
THE IMPACT OF FINANCIAL LITERACY AND FINANCIAL TECHNOLOGY ON FINANCIAL INCLUSION IN SPECIAL REGION OF YOGYAKARTA, INDONESIA

Rita Kusumawati¹, Alien Akmalia², Candra Kusuma Wardana³

Faculty of Economic and Business, Universitas Muhammadiyah Yogyakarta^{1,2,3}

kusumawatirita@yahoo.com

Received: 05-05-2022

Accepted: 15-05-2022

Published: 20-05-2022

ABSTRACT

Someone who has appropriate knowledge toward financial literacy (well literate) will be faster to learn about how financial institution works. Unfortunately, the level of financial literacy in Indonesia is only reached 29 percent. However, the government target on financial literacy itself is reached up to 75 percent. Since the knowledge on how to manage the personal budget is quite important, people need to know to overcome the financial problem that could be occur in the future endeavors. This research aim to identificate the level of influence financial literacy toward financial inclusion in Special Region of Yogyakarta, Indonesia as part of the impact by financial technology usage. This study was used quantitative approach using 133 respondents in Special Region of Yogyakarta. The data were obtained from spreading the questionnaire and interviews with respondents. Data analysis in this study used multiple linear regression using SPSS ver. 22. The result of this study shows that only financial technology which supported to influence financial Inclusion.

Keyword: Financial Literacy, Financial Technology, Financial Inclusion.

Corresponding Author: Rita Kusumawati
E-mail: kusumawatirita@yahoo.com



INTRODUCTION

Public knowledge of how to manage finances or good financial literacy is necessary to ensure that every people able to set their long-term financial plan. The impact of low levels of financial literacy will cause a person to get caught up in various financial problems (Yates et al., 2020). A person who has a good level of financial literacy (well literate) will be more quickly understand about the financial services industry matters. Having good knowledge on how to manage their budget means people more easier to determine which financial products and services that they should own in accordance with their needs and also able to improve their financial welfare (Dhar, 2021). According to the study conducted by (Widyawati, 2012) shows that a person's financial decisions are usually based on three things; 1) how much should be consumed each period, 2) whether there is excess income and how the excess is invested, 3) how to fund the consumption and investment.

The National Survey of Indonesian Financial Literacy and Inclusion (SNLKI) which conducted by the Financial Services Authority (OJK) in 2016 stated that not all of Indonesians are well literate on financial management. The data shows that there is good progress in terms of financial inclusion, but the level of financial literacy is quite low. The graph of its development can be seen in Figure 1. as follows:

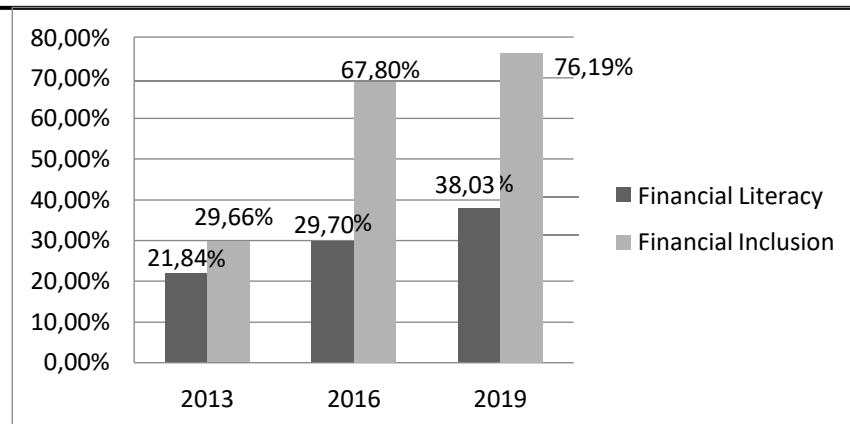


Figure 1. The Level of Financial Literacy and Inclusion In Indonesia.

Source: Financial Services Authority (OJK), 2021.

On Figure 1. above, it can be seen that in 2019 the level of financial literacy in Indonesia was only 38,03% while the financial inclusion was reached 76.19%. This condition indicates that the increasing trend in financial inclusion doesn't directly followed by the level of financial literacy. The growth of financial literacy itself was reached 74.13% from 2013 to 2019. Therefore, it can concluded that the large number of uses of financial services by Indonesian people doesn't guarantee followed by good understanding of the product that they already used.

