

# Investigating Factors Influencing Financial Literacy: A Study of Students in Batam

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**Abstract.** This study aims to ascertain the factors influencing financial literacy among business management and engineering students at Batam State Polytechnic. A quantitative approach was employed, utilizing primary data derived from questionnaires distributed to students in these fields. The study employed purposive sampling with N=251 participants. The collected data underwent descriptive analysis and was subjected to statistical tests including the Chi-Square ( $\chi^2$ ) test and the Mann Whitney test for two independent samples. The findings revealed that gender, grade point average, allowance, and age exhibited no significant influence on financial literacy. Additionally, variations in financial literacy were observed between business management and engineering students at Batam State Polytechnic.

**Keywords:** Gender, GPA, Allowance, Age, Financial Literacy

## 1 Introduction

Data from the 2019 Indonesian Financial Literacy National Strategy (SNLKI), published by the Financial Services Authority (OJK), reveals that a significant portion of the general public lacks adequate financial literacy. According to Tirta Segara, a member of the OJK Board of Commissioners for Education and Consumer Protection, the 2019 SNLKI findings indicate that individuals aged 15-17 years had a financial literacy rate of only 16 percent, signifying a relatively low level of financial knowledge<sup>1</sup>. The low level of financial literacy is evident from the 2019 SNLKI results released by OJK, which highlighted the state of financial literacy and inclusion. These results indicate that the overall level of public financial knowledge stands at 38.03%, while the financial inclusion index is 76.19%. This means that only approximately one-third of Indonesia's population is well-versed in financial<sup>2</sup>.

The millennial generation also lacks adequate financial literacy, as conveyed by Kristiani Puji, Head of the OJK Financial Literacy and Inclusion Department, based on OJK survey data<sup>3</sup>. GoBear conducted a Financial Health Index (FHI) survey in 2020. A survey conducted

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<sup>1</sup>Accessible: <https://news.unair.ac.id/2021/03/26/dewan-komisioner-ojk-literasi-keuangan-milenial-low> (accessed 10/06/2022)

<sup>2</sup>Accessible: <https://www.ojk.go.id/id/berita-dan-activity/publikasi/Documents/Pages/Strategi-Nasional-Literasi-Kuangan-Indonesia-2021-2025/Strategi%20Nasional%20Literasi%20Keuangan%20Indonesia%202021-2025.pdf> (Accessed 1 June 2020)

<sup>3</sup>Accessible: <https://republika.co.id/tag/literasi-keuangan-milenial> (accessed June 1 2020)

among ASEAN countries found that Singapore obtained the highest financial literacy score by 79%, while Indonesia obtained a financial literacy score below Singapore, which was 67%. This result was only superior to Vietnam, which obtained a score of 64%<sup>4</sup>.

## 2 Literature Review and Hypothesis Development

Based on previous research, it has been argued that financial literacy is influenced by several factors, but there are inconsistencies in these studies. On the gender variable, the results of research [7], [3], [5], and [22] found that gender affects financial literacy. Researchers [8] revealed that gender differences significantly affect the relationship between skills and financial ability and the relationship between knowledge and financial ability. However, there are different results found by research [16], [17], [26], and [28] showing that gender has no effect on financial literacy.

Meanwhile, for the cumulative grade point average (GPA) variable, researchers [2], [13], [23], [24], and [31] show that there is an effect of GPA on financial literacy. A researcher [24] found that the higher the GPA, the better the financial literacy. However, in contrast to research conducted by [5], which found that GPA and financial literacy had no effect, Then, using the allowance variable, researchers [4], [20] found the effect of allowance on financial literacy. Research [11] explains that the more allowance a student has, the higher their financial literacy. This is because students who have a lot of allowance can manage their finances according to their needs. However, researchers [10] found different results: allowances do not have a positive impact on financial literacy.

Another factor that is also categorized as a factor that influences financial literacy is age. Researchers [8], [15], and [28] found that age and financial literacy have an effect. Researcher [31] states that students with a more mature age have more knowledge and experience than students under their age. Mature students have more knowledge and experience than younger students. However, research [2], [9], and [14] found different results; age and financial literacy had no effect.

