

## **ANALYSIS OF FACTORS AFFECTING FINANCIAL LITERACY AND FINANCIAL INCLUSION ON INSTITUT BISNIS DAN TEKNOLOGI PELITA INDONESIA PEKANBARU**

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### **ABSTRACT**

Having knowledge and doing financial planning is a process of achieving life goals, namely a prosperous and happy future through financial management. Financial inclusion cannot be separated from the extent to which the public can understand financial products/services so that they are able to use them in providing value for welfare. This study aims to examine whether the factors of gender, age, and GPA affect the level of financial literacy and financial inclusion among students at the Pelita Indonesia Institute of Business and Technology Pekanbaru. The respondents studied were 95 students. The method used in this research is descriptive method and test method. To obtain the required data, data collection in the form of a questionnaire was used. In this study, the type of data used is primary data. Based on the Binary Logistics Test, the results of the study show that the factors of gender, age, and GPA have no effect on the level of financial literacy of a student at the Pelita Indonesia Institute of Business and Technology Pekanbaru, gender and age factors do not affect the level of financial inclusion of a student. Pelita Indonesia Institute of Business and Technology Pekanbaru, while GPA and financial literacy affect the level of financial inclusion of a student at the Pelita Indonesia Institute of Business and Technology Pekanbaru.

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

### **INTRODUCTION**

One of the intelligences that must be possessed by modern humans is financial intelligence, namely intelligence in managing personal financial assets. Having knowledge (Panjaitan, Renaldo, & Suyono, 2022) and doing financial planning is a process of achieving life goals, namely a prosperous and happy future through financial management. Without financial planning, life, which for most members of society is already difficult, will become very difficult. And by applying the right way of financial management, individuals are expected to get the maximum benefit from the money they have. Therefore, individuals must have the knowledge and skills to manage their personal financial resources effectively for their well-being.

Financial Literacy or better known as knowledge in financial management is one of the economic behaviors that develop in society, consciously or unconsciously, has been carried out for years. Financial Literacy is a basic need for everyone to avoid financial problems. Financial intelligence is intelligence in managing personal assets (Widayati, 2012). Individuals must have the knowledge and skills to manage their personal financial resources effectively for their well-being. In addition to making short-term financial decisions, you must also think about long-term financial decisions such as retirement planning and education planning for their children. Financial literacy has developed in recent years and is getting more attention, especially in developed countries. The term financial literacy is the ability of an individual to make decisions in terms of personal financial arrangements.

Financial inclusion has become an important agenda at the international and national levels. At level International financial inclusion has been discussed in various international economic forums in which Indonesia actively participates in it. (Organization for Economic Cooperation and Development, 2013) stated that financial inclusion has been recognized as the establishment of sustainability in the pursuit of financial stability. Any kind of stability whether financial inclusion, economic, political, or social growth is an important prerequisite. Awareness of the products available in a country is an important prerequisite for individuals and entrepreneurs to take advantage of the available financial services also relying on adequate financial knowledge. Knowledge of finance is one way to overcome imbalances and

help people accept and use products which can increase their accessibility.

Gender is a biological and physiological concept that distinguishes between men and women who cannot be exchanged because of the natural state of humans that has been inherent in humans since birth (Amaliyah & Witiastuti, 2015). Women and men have different special conditions, both physically and psychologically. So from the differences in these conditions, there are differences in the roles played by men and women in determining their finances. (Margaretha & Pambudhi, 2015) stated that gender affects financial literacy. Research (Krishna et al., 2010) states that women have higher literacy rates than male students. This indicates that between men and women there are differences in finance.

According to (Iswantoro & Anastasia, 2013) age is a limitation or level of life size that affects a person's physical condition. Age plays an important role in making decisions, one of which is the decision to determine financial products and services appropriately. The more mature a person's age, the behavior in making financial decisions will be wiser because old age is more careful and does not want to overspend because it will be a burden for them. Age has a positive correlation with financial literacy because the older a person is, the more experience he has. The relationship between financial literacy and age according to (Margaretha & Pambudhi, 2015) explains that age has a direct correlation to financial literacy, the older you get and the work experience the more information (Chandra, Renaldo, & Putra, 2018) you get related to financial problems. The Social Research Center found that there is a relationship between age and level of financial literacy.