Today, the rapid development of financial technology contributes to the increase penetration of financial inclusion in Indonesia. Various digital financial services are also facilitate the community or Small and Medium Enterprises (SMEs) in conducting transactions and financing. Digital services on financial sector is often known as financial technology (Fintech). Fintech services themselves are available as a solution to the community that is considered as not bankable entities ([Rusydiana, 2018](#)). Moreover, the internet penetration rate in Indonesia is also boost the usage of Fintech which reached 51,8% (132,7 million people) in 2016 ([Imansyah, 2018](#)). Thus, the development of Fintech in Indonesia is expected to be an accelerator for achieving government targets for the level of financial literacy and inclusion ([Bongomin, Ntayi, Munene, & Nabeta, 2016](#)).

Special Region of Yogyakarta (DIY) is one of the famous province in Indonesia which known as the city of education. Unfortunately, the level of economic inequality in DIY was quite high which shows by Gini Index of 0.382 in 2019 ([Vázquez-Fresno et al., 2019](#)). This finding also supported by the low level of financial literacy which only reached 58,53% in 2019 while the financial inclusion was reached 76,12%. Furthermore, improving financial literacy in the community can be one alternative solution for people to allocate their portfolio of financial plans into various financial services. Therefore, it is necessary for the authors to analyze the impact of financial literacy and financial technology on the financial inclusion in DIY.

The research would become more interesting due to the existance of a research gap which conducted by ([Christanal, 2019](#)) that financial literacy has no influence on the financial inclusion In Parahyangan Catholic University students while ([Bongomin et al., 2016](#)), ([Ziegler et al., 2021](#)), and ([Ritonga, Widodo, & Nurdianto, 2021](#)) stated that financial literacy has an positive and significant influence on financial inclusion. Moreover, to reach out goal, we would review such literature articles which focuses on financial litearcy, financial technology, and financial inclusion usage. The study contributes to the literature by providing actual data and the uniqueness of the area which reaseach was conducted. More importantly, the findings are expected to become a consideration input for the stakeholders in order to create appropriate regulations for the people

Financial literacy is a combination of awareness, knowledge, skills, attitudes and behaviors to choose a decision related to an individual's financial condition ([OECD, 2015](#)). In addition, the Financial Services Authority (OJK) mentioned in OJK Regulation No. 76/POJK07/2016 that financial literacy is a set of abilities, beliefs, that influence a person's attitude and behavior to improve the quality of making in financial decisions. The other definition of financial literacy is described by

[\(Ramavhea, Fouché, & Van Der Walt, 2017\)](#) as personal skill, ability, and knowledge toward people

financial management in order to optimize the availability resources more effectively. This effort aim to ensure their financial status is secure enough in a lifetime [\(Jafarzadeh, Ariffin, Mahmud, Hosseini, & Ahmad, 2017\)](#).

The growing number of financial instrument is something that people must be aware [\(Purwanto et al., 2020\)](#). They should think creatively to fulfill their personal financial planning and investing regarding on their monthly spending budget. On the other side, the level of financial literacy determining people saving, investment behavior, and debt ratio management [\(Lusardi, 2019\)](#). Higher level of financial literacy would drive people to accumulate wealth. In some cases, financial literacy also becoming reason people set their plan for retirement and able to calculate financial risk.

According to the [\(Sleebos, 2003\)](#) International Network on Financial Education in Atkinson and (Atkinson & Messy, 2012) and [\(Bongomin et al., 2016\)](#) shows that indicators for measuring a person's level of financial literacy are; 1) Financial Knowledge, 2) Financial Skills, 3) Financial Attitudes, and 4) Financial Behavior. Financial technology is an innovation in the financial industry that can make financial transactions faster and more efficient [\(Nizar, 2017\)](#). Fintech itself is a technological update in financial services that is able to produce business models, applications, processes, and financial products. Fintech also has similar services as banks such as lending, collecting money, and investing funds, but they can run more efficiently due to technology usage. Spesifically, the areas of Fintech potential expansion are; 1) transaction execution (settlement, clearing, and payment), 2) management's funds (lending, capital rising, deposit, and investing), and 3) insurance [\(Popescu, Sima, Nica, & Gheorghe, 2017\)](#).