### Theory of Planned Behavior (TPB)

According to [1] TPB, it helps us understand how we can change someone's behavior. TPB has often been applied in various studies because it involves understanding how individuals act and show their reactions. This theory is one that can predict a person's behavior. The main reasons for making decisions are based on reasoning processes that are influenced by attitudes, norms, and behavioral controls. This theory shows that an individual's background in behaving can be determined by social factors, namely gender and age, and there is an individual factor of knowledge, namely GPA, which can affect an individual's belief in something that will ultimately affect the individual's behavior in acting.

### Theory of Life Cycles

The theory of the life cycle was originally proposed by [21]. This theory focuses on the development of individual consumption and saving behaviors. Then, introduce the life-cycle model of asset allocation and accumulation. The model distinguishes between the propensity to consume and to save at different stages of an individual's life. The theory predicts that consumption and saving behavior change significantly with objective (i.e., income, rate of

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<sup>4</sup>Accessible: <https://www.kompasiana.com/danielnugraha/6007978ad541df477f281052/literasi-keuangan-Masyarakat-indonesia-dan-dampak-dindingnya-level-literacy-financial> (accessed on: 10 June 2022)

return, and wealth) and subjective (i.e., age, marital status, socioeconomic conditions, and demographics) factors during different stages of an individual's life. This theory states that the decision to divide an individual's income into consumption and saving is formed from a life cycle perspective [21]. In this study, the theory of life cycle is used to explain the income variable, namely allowance, with financial literacy.

### Hypothesis Development

#### The Effect of Gender on Financial Literacy

The Theory of Planned Behavior (TPB) states that people take actions for a purpose. TPB supports the gender variable. Researcher [22] explains that gender refers to human sex, which is male and female. Gender differences influence behavior or personal knowledge of factors such as financial literacy. Research results [3], [5], [7], [9], and [22] found that gender has an influence on financial literacy. Therefore, the researcher proposes the first hypothesis, namely:

**H1:** Gender affects financial literacy

#### The Effect of GPA on Financial Literacy

The Theory of Planned Behavior (TPB) explains that there are background factors, namely intelligence, in behavior. In this study, intelligence, namely the cumulative grade point average (GPA), and the variable grade point average (GPA), is one of the factors related to the level of financial literacy. This is because students with a higher GPA generally tend to have a better understanding than students with a lower GPA [2]. These results are reinforced by research conducted [13], [23], [24], [31], and [29] on the effect of GPA on financial literacy. Therefore, researchers put forward a second hypothesis, namely:

**H2:** GPA affects financial literacy

#### The Effect of Allowance on Financial Literacy

The amount of allowance for financial literacy has a relationship with the theory of the life cycle. Explains that the life cycle perspective influences a person's decision to allocate his income for consumption and saving [21]. The income in question is an allowance, which is one source of student income. According to [10], as a student, a monthly allowance is essential. For the majority of students, the allowance given by their parents is a good source of income essential to meeting the needs of lectures and all daily needs. The allowance provided by parents helps train children to manage money carefully. Research [4], [11], and [20] found that there is an effect of allowance on financial literacy. Therefore, researchers put forward a third hypothesis, namely:

**H3:** Allowance affects financial literacy

#### The Effect of Age on Financial Literacy

The Theory of Planned Behavior (TPB) explains that there are background factors social, namely age, in behavior. In this study, the age factor found that young people have lower scores of financial knowledge, financial attitudes, and financial literacy. Financial measures also show that someone who is younger is less careful in making decisions [8]. The results of the study are in line with those of researchers [28], who found that the more mature a person's age, the better their level of financial literacy, compared to those under their age. Researchers [12] found that the more mature a person is, the more careful they are in making every decision; this is because they don't want to be too consumptive so that it can make it difficult for them in the future. Research [18] found positive results, indicating that there is an

effect of age on financial literacy. Therefore, the researcher proposes a fourth hypothesis, namely:

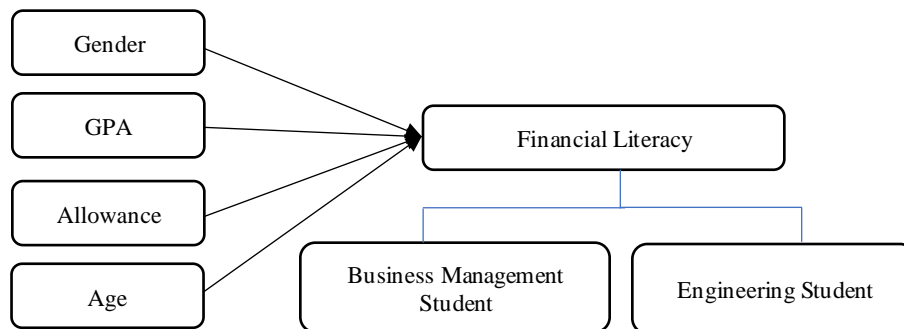
**H4:** Age affects financial literacy

#### Differences in Majors on Financial Literacy

Researchers [10] said that the study program taken by students will have an impact on their daily behavior, including financial management, so that this can affect their level of knowledge about finance. Students educated by the Economics Study Program have directly studied everything related to economics. So students in economics and business have a higher understanding of finance than students in non-economics and business [25]. Researcher [17] found in the results of the analysis that students of the Faculty of Economics have better financial literacy than students of the Faculty of Non-Economics. In line with research conducted by [27], it was found that economics students are higher than engineering students. It can be concluded that economics students have better financial literacy than engineering students. Based on the results of previous research, a fifth hypothesis was made, namely:

**H5:** There are differences in the financial literacy of students majoring in business management and engineering

The description or framework of the hypothesis in this study is as follows:



**Fig 1.** Research Framework

### 3 Research Methods

The research approach to this research is quantitative research. The population used in this study were business management and engineering students at the Batam State Polytechnic. The sampling technique in this study was a purposive sampling technique with D4 Business Management student criteria, namely Business Administration and Managerial Accounting students, and D4 students majoring in Engineering, namely Mechatronics Engineering and Multimedia and Network Engineering students who are active students at tertiary institutions at the Batam State Polytechnic, namely 7th to 8th semester students.

Secondary data obtained from research was processed using Microsoft Excel 2010. Research data was processed using the SPSS 20 application. Furthermore, the research data was analyzed using descriptive analysis. Furthermore, hypothesis testing uses the Chi Square test ( $\chi^2$ ) and the Two Independent Samples Test with the Mann-Whitney test.

## Operational Variables and Measurements

### Independent Variable

Gender; Gender differentiation in this study uses codes; women are coded 0, and men are coded 1. This gender measurement was carried out to determine whether there is an effect of gender on financial literacy [10]. Grade-point average; The grade point average (GPA) is a measure of a student's academic ability. The cumulative GPA measurement is applied to find out whether there is an effect of student academic ability on financial literacy. There are three groups of cumulative GPAs: First, <2.5; second, between 2.5 and 3.0; third, > 3.0 [10]

Allowance; There are three categories of allowance in the study: First, < IDR 1,500,000; second, IDR 1,500,000-IDR 2,000,000; third, > IDR 2,000,000 [10]. This is applied to find out whether there is an effect of the amount of student allowance on student financial literacy. Age; Age measurements are grouped into three categories: First, <20 years; second, 20–22 years; and third, > 22 years [12]. This measurement is applied to determine whether there is an influence between a person's age and financial literacy.

### Dependent Variable

#### Financial Literacy

The level of financial literacy in this study uses the first four aspects, general knowledge and personal finance, to refer to an individual's understanding of basic financial concepts such as budgeting, saving, and investing. Second, savings and loans require knowledge of various financial products such as loans, credit cards, and insurance, as well as an understanding of how to compare and choose between them. Third, insurance: understanding the insurance available in the community and understanding the risks, insurance costs, and insurance benefits. Fourth, investment requires individual understanding regarding the types of investments available and the benefits and risks of investing.