GPA is a mechanism for assessing the overall achievement of students in the lecture system during lectures. The Grade Point Average (GPA) is influenced by the Grade Point Average (IP) and the quality of the grades for each course. The better the quality of the grades for each course, the higher the Grade Point Average (GPA) of a student. (Margaretha & Pambudhi, 2015) show that the higher the GPA, the better students will be in managing their personal finances. This shows that students with a high cumulative achievement index (GPA) are likely to understand more financial concepts so that high academic abilities will directly affect students' financial literacy.

A student is someone who is in the process of gaining knowledge or studying and is registered currently undergoing education at one form of higher education consisting of academics, polytechnics, high schools, institutes and universities (Hartaji, 2012). Students are considered to have a high level of intellectualization, intelligence in thinking with planning in action. Think critically and act with Fast and precise are traits that tend to be inherent in every student, which are complementary principles.

According to (Nababan & Sadalia, 2012), states that the ability of an individual in terms of Finance is seen from a person's habits in making daily financial decisions. This research is aimed at the students of the Pelita Indonesia Institute of Business and Technology Pekanbaru. The following are the results of a pre-survey of 30 students which show the frequency of daily behavior related to Financial Literacy:

**Table 1. Frequency Financial Literacy Student of Institut Bisnis dan Teknologi Pelita Indonesia**

No	Statement About Financial Literacy	Correct	Wrong
1	Pay bills on time (for example: electricity, postpaid credit, etc.)	86%	14%
2	Make a budget and expenditure (daily, monthly, etc.)	34%	66%
3	Recording expenses	30%	70%
4	Provide funds for unexpected disbursements (emergency fund)	76%	24%
5	Saving periodically	37%	63%
6	Compare prices between shop/supermarket before deciding to make a purchase	80%	20%
<b>Average</b>		<b>57%</b>	<b>43%</b>

*Source: (Sun, 2018), (Irman & Fadrul, 2018)*

The results of a survey on 30 students of the Pelita Indonesia Institute of Business and Technology, which included 20 students from the Faculty of Computer Science and 10 students from the Faculty of Business, showed that students' financial literacy was only 57%. Based on research (Irman & Fadrul, 2018) which categorizes financial literacy into three groups, namely low (<60 percent), medium (60 percent – 79 percent) and high (>80 percent), it can be concluded that the knowledge and abilities of an Institute student Pelita Indonesia's Business and Technology in making financial decisions are in the

low category. This can be seen from, the first statement related to money management (money management) as many as 86% of students who pay bills on time. Then the second statement related to budgeting, only 34% of students made a budget in spending / spending. The percentage result of 30% also shows the low financial literacy of students in the third statement, which is related to recording (record). The fourth statement aims to see whether respondents manage their risk by providing funds for unexpected expenditures, in this statement also only 76% of students do so. Then in the fifth statement which aims to see whether respondents save regularly, the percentage is only 37% of students, this shows that there are still many students who have not thought about their financial condition in the future. The last statement, which is the sixth, relates to expenses, as much as 80% of the students surveyed who calculate and manage their expenses well.

**Table 2. Frequency Financial Inclusion Student of Institut Bisnis dan teknologi Pelita Indonesia**

No	Statement on Inclusion Finance	Correct	Wrong
1	Knowing the financial services that the Bank has	60%	40%
2	Financial services are easy to access	79%	21%
3	I am able to use the facilities of financial institutions to meet my needs and manage my finances	82%	18%
4	I use the internet to access financial services	86%	14%
5	Products or services provided by financial institutions increase well-being	75%	25%
<b>Average</b>		<b>76%</b>	<b>24%</b>