The beginning of Fintech began in the 1970s, where there was an automatic teller machine (ATM). Followed by telephone banking in the 1980s until the emergence of various financial products in the capital market in the 1990s. Furthermore, the rampant use of internet banking which then encourages branchless banking has mentioned the space and time to be able to do transaction [\(Nizar, 2017\)](#).

METHODS

The object of this research is the knowledge of the people of Yogyakarta Special Region regarding on financial literacy, financial technology, and financial inclusion matters. The subjects in this study are people located in the Special Region of Yogyakarta. The data used in this study is in the form of primary data. The data was obtained from 133 respondents who had been selected based on certain selection criteria which is recommended that the sample size is between 100-200 to be able to use the Maximum Likelihood (ML) estimation method [\(Indarto & Ghozali, 2016\)](#). Technique sampling used nonprobability sampling precisely purposive sampling or sample selection based on the subjective considerations criterion. In this study, the criteria are:

1. People who stayed in Special Region of Yogyakarta.
2. People who having understanding the terms of financial literacy, financial technology, and financial inclusion.

The method of collecting data in this study is in the form of a survey using an online questionnaire. The measurement scale used in this study is using the Likert scale which is designed to study how strongly the subjects agreed or disagreed based on questions that have been made by researchers. This study uses validity tests and reliability tests to test the quality of the instruments to be used. The validity test in this study was using Pearson Correlation. According to Sekaran (2017) that question indicators must be compared first between r count and r table. The reliability test in this study was to look at the value of Cronbach Alpha. A research instrument can be said to be reliable if it has a Cronbach Alpha's value > 0.6 . Validity and reliability tests are processed using SPSS 22.

Hypothesis testing in this study used a Structural Equation Modeling (SEM) approach operated through the AMOS 22 program. SEM is a research model that allows a researcher to

measure what indicators are used in a concept and measure the influence or relationship between factors that have been identified dimensions Ghozali (2016).

RESULTS AND DISCUSSION

Yogyakarta Special Region (DIY) is one of the special areas in Indonesia which has various famous destination object with full of cultural heritage. Moreover, DIY is also known as a city of education. Nevertheless, the level of economic inequality in DIY is the worst compared nationally. In addition, the level of financial literacy is also relatively low which reached 58,53% and the financial inclusion rate is 76,12% in 2019.

The subjects taken in this study were people located in the Special Region of Yogyakarta. Travelers will be given a questionnaire online through the following link (<https://forms.gle/7tHc6qYrtoAKcU168>). The distribution of this questionnaire was carried out evenly to 133 respondents who were considered to fit the criteria. The distribution of the questionnaire was carried out for two months specifically during May to June 2020.

There are several characteristics of respondents in this study such as gender, age, current domicile (district), last education, occupation, and income. The detail information regarding the respondent's characteristics can be looked up at Table 1 below:

Table 1. Sample Statistics (N = 133)

	Frequency	Percent
<i>Gender</i>		
Male	62	46,62
Female	71	53,38
<i>Age</i>		
< 16 years old	0	0
17-25 years old	73	54,89
26-34 years old	20	15,04
35-43 years old	20	15,04
44-52 years old	14	10,53
> 53 years old	6	4,51
<i>Domicile</i>		
Bantul	52	39,1
Kulon Progo	2	1,5
Gunungkidul	14	10,53
Sleman	52	39,1
Yogyakarta city	13	8,78
<i>Education</i>		
Junior high school	2	1,5
Senior high school	51	38,34
Diploma	10	7,52
Bachelor Degree	63	47,37
Master/PhD	7	5,26
<i>Occupation</i>		
Student	44	33,08
Entrepreneur	41	30,83
Private Employee	37	27,82
Public Servant	2	1,5
Others	9	6,77
<i>Income</i>		
< Rp 3.000.000	97	72,93
Rp 3.100.000 – Rp	19	14,28

	Frequency	Percent
5.000.000		
Rp 5.100.000 – Rp 10.000.000	12	9,02
Rp 10.100.000 – Rp 15.000.000	3	2,25
> Rp 15.000.000	2	1,5
Total	133	100

Source: Data Processed, 2020

Based on the results shown in Table 1 above, the respondents are dominated by female which reached 52.98% while male is only 46.27%. Then, aged 17-25 years old are quite dominant in filling out the questionnaire, which is as much as 54.89%. Then, most of respondents are located in Bantul and Sleman which reached 39,1% respectively (52 respondents). On the other hand, respondent who has bachelor degree is also higher on percentage compared to the others which reached 47,37%. Moreover, most of the respondents who filled out the questionnaire were have bachelor degree as much as 63 people (47,37%) followed by senior high school which amounted to 51 or reached 38,40%.