Based on research [6], researchers put forward three levels of literacy, namely: first, the correct answer is <60%, which is classified as low; second, the correct answer is 60%–80%, which is classified as medium; and third, the correct answer is > 80%, which is classified as high. According to [19], the formula for calculating financial literacy to determine the level of financial literacy is:

$$\text{Literacy rate} = \frac{\text{The correct answer of respondent}}{\text{all questions answered}} \quad [1]$$

The results of these calculations are then compared with the category of financial literacy [6]. There is a category of financial literacy: the correct answer result of 60% indicates that the person has knowledge related to finance in the low category. The results of the correct answers (60–70%) indicate that the person has knowledge related to finance in the moderate category. The results of correct answers > 80% indicate that the person has financial knowledge in the high category.

## 4 Result and Discussion

### Instrument Test Results

Based on the results of the validity test, all 19 question items related to financial literacy were deemed valid. Additionally, the reliability test results were considered reliable since they exhibited a Cronbach Alpha coefficient greater than 0.6 [30], affirming the reliability of the statements used in the questionnaire.

**Table 1.** Validity & Reliability Test Results

No	Test	Tools	Sig.	Explanation
1	Validity	Product Moment	0.386	Valid
2	Reliability	Chronbach's Alpha	0.784	Reliable

### Descriptive Statistics

**Table 2.** Descriptive Statistical Test Results

	N	Min	Max	Mean	Std. Deviation
Financial Literacy	273	31.58	89.47	56.29	11.24
Valid N (listwise)	273				

In this study, the population consisted of 676 individuals. After data analysis, a sample of 273 data points was obtained for testing. Based on descriptive statistical tests conducted, the minimum value (lowest value) was 31.58, while the maximum value was 89.47. The statistical test results revealed that respondents' financial literacy scores ranged from 31.58 to 89.47. Students were able to answer between 6 to 17 out of the 19 question items related to financial literacy. The mean financial literacy score of the respondents in the statistical tests was 56.29, with a standard deviation of 11.24, indicating a small degree of data dispersion.

### Gender affects financial literacy

**Table 3.** Chi-Square Test Results

	Value	df	Asymp. sig (2-sided)
Pearson Chi-Square	5.370 <sup>a</sup>	2	0.068

Testing (H1) whether gender has an effect on financial literacy: The Chi-square test resulted in a smaller  $\chi^2$  value ( $5.370 < 5.991$ ) compared to the  $\chi^2$  critical value, and a larger p-value (sig) than  $\alpha$  ( $0.068 > 0.05$ ). Therefore, (H1) suggests that gender does not have a significant effect on financial literacy, leading to the rejection of the first hypothesis in this study. This conclusion arises from the observation that both female and male students have equal access to information pertaining to financial knowledge and skills, thereby mitigating the influence of gender on financial literacy.

These findings are consistent with previous research by [16], which also determined that gender was not a significant factor in altering financial literacy. Additionally, research conducted by [28] uncovered no discernible relationship between gender and financial literacy. However, it's worth noting that these results contrast with studies by [3], [5], [7], [9], and [22], which suggest that gender does have an impact on financial literacy.

### GPA affects financial literacy

**Table 4.** Chi-Square Test Results

	Value	df	Asymp. sig (2-sided)
Pearson Chi-Square	2.392 <sup>a</sup>	4	0.664

Testing (H2) whether expected GPA affects financial literacy: The Chi-square test results in Table 4 indicate that the calculated  $\chi^2$  value is smaller ( $2.392 < 9.488$ ) than the  $\chi^2$

critical value, and the p-value (sig) is greater than  $\alpha$  ( $0.664 > 0.05$ ). Therefore, it is concluded that (H2) expected GPA does not have a significant effect on financial literacy, leading to the rejection of the second hypothesis in this study. The results of the conducted tests reveal that GPA does not influence financial literacy. This is because individuals with GPAs below 2.5, between 2.5 and 3.0, and above 3.0 all exhibit low literacy scores, which do not impact financial literacy. These findings align with the research conducted by [5], which found that students with GPAs above 3.00 and those with GPAs below 3.00 were in similar situations. However, it's important to note that these results are inconsistent with research conducted by [2], [13], [14], [23], [24], [29], and [31], which suggest that GPA does have an effect on financial literacy.

