analyzed model. Based on Table 3 , it can be seen that the results of the R2 calculation are 0.405, meaning that the entrepreneurial knowledge variable influences the Technoprenuership variable by 40.5% and the remaining 59.5% is influenced by other variables outside this study.

Based on Table 4 it can be seen that the regression equation 2 obtained in this study is Y = 11.599 + 0.522X + 0.333M1 + 0.204XM2
Based on these equations it can be seen that

1. A constant of 11,599 states that when the entrepreneurial knowledge variable is 0, Technoprenuership is 11,599.

2. The regression coefficient for the entrepreneurial knowledge variable is 0.522 in a positive direction, meaning that each additional value of the entrepreneurial knowledge variable will cause an increase in the Technoprenuership variable.
3. The regression coefficient for the digital literacy variable is 0.333 in a positive direction, meaning that each additional value of the digital literacy variable will cause an increase in the Technoprenuership variable.
4. The regression coefficient for the mediating variable or the result of the interaction between entrepreneurial knowledge and digital literacy is 0.204 in a positive direction, meaning that each additional value of the mediating variable will cause an increase in the Technoprenuership variable.

Based on Table 4, the following information can be obtained in this study:

1. Model 1 is a model without a mediating variable while model 2 is a model after the interaction of the mediating variable. The percentage of R^2 in model 1 before the interaction was 47%, the remaining 53% was influenced by other variables outside the model, while the percentage change in R^2 in model 2 after the interaction variable was 49%, the remaining 51% was influenced by other variables outside the model with probability 0.041. These results can be stated that model 2 is influential, meaning that model 2, namely the model with the interaction variable, is more effective in describing the Y phenomenon than model 1.
2. Model 1 with variable X has a significant effect on Y because $p < 0.05$, namely $0.000 < 0.05$ and variable M1 has a significant effect on Y because $p < 0.05$, namely $0.000 < 0.05$. Model 2 obtained information that after the interaction of the mediating variables, the results obtained could be stated as significant, which means mediating the relationship between X and Y because $p < 0.05$, namely $p = 0.041$. Therefore, it can be concluded that model 2 is better used in explaining the Y phenomenon when compared to model 1 and digital literacy is suitable for using mediating variables.

3.2. Discussion

a. The Effect of Entrepreneurship Knowledge on Technoprenuership

Based on the results of data processing it is known that Entrepreneurship Knowledge has a positive and significant effect on Technoprenuership. The results of this study are in line with the theory of Planned behavior theory put forward by Ajzen (1991) which explains that the behavior carried out by individuals arises because of the intention to behave. Based on this theory, it can be seen that intention is formed from attitude toward behavior, subjective norms, and perceived behavioral control owned by individuals. Knowledge of entrepreneurship is very important for technopreneurship because it provides a solid foundation for understanding how to start and manage a business. This knowledge includes understanding the market, developing a business plan, sourcing resources and managing risk. Entrepreneurship also helps technopreneurs understand how to identify business opportunities and overcome business problems over time. With good entrepreneurial knowledge, technopreneurs can make better business decisions and achieve their goals more efficiently.

b. The Effect of Digital Literacy Mediation on the Effect of Entrepreneurial Knowledge on Technoprenuership

Based on the results of data processing it is known that digital literacy is able to mediate the effect of Entrepreneurship Knowledge on Technoprenuership. This means that with digital literacy, the influence and role of entrepreneurial knowledge on technoprenuership will increase. The results of this study are in line with the theory of Planned behavior theory put forward by Ajzen (1991) which explains that the behavior carried out by individuals arises because of the

intention to behave. Based on this theory, it can be seen that intention is formed from attitude toward behavior, subjective norms, and perceived behavioral control owned by individuals.

Technopreneurship is a form of entrepreneurship that focuses on developing and using technology to start and run businesses. Technopreneurs are individuals who use technology to create new products or services that have added value for consumers. They play a critical role in driving innovation and economic growth by harnessing the potential of technology to create thriving and sustainable businesses. Technopreneurship is essential to help solve global problems and strengthen economies by opening up opportunities for new business and innovation growth.

Digital literacy has a significant influence in mediating the effect of entrepreneurial knowledge on technoprenuership. Digital literacy provides access for technopreneurs to obtain information and knowledge about entrepreneurship online through various sources such as digital books, video tutorials and online discussions. This makes entrepreneurial knowledge more accessible and available to technopreneurs, helping them strengthen their knowledge base and improve their skills in managing a business.

Thus, digital literacy facilitates the impact of entrepreneurial knowledge on technopreneurship as it enables technopreneurs to acquire and expand their knowledge of entrepreneurship efficiently and quickly. This helps them make better business decisions and improves their overall business performance.

The results of this study are in line with the results of previous studies (Manullang, 2022; Yanti, 2021; Hasanah, UU, & Setiaji, 2019; Hasmiah, J., Tahir, T., Hasan, M., & Said, 2021; Salsabila, 2019; Putri, DY, & Jayatri, 2021; Nurohmah, 2017; Wijaya, UT, & Tanumihardja, 2014; Aprilianty, 2012; Aini, Q., & Oktafani, 2020) stating Entrepreneurship Knowledge Against Technoprenuership.

4. Conclusion and Recommendations

4.1. Conclusion

Based on the results and discussion of the Effect of Digital Literacy Mediation on the Effect of Entrepreneurship Knowledge on Technoprenuership that has been described by the authors above, the authors can draw conclusions:

a. Entrepreneurial knowledge has a positive and significant effect on technoprenuership and
b. Digital literacy mediates the effect of entrepreneurial knowledge on technoprenuership.

4.2. Recommendations

Based on the results and discussion as well as the conclusions that have been described above, the authors' recommendations are as follows:

a. For students, it is better to improve technoprenuership by seeking entrepreneurial knowledge such as seminars, webinars, studying with practitioners and attending entrepreneurship lectures on campus.
b. For universities, it is better to plan, implement and evaluate the extent of the contribution of entrepreneurship education on campus to increase entrepreneurial knowledge so as to increase students' technoprenuership skills.
c. For future researchers, it is better to conduct research by adding other variables that are thought to influence the level of student technoprenuership.

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