For occupation characteristic, respondents who categorized as student are more dominant which reached 33,08% folloewd by entrepreneur and private employees which reached 30,83% and 27,82 respectively. On the other side, based on income characteristic, the respondent who has income less than Rp 3.000.000 is quite high which reached 72,93%.

Data Analysis

Before testing the hypohthesis, the authors want to test whether the questionnaire that used is valid and reliable enough nor not. Validity testing using Pearson Correlation while reliability testing in this study used the Cronbach Aplha statistical test. The limit value used to assess a consistency is > 0.7 . The sample used by researchers to test the instrument were 70 respondents with 28 question items. After going through the validity test, it is known that all question points for variable financial literacy, financial technology, and financial inclusion are valid or $r \text{ count} > r \text{ table}$ with significance value < 0.05 . For reliability testing, the result shows that all research variables value reached greater than 0.70, so in the other words all the variables are realiable.

Outliers

The multivariate outliers test was conducted by looking at the Mahalanobis distance at a probability level of 0.001. This study used 28 indicators, resulting in a CHISQ score. INV. RT is 56.89229. After several eliminations, the data that can be used for next hypothesis testing is only 122 respondents. The rest 11 data were eliminated.

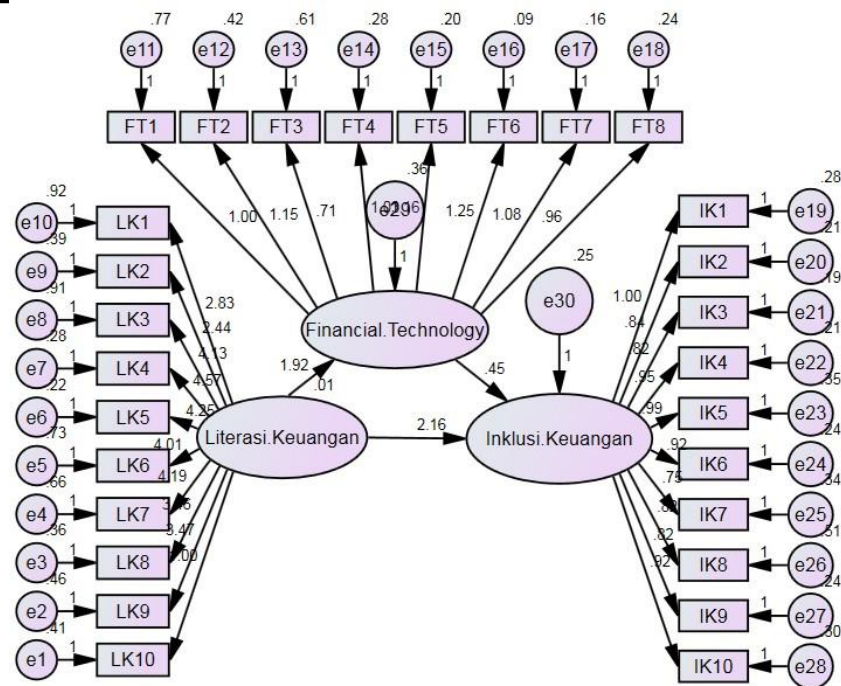


Figure 4. Structural Equation Modeling (SEM) Output Model
Sumber: Data processed, 2020.