Allowance affects financial literacy

**Table 5.** Chi-Square Test Results

	Value	df	Asymp. sig (2-sided)
Pearson Chi-Square	2.174 <sup>a</sup>	4	0.703

The Chi-square test in Table 5 reveals that the calculated  $\chi^2$  value is smaller ( $2.174 < 9.488$ ) compared to the  $\chi^2$  table, and the p-value (sig) is greater than  $\alpha$  ( $0.703 > 0.05$ ). Based on these test results, it is concluded that (H3) allowance does not have a significant effect on financial literacy. Consequently, the third hypothesis in this study is rejected. Differences in allowance are not a determining factor affecting financial literacy. This is because there are numerous financial applications available that facilitate individuals in managing their finances. These applications make financial management more accessible and efficient for individuals, irrespective of the size of their allowance.

Therefore, a person's allowance, whether large or small, can be used for financial planning with the assistance of these available financial applications. Consequently, the results indicate that allowance does not impact financial literacy. These findings are consistent with the research conducted by [10], which explains that the size of a student's allowance does not guarantee better financial literacy. However, it's important to note that these results differ from the findings of researchers [4], [11], [20], who reported that allowance does have an effect on financial literacy.

Age affects financial literacy

**Table 6.** Chi-Square Test Results

	Value	df	Asymp. sig (2-sided)
Pearson Chi-Square	3.556 <sup>a</sup>	4	0.469

The Chi-Square calculation was performed to test (H4), which examines whether age has an effect on financial literacy. The results of the Chi-square test reveal that the calculated  $\chi^2$  value is smaller ( $3.556 < 9.488$ ) compared to the  $\chi^2$  table, and the p-value (sig) is greater than  $\alpha$  ( $0.469 > 0.05$ ). Based on these test results, it is concluded that (H4) age does not have a significant effect on financial literacy. Therefore, the fourth hypothesis in this study is rejected. This is because knowledge and skills related to finance can be acquired not only through experience but also through online resources. Thus, a person's age is not a determining factor for possessing greater financial knowledge.

These findings align with the results of research conducted by [14], which found that age does not guarantee an individual's proficiency in financial knowledge. However, it's important to note that these results contradict the findings of research studies [8], [15], [28], [31], which assert that age does have an impact on financial literacy.

**Table 7.** Mann Whitney Test Results

Major	N	Mean Rank	Sum of Ranks	
Financial Literacy	Business Management	174	150.00	26100.00
	Technic	99	114.15	11301.00
	Total	273		
Asymp.Sig. (2-tailed)			0.000	

The analysis of the fifth hypothesis (H5) demonstrates disparities in financial literacy levels between Business Management students and Engineering students. The Asymp.Sig value, with a significance level ( $\alpha$ ) of 0.05, is found to be lower than 0.000, signifying statistically significant differences in financial literacy between these two student groups. As per the data presented in Table 7, Business Management students have an average rating of 150.00, while Engineering students have an average rating of 114.15. These figures unequivocally indicate that Engineering students possess a lower mean rating in comparison to their counterparts in Business Management. Consequently, based on the results of hypothesis H5, it is affirmed that there exist substantial variations in financial literacy between Business Management and Engineering students at Batam State Polytechnic. Thus, the fifth hypothesis within this study is validated.

The test results establish that Business Management students have attained a superior level of financial literacy when juxtaposed with Engineering students. This observation aligns with the findings of a prior study conducted by [10], which identified disparities in financial literacy between Economics students and those in non-Economics disciplines. Economics students are typically exposed to curricula encompassing finance and financial concepts, endowing them with a higher level of financial knowledge compared to Engineering students.

## 5 Conclusion

The results of the hypothesis testing in this study lead to the following conclusions; gender, GPA, allowance and age have no effect on financial literacy and Business Management students and Engineering students have different financial literacy. However, it's important to note that this study has certain limitations. Researchers only considered gender, GPA, allowance, and age as factors affecting financial literacy. Therefore, future researchers are encouraged to incorporate additional variables that may impact financial literacy. Increasing the size of the population and the sample can help identify the most influential factors on financial literacy. It is also recommended that future researchers explore research instruments beyond questionnaires to enhance control over respondents' answers and align them more closely with the actual conditions of the participants.

## References

- [1]. Ajzen, I., Hill, RJ, & Fishbein, M. (1985). Belief, Attitude, Intention and Behavior: An Introduction to Theory and Research. *Contemporary Sociology* , 6 (2), 244.