From the pre-survey data above, in 30 of which 20 students from the Faculty of Computer Science and 10 students from the Faculty of Business. Based on research (Chen and Volpe, 1998) in research (Wulandari, 2019) which categorizes financial inclusion into three groups, namely low (<60 percent), medium (60 percent - 79 percent) and high (>80 percent), it can be seen that the average index of financial inclusion of Pelita Indonesia Institute of Business and Technology students reaches 76%, it can be concluded that the condition of a student of the Pelita Indonesia Institute of Business and Technology in accessing or using financial services is in the middle category, this condition shows the awareness of some individual students in accessing services finance. Financial knowledge, skills, and beliefs possessed by an individual affect his financial attitudes and behavior. Increased knowledge possessed by a person can have an impact on active participation in financial related activities, as well as more positive financial behavior in an individual. In addition, the link between behavior and a person's attitude is seen in someone who has a positive attitude in the long term is likely to show better financial behavior than someone who has a short term financial attitude (Financial Services Authority, 2017).

The formulation of the problem in this study is as follows: (1) Does gender affect the level of financial literacy to Students of the Pelita Indonesia Institute of Business and Technology Pekanbaru? (2) Does Age affect the level of financial literacy to Students of the Pelita Indonesia Institute of Business and Technology Pekanbaru? (3) Does GPA affect the level of financial literacy to Students of the Pelita Indonesia Institute of Business and Technology Pekanbaru? (4) Does gender affect the level of financial inclusion in Pelita Indonesia Institute of Business and Technology Pekanbaru students? (5) Does age affect the level of financial inclusion of students at the Pelita Indonesia Institute of Business and Technology Pekanbaru? (6) Does GPA affect the level of financial inclusion of Pelita Indonesia Institute of Business and Technology Pekanbaru students? (7) Is financial literacy Does it affect the level of financial inclusion for students at the Pelita Indonesia Institute of Business and Technology Pekanbaru?

The aims of this study are as follows: (1) To determine and analyze the effect of gender on the level of financial literacy at Pelita Indonesia Institute of Business and Technology Pekanbaru. (2) To find out and analyze the effect of Age on the level of financial literacy at Pelita Indonesia Institute of Business and Technology Pekanbaru. (3) To find out and analyze the effect of GPA on the level of financial literacy at Pelita Indonesia Institute of Business and Technology Pekanbaru. (4) To find out and analyze the effect of gender on the level of financial inclusion of students at the Pelita Indonesia Institute of Business and Technology Pekanbaru. (5) To find out and analyze the effect of Age on the level of financial inclusion of Pelita Indonesia Institute of Business and Technology Pekanbaru students. (6) To find out and analyze the effect of GPA on the level of financial inclusion in Pelita Indonesia Institute of Business and Technology

Pekanbaru students. (7) To find out and analyze the effect of Financial Literacy on the level of financial inclusion of students at the Pelita Indonesia Institute of Business and Technology Pekanbaru.

The benefits of doing this research are as follows: (1) For students, it is useful to increase the level of personal financial management for students in budget management, savings management, investment management in the future and the community is increasingly aware of the importance of personal financial management amid the complexity of individual needs. (2) For further researchers, as a substitute for reference material for further research, and can be used as input and consideration in developing material regarding decisions and the ability of an individual to process his finances. (3) For academic practitioners, this research can be used as additional information to broaden their horizons about the importance of knowledge about financial literacy.

## **LITERATURE REVIEW**

### **Definition Financial Literacy**

Financial literacy (Hafni, Renaldo, Chandra, & Thaief, 2020) is the knowledge and skills to apply an understanding of concepts and risks, skills to be able to make effective decisions in a financial context to improve financial well-being (Renaldo, Sudarno, & Hutahuruk, 2020), both individually and socially and to be able to participate in the community (Fianto et al., 2017). (Orton, 2007) makes it clear by stating that financial literacy is an integral part of a person's life because financial literacy is a useful tool for making informed financial decisions, but from experience in various countries it is still relatively low.