Goodness-of-Fit Test

The Goodness of Fit Test in principle aims to find out whether a distribution of data from a sample acceptable from certain theoretical distribution or not. The result of Goodnees of Fit tes ini this study can be seen at Table 2 below:

Table 2. Goodness of Fit Test Result

Goodness of Fit Index	Cut off Value	Model Result	Model Evaluation	
			Source	Criteria
X ² Chi-Square	Expected low value	749,372	Ghozali (2016)	Not Fit
Probability	≥ 0,05	0,000	Ghozali (2016)	Not Fit
RMSEA	≤ 0,08	0,098	Ghozali (2016)	Not Fit
GFI	≥ 0,90	0,705	Ghozali (2016)	Not Fit
AGFI	≥ 0,90	0,602	Ghozali (2016)	Not Fit
CMIN/DF	≥ 2,000 ≤ 3,000	2.160	Wijanto (2008) and Haryono (2017)	Fit
TLI	≥ 0,90	0,776	Ghozali (2016)	Marginal Fit
CFI	≥ 0,90	0,794	Ghozali (2016)	Marginal Fit

Source: Data processed, 2020

In Table 2 above, it can be seen that there is one criterion that is declared fit, then the researcher refers to the parsimony principle which put forward by (Arbuckle & Wothke, 1999) in (Solimun, 2004) that if there are one or two criteria which declared as fit then the model is accepted as a whole. Thus, the principle becomes a reference for researchers to continue on the next analysis. The next step is to conduct a hypothesis test where testing in this study using regression weights. According to (Pramesti, 2018) states that the hypothesis in a study is acceptable if the probability value is smaller or equal to 0.050 and the C.R value is greater than 1.96. The results of the regressionweight test in this study can be seen at Table 3 below:

Table 3. The Result of Direct Impact of Every Variable

			Estimate	S.E.	C.R.	P	Label
Financial. Technology	<---	Financial Literacy	1.914	1.221	1.569	.117	par_27
Financial Inclusion	<---	Financial Literacy	2.183	1.311	1.642	.101	par_26
Financial Inclusion	<---	Financial. Technology	.417	.103	4.152	***	par_28

Source: Data processed, 2020.

The data shows in Table 3 above mentioned that only relationship between financial technology on financial inclusion which shows probability value lower or equal to 0,050 and the critical ratio greater than 1,96. Then, the detail information regarding hypothesis testing in this study can be looked up on Table 4 below:

Table 4. Hypothesis Testing

No	Hipotesis	H	C.R	P	Description
1	Financial Literacy → Financial Inclusion	H1	1.569	0,117	Not positive and Significant
2	Financial Technology → Financial Inclusion	H2	4,152	***/<0,001	Significantly Positive
3	Financial Literacy → Financial Technology	H3	1,642	0,101	Not positive and Significant

Source: Data processed, 2020.

The result provided in Table 4 above concluded that there was no significant and positive influence between financial literacy on financial inclusion with the acquisition of a probability value of $0.117 > 0.050$ and obtained a C.R value of $1,569 < 1,960$, so hypothesis 1 in this study is not supported. Then, for hypothesis 2, the results state that there is a significant and positive influence between financial technology on financial inclusion with the acquisition of probability value $*** / < 0.001$

$< 0.001 < 0.050$ and obtained a C.R value of $4,152 > 1,960$, then hypothesis 2 in this study is supported.

The results of hypothesis 3 testing stated that there was no significant and positive influence between financial literacy on financial technology with the acquisition of a probability value of 0.101

> 0.050 and obtained a C.R value of $1,642 < 1,960$, so hypothesis 3 in this study is not supported. The next stage is to test the mediation effects of financial technology in relationship between financial literacy and financial inclusion. Therefore, there is need a comparison value between standardized direct effect or direct influence and standardized indirect effect or indirect influence. The comparison of those values can be seen in Table 5. and Table 6 below:

Table 5. Standardized Direct Effect Output

	Financial Literacy	Financial Technology	Financial Inclusion
Financial. Technology	.345	.000	.000
Fiancial Inclusion	.373	.433	.000

Source: Data processed, 2020.

Table 6. Standardized Indirect Effect Output

	Financial Lietaracy	Financial Technology	Financial Inclusion
Financial.Technology	.000	.000	.000

Financial Inclusion	.149	.000	.000
---------------------	------	------	------

Source: Data processed, 2020.

Based on Table 5 and Table 6 above, it can be seen that the direct influence of financial literacy on financial inclusion is obtained a value of 0.373. In contrast, the value obtained on its indirect influence is 0.149 or less than 0.397. The results show that financial technology doesn't have ability to mediate the relationship between people's financial literacy and financial inclusion. Therefore, hypothesis 4 in this study is not supported.