<https://doi.org/10.2307/2065853>

- [2]. Apriyanti, T., Astuti, S., & Budi, IS (2021). Analysis of the factors that influence the level of student financial literacy (Case Study on Students of the Faculty of Economics and Business UPN "Veteran" Yogyakarta). *Behavioral Accounting Journal* , 4 (1), 276–286. <https://doi.org/10.33005/baj.v4i1.113>
- [3]. Arianti, BF, Kumia Shanti, Y., & Maradina, J. (2020). Financial Literacy Lecturer in South Tangerang : Socioeconomic Determinants and Demographic Factors. *Airlangga Journal of Accounting and Business Research* , 5 (2), 938. <https://doi.org/10.31093/jraba.v5i2.224>
- [4]. Assyfa, LN (2020). The Influence of Pocket Money, Gender and Academic Ability on Personal Financial Management Behavior of Accounting Students with Financial Literacy as an Intervening Variable. *Accounting Student Research Platform (PRISMA)* , 01 (01), 109–119. <https://ojs.stiesa.ac.id/index.php/prisma>
- [5]. Ayuwandira, W., & Harsono. (2022). Analysis of Factors Influencing Financial Literacy of Accounting Education Students of Muhammadiyah University Surakarta. *Proceedings of the International Conference of Learning on Advance Education (ICOLAE 2021)* , 662 (Icolae 2021), 719–724. <https://doi.org/10.2991/assehr.k.220503.072>
- [6]. Chen, H., & Volpe, R. P. (1998). An Analysis of Personal Financial Literacy Among College Students. *Financial Service Review*, 7 (2), 107–128. <https://doi.org/10.3788/CJL201643.0811001>
- [7]. Cucinelli, D., Trivellato, P., & Zenga, M. (2019). Financial Literacy: The Role of the Local Context. *Journal of Consumer Affairs*, 53(4), 1874–1919. <https://doi.org/10.1111/joca.12270>
- [8]. Dewi, V. I. (2022). How do demographic and socioeconomic factors affect financial literacy and its variables? *Cogent Business & Management*, 9(1). <https://doi.org/10.1080/23311975.2022.2077640>
- [9]. Douissa, I. Ben. (2020). Factors affecting College students' multidimensional financial literacy in the Middle East. *International Review of Economics Education*, 35(October), 100173. <https://doi.org/10.1016/j.iree.2019.100173>
- [10]. Egesta, E., Rahayu, C. wahyu, & Rahmawati, C. H. (2021). Factors affecting student's financial literacy (a study on the students of the Faculty of Economics and the Faculty of Science and Technology of Sanata Dharma University Yogyakarta). *Media Ekonomi Dan Manajemen*, 36(1), 27–38. <https://doi.org/http://dx.doi.org/10.24856/mem.v36i1.1577>
- [11]. Fajriyah, IL, & Listiadi, A. (2021). The effect of pocket money and family financial education on personal financial management through financial literacy as an intervention. *INOVASI, Journal of Financial Economics and Management* , 17 (1), 61–72. <http://journal.feb.unmul.ac.id/index.php/INOVASI/article/view/9176>
- [12]. Hariyanti, H., & Artiyany, M. (2020). Level of Student Financial Literacy and Factors Influencing It at the Tri Dharma Nusantara Makassar College of Economics. *Al-Buhuts* , 16 . <http://journal.iaingorontalo.ac.id/index.php/ab/article/view/1789>
- [13]. Idayanti, NKA, & Permoni, N. (2021). ...Gender, GPA and Semester on Financial Literacy in Management Department Students at the Satya College of Economics.... *Journal of Management and Business* ... , 7 (2), 139–149. <http://www.ojs.unr.ac.id/index.php/Equilibrium/article/view/733>
- [14]. Irman, M., Suwitho, S., & Fadrul, F. (2020). Sociodemographic Factors on Financial Literacy of University Students in Pekanbaru, Indonesia. *International Journal of Economics Development Research (IJEDR)* , 1 (3), 225–242. <https://doi.org/10.37385/ijedr.v1i3.120>
- [15]. Kadoya, Y., & Khan, M. S. R. (2020). What determines financial literacy in Japan. *Journal of Pension Economics and Finance*, 19(3), 353–371.