### **Aspects Financial Literacy**

(Kewal Anastasia Sri, 2013) states that financial literacy is divided into 4 (four) aspects:

#### **a. General Personal Finance Knowledge**

Includes understanding some things related to basic knowledge of personal finance. Personal financial management is the art and science of managing the resources (money) of the unit individual/household. In the management process, it is not easy to apply it because there are several systematic steps that must be followed. But by knowing personal financial management. This is based on the reason that everything starts from the head. The point is to think before acting. (Karvof, 2010) states that personal financial decisions include:

- a) Charity, 10% of total income
- b) Education and protection, 20% of total income
- c) Investment, 30% of total income
- d) Cost of living, 40% of total income

The reason is that 10% charity is a form of individual social responsibility (personal social responsibility) to fellow human beings, so that with good financial literacy, one is also required to empower others (philanthropy) to achieve financial freedom (financial freedom). The definition of financial freedom according to (Karvof, 2010) is a condition where passive income exceeds active income or exceeds expenses in a certain period of time, while passive income is defined as income received even though the person is not working or active.

Education and protection is intended for how a person continuously improves financial knowledge so that he will continuously understand changes in finances and be able to make the right financial decisions throughout the life cycle, while protection is intended to protect in the event of an unexpected event. For an investment of 30% of income, it is intended to more quickly multiply cash inflows (cash flows). The cost of living is aimed at how to live frugally but not based on being stingy or stingy. The purpose of being stingy is to not spend money even if you can and need it, while being frugal only spends money if it is necessary.

#### **b. Savings and Borrowing**

Includes knowledge related to savings and loans such as the use of credit cards.

i. Savings

Deposits are customer money that is deposited or invested in a bank. Another word for savings is an account or account. The owner of the fund is called the depositor and will be given a service fee for the funds deposited in the bank. This fee is called interest in conventional banks and profit sharing for Islamic banks. The amount of interest service fees or profit sharing depends on the policies of each bank.

ii. Borrowing

One of the tasks of the bank is to distribute funds to the public in the form of loans or what is called credit. Based on the Banking Law No. 10 of 1998, the definition of credit is "the provision of money or equivalent claims, based on a loan agreement between other parties which requires the borrowing party to repay the debt after a certain period of time with interest.

In general, the types of credit include:

- a. Investment credit, is credit given to entrepreneurs who make investments or investments.
- b. Working capital credit, is credit used as business capital. Usually these loans are short term, which is less than one year.
- c. Trade credit, is credit given to traders in order to facilitate or develop their trading activities.
- d. Productive credit, is credit that can be in the form of investment, working capital or trade. In the sense that this credit is given to be reworked so that credit returns are expected from the results of the business being financed.
- e. Consumer credit, is credit used for personal purposes such as consumption purposes. For example housing loans, vehicles, electronics, etc.
- f. Professional credit, is credit given to professionals such as lecturers, doctors, or lawyers.

c. Insurance

Insurance is an agreement between two or more parties by which the insurer binds himself to the insured by receiving insurance premiums to provide compensation to the insured due to loss, damage or loss of expected profits, or legal liability to third parties that may be suffered by the insured arising from an uncertain event, or to provide a payment based on the death or life of an insured person (Guntara, 2016).

d. Investment

Investment is a commitment to a number of funds or other resources made at this time, with the aim of obtaining a number of benefits in the future (Tandelilin, 2010). The parties who make investments are called investors.

### **Definition Financial Inclusion**

According to (Presidential Regulation of the Republic of Indonesia Number 82 of 2016) concerning the National Strategy for Financial Inclusion, Financial inclusion is a condition where every member of the community has access to various quality, timely, smooth, and safe formal financial services at affordable costs according to their needs and needs each other's abilities. (Atkinson & Messy, 2013) explains that financial inclusion is a process of promoting affordable, timely and adequate access to various regulated financial products and services and expanding their use by all segments of society.