Discussion

The finding of this study is quite unique which most of the people are engage enough with financial instruments, but they don't have appropriate understanding to use it. The data analysis shows that H1 is not supported which means financial literacy doesn't have positive and significant effect on financial inclusion. The result inline with the study conducted by [\(Christanal, 2019\)](#) that financial literacy has no influence on financial inclusion. As previously explained, Special Region of Yogyakarta (DIY) is one of the provinces in Indonesia which only reached 58.53% in 2019 on its financial literacy level. In addition, respondents in this study were dominated by Students and Entrepreneurs which only earn < Rp 3,000,000 per month (72.93%). This means that the majority people probably understand about how to manage their wealth, but their budget constraints has been limit them to invest on certain financial investment portfolio.

Identification on the result of H2 is another topic which quite interesting to be discuss. This study found that H2 is supported or financial technology has a positive and significant influence on financial inclusion. The finding inline with the reserach conducted by [\(Shen, Hu, & Hueng, 2018\)](#), [\(Elghool et al., 2020\)](#), [\(Ajeil, Ibraheem, Azar, & Humaidi, 2020\)](#), and [\(Nande & Irman, 2021\)](#) which stated that financial technology products has an influence on financial inclusion. The rapid development of financial technology makes people having easy access on various financial technology products. Thus, the high intensity usage of technology-based on financial services will automatically support the achievement of inclusive finance.

Unfortunately, the unique matters happened in Special Region of Yogyakarta (DIY) itself is people are massively and intently using financial technology products as part of their daily transaction, but they don't certainly know about the consequences of using those applications. For example, financial technology product on payment based called Gopnay or OVO are often giving discount and promos to trigger customers impulsive buying. This might be dangerous in the long-term run due to miss-calculation and consumptive behavior.

H3 is also shows unsupported impact where financial literacy doesn't have positive and significant impact on financial technology. This finding is not inline with the study conducted by [\(Shen et al., 2018\)](#) and [\(Setiawan, Sutarto, & Indrawati, 2021\)](#) which stated that financial literacy has an influence on the use of financial technology products. In theoretical view, people who have high level of financial literacy will drive them to use financial technology product. In fact, people who lived in Special Region of Yogyakarta (DIY) only reach 58.53% in 2019 on its financial literacy level. It means that a half of DIY people are having their of reason to doesn't use financial products such as minimum budget constrains and low trust on digital matters.

On the other side, H4 is also not supported which means that financial technology can't mediate the influence effect of financial litearacy on financial inclusion. The result is not inline with the research conducted by [\(Tsai et al., 2018\)](#) and [\(Rao et al., 2019\)](#) which stated that the financial technology products able to mediate the relationship between financial literacy and financial inclusion. If we deeply identificate, we would find that half of people who lived in Special Region of Yogyakarta (DIY) are already know the advantage and disadvantage of using financial product in order to reach their financial goals. They don't need any financial technology matters to boost up their knowledge, once they have money then they will do investment activity.

The budget constraint still becoming seriously problem for people in DIY which limit them to allocate their wealth to certain financial instruments. This condition is aggravated by consumptive behavior by using financial technology product. The, education regarding how to manage the money,

how to invest, how to accumulate wealth probably must become the government priority in order to catch up people from poverty to prosperity.

CONCLUSION

Based on the descriptions, analyzes, and discussion previously, it can be concluded that; 1) Financial literacy has no positive and significant effect on financial inclusion in the Special Region of Yogyakarta. This means that doesn't matter how much people understand financial instruments, people are still limit from accessing financial product regarding minimum budget constrains, 2) Financial technology has a positive and significant effect on financial inclusion in the community in the Special Region of Yogyakarta. Giving promo and discounts probably the reasons why people access financial product easily, but it can become boomerang for them due to increasing their own consumptive behavior.

Then, 3) Financial literacy has no positive and significant effect on financial technology in the Special Region of Yogyakarta. It means that the people are probably having their of reasons to restrict usage financial products such as minimum budget constrains and low trust on any financial digital matters., 4) Financial technology has no role to mediate the influence financial literacy on financial inclusion in the Special Region of Yogyakarta. People who has good understanding on financial management will directly go to allocate their wealth on the certain financial instrument without touching financial technology.