<https://doi.org/10.1017/S1474747218000379>

- [16]. Khusaini, K., Mardisentosa, B., Bastian, A. F., Taufik, R., & Widiawati, W. (2022). The Impact of Financial Education and Socioeconomic Status on the Undergraduate Students' Financial Literacy. *Media Ekonomi Dan Manajemen*, 27(1), 55. <https://doi.org/10.24856/mem.v27i01.2385>
- [17]. Kusumawardhani, R., Cahyani, PD, & Ningrum, NK (2020). Analysis of Differences in Financial Literacy Levels Between Students of the Faculty of Economics and Students of the Faculty of Non-Economics. *Mix Scientific Journal of Management* , 10 (1), 15. <https://doi.org/10.22441/mix.2020.v10i1.002>
- [18]. Ligor, A., & Khan, S. (2019). Measuring Financial Literacy among college students: An Empirical study from Bhutan. *International Journal of Research* , 8 (VI).
- [19]. Margaretha, F., & Pambudhi, RA (2015). Financial Literacy Level for Undergraduate Students in the Faculty of Economics. *Journal of Management and Entrepreneurship* , 17 (1), 76–85. <https://doi.org/10.9744/jmk.17.1.76>
- [20]. Megasari, IR (2017). Learning Parents' Financial Management, Pocket Money, and Learning Outcomes on Financial Literacy at SMK PGRI 3 Sidoarjo. *Journal of Educational Economics and Entrepreneurship* , 2 (1), 116. <https://doi.org/10.26740/jepk.v2n1.p116-129>
- [21]. Modigliani, F., & Brumberg, R. (1950). Franco Modigliani and the life-cycle theory of consumption. 91-107.
- [22]. Nawi, HM, Dason, D., Cha, NA, Nur, W., & Aswal, S. (2018). *The Determinants of Financial Literacy among Students of Private Universities in Malaysia* . march .
- [23]. Ompusunggu, DH (2020). Analysis of Student Financial Literacy Levels in Batam City. *Angewandte Chemie International Edition*, 6(11), 951–952. , 5 (3), 219–227.
- [24]. Radityas, MD, & Pustikaningsih, A. (2019). Analysis of Factors Influencing Student Financial Literacy Levels. *Journal of Indonesian Accounting Education* , 17 (1), 42–56.
- [25]. Rafinda, A., & Gal, T. (2020). Financial Literacy of Economics and Non-Economics Students. *International Review of Management and Marketing* , 10 (3), 35–38. <https://doi.org/10.32479/imm.8974>
- [26]. Rink, U., Walle, YM, & Klasen, S. (2021). The financial literacy gender gap and the role of culture. *Quarterly Review of Economics and Finance* , 80 , 117–134. <https://doi.org/10.1016/j.qref.2021.02.006>
- [27]. Robbani, H., & Sumami, A. (2022). Analysis of financial literacy level of students in economics education and non-economic study programs. *Intellectium* , 3 (1), 22–29. <https://doi.org/10.37010/int.v3i1.639>
- [28]. Sakinah, G., & Mudakir, B. (2018). Financial Literacy Analysis of Undergraduate Students, Faculty of Economics and Business, Diponegoro University Class of 2014 - 2017. *Journal of Dynamics of Development Economics* , 1 (2), 54. <https://doi.org/10.14710/jdep.1.2.54-70>
- [29]. Susanti, & Hardini, HT (2018). Gender, academic achievement, and ownership of ATM as predictors of accounting students' financial literacy. *IOP Conference Series: Materials Science and Engineering* , 296 (1). <https://doi.org/10.1088/1757-899X/296/1/012031>
- [30]. Sugiyono. (2019). *Quantitative Research Methods, Qualitative and R&D* . Bandung: Alfabet.
- [31]. Syuliswati, A. (2019). The Influence of Gender, Age, GPA on Financial Literacy of Students of the Malang State Polytechnic of Accounting Department. *Business & Management Accounting (ABM)* , 26 , 15–31.