### **Financial Inclusion Indicator**

Financial inclusion can combine some information on various indicators of an inclusive financial system, namely:

a. Access

Access is an indicator used to measure the ability to use formal financial services, so that potential barriers to opening and using bank accounts can be seen, such as the cost or physical affordability of financial services (bank offices, ATMs, etc.).

b. Well-being

(Atkinson & Messy, 2013), states that financial inclusion is conceptualized into four dimensions,

namely access, use, quality and an additional one, namely welfare. According to (Kumar, 2013) financial inclusion is a program intended to make people, especially the lower middle class, understand and use the services of financial institutions, especially banking. Whereas financial exclusion is a condition where people do not have access to banking or are not in contact with banks, so they do not have an account at a bank (Sinclair, 2013). The financial inclusion strategy is not an isolated initiative, so that involvement in financial inclusion is not only related to the duties of Bank Indonesia, but also regulators, ministries and other institutions in providing financial services to the wider community. Through the financial inclusion strategy, it is hoped that collaboration between government agencies and stakeholders will be created in a good and structured manner ([www.bi.go.id](http://www.bi.go.id)). It is known that fifty percent of adults worldwide have accounts with formal financial institutions, despite differences in income and individual characteristics. A well-functioning financial system aims to offer savings, credit, payments and risk management products to people with a wide variety of needs. (Demirgüç-Kunt & Klapper, 2008).

## **Hypothesis Formulation**

### **Effect of Gender on Financial Literacy**

Women and men have different special conditions, both in terms of physical biology, and in terms of psychology. These differences are the source of differences in the functions and roles carried out by women and men. If you pay attention to the differences in the roles and functions carried out by women and men, it can be seen that the movement or journey carried out by women has a different pattern from the movement or journey undertaken by men (Amaliyah & Witiastuti, 2015). According to (Agusta, 2016) gender shows an influence in increasing financial literacy.

H1 : Gender affects Financial literacy Institut Bisnis dan teknologi Pelita Indonesia Pekanbaru

### **Effect of Age on Financial Literacy**

Age is thought to have a positive correlation with financial literacy because the older a person is, the more experience he has. This indicates that the older a person is, the wiser they will be in managing their finances. A person's age indicates the amount of experience a person has gained during his life, including his experience in financial matters, so that the more experienced, the better his financial decision making will be. Students who are already seniors have more knowledge and experience than students who are still juniors so that it will affect the accumulation of knowledge they have so that it will indirectly have an impact on their behavior/attitude (Nyoto, Renaldo, Karuppannan, Bhuiyan, & Kumarasamy, 2021) in managing their personal finances. (Krishna et al., 2010) stated that age affects the level of financial literacy of Indonesian Education University students.

H2 : Age affects Financial literacy Institut Bisnis dan teknologi Pelita Indonesia Pekanbaru

### **Effect of Grade Point Average (GPA) on Financial Literacy**

The Grade Point Average (GPA) is a mechanism for assessing the overall achievement of students in the lecture system during lectures. (Margaretha & Pambudhi, 2015) show that the higher the GPA, the better students will be in managing their personal finances. This shows that students with a high cumulative achievement index (GPA) are likely to understand more financial concepts so that high academic abilities will have a direct effect on financial literacy student. According to (Ariani & Susanti, 2015) the Grade Point Average (GPA) has a significant influence on financial literacy student of the Faculty of Economics, State University of Surabaya. (Rita & Pesudo, 2013) stated that the GPA variable did not have a significant effect on student financial literacy.

H3 : GPA affects Financial literacy Institut Bisnis dan teknologi Pelita Indonesia Pekanbaru

### **Effect of Gender on Financial Inclusion**

Gender is defined as biological differences and positions (roles) which are divided into two types, namely men and women (Nadliroh, 2017). Men have a greater responsibility in making financial decisions in a household (Rizaldi & Asandimitra, 2019). To be able to make good decisions, men must be able and understand about effective financial management, where this will encourage increased access and use of financial products and services (Hutabarat, 2018). Findings in the research of Fungáčová & Weill (2014), Zins & Weill (2016), and Cámara & Tuesta (2016) state that men are more likely to contribute to financial inclusion because they are positively related to account ownership and credit at formal financial institutions.