There are several suggestion to improve the quality finding of this research topic especially on financial literacy, inclusion, and technology. 1) For the government, it is necessary to keep an eye on current people income in Special Region of Yogyakarta (DIY). Lower level of take home pay limit them to access any certain financial instruments. Education and supportive regulation regarding financial matters would be preferred by the people, 2) For the people who lived in DIY, there is huge opportunity to gather information on financial management skill since DIY known as the city of education. Apart from that, people there are also must be eagerly look to the opportunity which would increase their indome, so that it is easily for them to access and invest to financial products.

Lastly, 3) For the researcher, further researchers are expected to increase the number of respondents to get better research results, conduct the study in different areas, and additional variable which indicates having opportunity to obtain better research model and better predictive power.

REFERENCES

- Ajeil, Fatin Hassan, Ibraheem, Ibraheem Kasim, Azar, Ahmad Taher, & Humaidi, Amjad J. (2020). Grid-based mobile robot path planning using aging-based ant colony optimization algorithm in static and dynamic environments. *Sensors*, 20(7), 1880.
- Arbuckle, James L., & Wothke, Werner. (1999). *Amos 4.0 user's guide*. Citeseer.
- Atkinson, Adele, & Messy, Flore Anne. (2012). *Measuring financial literacy: Results of the OECD/International Network on Financial Education (INFE) pilot study*.
- Bongomin, George Okello Candiya, Ntayi, Joseph Mpeera, Munene, John C., & Nabeta, Isaac Nkote. (2016). Social capital: mediator of financial literacy and financial inclusion in rural Uganda. *Review of International Business and Strategy*.
- Christanal, Kevin. (2019). *Analisis literasi keuangan, penggunaan produk Fintech, dan inklusi keuangan pada mahasiswa Universitas Katolik Parahyangan*.
- Dhar, Urvi. (2021). *Asian Development Bank (ADB), Asian Development Outlook 2020: What Drives Innovation in Asia?* SAGE Publications Sage India: New Delhi, India.
- Elghool, Ali, Basrawi, Firdaus, Ibrahim, Hassan, Ibrahim, Thamir Khalil, Ishak, M., Yusof, T. M., & Bagaber, Salem Abdullah. (2020). Enhancing the performance of a thermo-electric generator through multi-objective optimisation of heat pipes-heat sink under natural convection. *Energy Conversion and Management*, 209, 112626.