H4 : Gender affects Financial Inclusion Institut Bisnis dan teknologi Pelita Indonesia Pekanbaru

### Effect of Age on Financial Inclusion

As people age, the use of financial services changes. People of working age need to plan for the future while also providing for their families in the present. Older people should be able to tap into their savings, manage their wealth, and in many cases, make use of and use their pensions. The global equality of this age group masks interesting regional variations in account holdings by age. In Sub-Saharan Africa and East Asia and the Pacific, a much higher percentage of working-age adults than older adults account for, while Latin America and the Caribbean show little difference between the groups.

H5 : Age affects Financial Inclusion Institut Bisnis dan teknologi Pelita Indonesia Pekanbaru

### Effect of GPA on Financial Inclusion

Someone who has taken higher education understands various insights and broad knowledge so that awareness of the functions of various financial products and services is also higher (Abel et al., 2018). The higher the last level of education that a person has taken, the more appropriate his financial decisions will be, especially for his personal financial well-being (Nugroho & Purwanti, 2017).

H6 : GPA has an effect on Financial Inclusion Institut Bisnis dan teknologi Pelita Indonesia Pekanbaru

### Influence Financial Literacy to Financial Inclusion

Financial literacy is a financial skill and overall insight that a person has to be able to manage his finances (Asandimitra & Kautsar, 2020). Someone with a good level of financial literacy (well literate), of course it can be easier to apply information including various kinds of facilities, functions, impact of losses, as well as rights and obligations in accessing and utilizing financial products or services (OJK, 2017).

H7 : Financial Literacy affect Financial Inclusion Institut Bisnis dan teknologi Pelita Indonesia Pekanbaru

### Framework

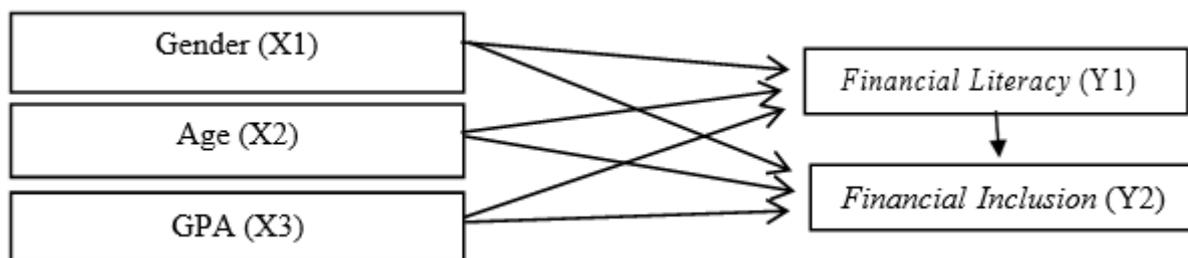


Figure 1. Thinking Framework

## RESEARCH METHODOLOGY

### Place and time of research

This research was conducted at the Pelita Indonesia Institute of Business and Technology Pekanbaru, which is located on Jalan Jend. Ahmad Yani Pekanbaru – Riau. This research was conducted from June 2022 to completion.

### Population and Sample

#### Population

The population in statistical terms, especially with regard to research, is the entire research subject. The population is a generalization area consisting of subjects or objects that have certain quantities and characteristics, which are determined by the researcher to be studied and then draw conclusions.

According to (Sugiyono, 2013), the population is defined as a generalization area consisting of: objects or subjects that have certain qualities and characteristics determined by researchers to be studied and then drawn conclusions. So, from the discussion it can be understood that the population is the whole object to be studied. The population of this study were students of the Pelita Indonesia Institute of Business and Technology Pekanbaru in 2019-2021, totaling 1,610 active students.