- Imansyah, Ryan. (2018). *Impact of internet penetration for the economic growth of Indonesia*.
- Indarto, Stefani Lily, & Ghazali, Imam. (2016). Fraud diamond: Detection analysis on the fraudulent financial reporting. *Risk Governance & Control: Financial Markets & Institutions*, 6(4), 116–123.
- Jafarzadeh, Shima, Ariffin, Fazilah, Mahmud, Shahrom, Hosseini, Seyed Fakhreddin, & Ahmad, Mehraj. (2017). Improving the physical and protective functions of semolina films by embedding a blend nanofillers (ZnO-nr and nano-kaolin). *Food Packaging and Shelf Life*, 12, 66–75.
- Lusardi, Annamaria. (2019). Financial literacy and the need for financial education: evidence and implications. *Swiss Journal of Economics and Statistics*, 155(1), 1–8.
- Nande, Marsel, & Irman, Wati Ahmad. (2021). Penerapan Model Pembelajaran Blended Learning dalam Meningkatkan Hasil Belajar Siswa Sekolah Menengah Kejuruan. *Edukatif: Jurnal Ilmu Pendidikan*, 3(1), 180–187.
- Nizar, Muhammad Afdi. (2017). *Teknologi keuangan (Fintech): Konsep dan implementasinya di Indonesia*.
- OECD, INFE. (2015). National strategies for financial education. *Manual de Políticas OCDE/INFE*.
- Popescu, Gheorghe H., Sima, Violeta, Nica, Elvira, & Gheorghe, Ileana Georgiana. (2017). Measuring sustainable competitiveness in contemporary economies—Insights from European economy. *Sustainability*, 9(7), 1230.
- Pramesti, Wahyu. (2018). Analisis pemeringkatan sukuk: Perspektif keuangan. *BISNIS: Jurnal Bisnis Dan Manajemen Islam*, 5(1), 93–110.
- Purwanto, Hadi, Hamka, Defrizal, Ramadhani, Witri, Mulya, Detra, Suri, Fatimah, & Novaliza, Merry. (2020). Problematics study of natural sciences (IPA) online at junior high school in the time of the pandemic Covid-19. *International Journal of Progressive Sciences and Technologies*, 21(2), 188–195.
- Ramavhea, Gumani, Fouché, Jaco, & Van Der Walt, Freda. (2017). FINANCIAL LITERACY OF UNDERGRADUATE STUDENTS—A CASE STUDY OF A PUBLIC UNIVERSITY IN SOUTH AFRICA. *International Journal of Economics and Finance Studies*, 9(2), 48–65.
- Rao, U. Mohan, Fofana, Issouf, Jaya, T., Rodriguez-Celis, Esperanza Mariela, Jalbert, Jocelyn, & Picher, Patrick. (2019). Alternative dielectric fluids for transformer insulation system: Progress, challenges, and future prospects. *IEEE Access*, 7, 184552–184571.
- Ritonga, Mahyudin, Widodo, Hendro, & Nurdianto, Talqis. (2021). Arabic Language Learning Reconstruction as a Response To Strengthen Al-Islam Studies at Higher Education. *Studies at Higher Education (January 23, 2021)*. *International Journal of Evaluation and Research in Education (IJERE)*, 10(1), 355–363.
- Rusydiana, Aam Slamet. (2018). Developing Islamic financial technology in Indonesia. *Hasanuddin Economics and Business Review*, 2(2), 143–152.
- Setiawan, Agung, Sutarto, Sutarto, & Indrawati, Indrawati. (2021). Metode praktikum dalam pembelajaran pengantar fisika sma: studi pada konsep besaran dan satuan tahun ajaran 2012-2013. *Jurnal Pembelajaran Fisika*, 1(3), 285–290.
- Shen, Yan, Hu, Wenxiu, & Hueng, C. James. (2018). The effects of financial literacy, digital financial product usage and internet usage on financial inclusion in China. *MATEC Web of Conferences*, 228, 5012. EDP Sciences.
- Sleeboos, Joelle. (2003). *Low fertility rates in OECD countries: facts and policy responses*.
- Solimun, M. S. (2004). Pemodelan Statistika: Structural Equal Modelling (SEM) Aplikasi Amos. *Pekanbaru: Diklatpada Universitas*.
- Tsai, Chia Kuang, Huang, Li Chun, Tsai, Wen Chiuan, Huang, Shih Ming, Lee, Jiunn Tay, & Hueng, Dueng Yuan. (2018). Overexpression of PLOD3 promotes tumor progression and poor prognosis in gliomas. *Oncotarget*, 9(21), 15705.
- Vázquez-Fresno, Rosa, Rosana, Albert Remus R., Sajed, Tanvir, Onookome-Okome, Tuvieri, Wishart, Noah A., & Wishart, David S. (2019). Herbs and spices-biomarkers of intake based on human intervention studies—a systematic review. *Genes & Nutrition*, 14(1), 1–27.

- Widyawati, Irin. (2012). Faktor-faktor yang mempengaruhi literasi finansial mahasiswa fakultas ekonomi dan bisnis Universitas Brawijaya. *Assets: Jurnal Akuntansi Dan Pendidikan*, 1(1), 89– 99.
- Yates, Andrew D., Achuthan, Premanand, Akanni, Wasu, Allen, James, Allen, Jamie, Alvarez-Jarreta, Jorge, Amode, M. Ridwan, Armean, Irina M., Azov, Andrey G., & Bennett, Ruth. (2020). Ensembl 2020. *Nucleic Acids Research*, 48(D1), D682–D688.
- Ziegler, T., Albach, D., Bernert, C., Bock, S., Brack, F. E., Cowan, T. E., Dover, N. P., Garten, M., Gaus, L., & Gebhardt, R. (2021). Proton beam quality enhancement by spectral phase control of a PW-class laser system. *Scientific Reports*, 11(1), 1–7.



© 2022 by the authors. Submitted for possible open access publication under the terms and conditions of the Creative Commons Attribution (CC BY SA) license (<https://creativecommons.org/licenses/by-sa/4.0/>).