#### Sample

According to (Sugiyono, 2017) the sample is part of the number and characteristics possessed by the

population. If the population is large, and the researcher is not able to study everything in the population, for example due to limited funds, manpower and time, the researcher can use samples taken from the population. For this reason, the sample taken must be truly representative. In this study, the sample used using probability sampling technique. According to (Sugiyono, 2017) probability sampling technique in general is a sampling method where every member in the population has the opportunity to be selected as a sample. Probability sampling method is used to validate samples that can represent the entire population. This study uses simple random sampling method or simple random sample is a technique used for random sampling and comes from members of the existing population. This technique is used because the population is too large and the researcher has limited time. The samples taken in this study were 95 respondents. The number of samples was taken based on the Slovin formula:

$$n = \frac{N}{1 + n(e)^2}$$

The number of active students of the Pelita Indonesia Institute of Business and Technology is 1,650 students. Then the population  $N = 1,650$  assuming the error rate  $(e) = 10\%$ , then the number of samples that must be used in this study is 95 respondents. Based on data. The active Pelita Indonesia Business and Technology per faculty are as follows:

Faculty of Business :  $\frac{1,249 \times 95}{1.650} = 71.9$  rounded up to 72

Faculty of Computer Science :  $\frac{401 \times 95}{1.650} = 23$

From the results above, it can be concluded in accordance with the table below:

**Table 3. Number of Samples for Each Faculty**

Faculty at IBTPI	Number of Samples (Students)
Business	72
Computer Science	23
<b>Total Sample</b>	<b>95</b>

Source: Primary data, processed (2022)

#### Data Types and Sources

Primary data is a source of data obtained directly from the original source or the first party. Primary data is specifically collected by researchers to answer research or research questions. Primary data can be in the form of opinions of research subjects (people) either individually or in groups, results of observations of an object (physical), events, or activities, and test results. In this study, primary data were obtained directly from respondents in the form of answers to questionnaires on a predetermined sample.

#### Data collection technique

In this study the data collected are factors that affect the level of financial literacy. The study chose a questionnaire as a method for collecting research data because the data taken were facts. According to (Sugiyono, 2010), a questionnaire is a data collection technique that is done by giving a set of questions or written questions to respondents to answer. Questionnaire is a data collection tool that contains written questions about factual and necessary data answered by respondents to obtain information. The questionnaire in this study was in a closed form, that is, the answers had been provided so that the respondents just had to choose. The questionnaire in this study consisted of 13 questions. Respondents can choose the available alternative answers, namely: True (B) and False (S). The scoring in the instrument item answer category is as follows:

**Table 4. Item Scoring**

Alternative Options	Items
True (B)	1
Wrong (S)	0

### **Operational Definition of Research Variables**

There are 2 types of variables used in this study, namely Variable X (Exogenous) and Variable Y (Endogenous).

#### **Endogenous Variable (Y)**

The dependent variable or dependent variable is a variable that is influenced by other variables. The dependent variable in this study is the level of financial literacy and financial inclusion.

#### **Exogenous Variable (X)**

Independent variables are variables that affect other variables. The independent variables in this study were gender, age, and cumulative achievement index. The following is an overview of the research variables along with the indicators that make them up.

### **Research Instruments**

**Table 5. Research Instruments Level Financial Literacy and Financial Inclusion**

<b>Aspect</b>	<b>Question</b>
<b>FINANCIAL LITERACY</b>	
General Knowledge	1. Knowledge of the value of money
	2. Knowledge of personal financial management
	3. Knowledge of inflation rate
	4. Knowledge of personal financial planning
Savings and Loans	5. Knowledge of the benefits of saving
	6. Calculation of compound interest
Insurance	7. Deposit Characteristics
	8. Knowledge of insurance
	9. Knowledge of insurance premiums
Investation	10. Knowledge of insurance premiums
	11. Knowledge of stock types
	12. Knowledge of the benefits of shares
	13. Knowledge of bonds
<b>FINANCIAL INCLUSION</b>	
Finance Access Dimention	1. Strategically located financial institutions
	2. Knowing the financial services that the Bank has
	3. Financial services are easy to access
	4. Able to use the facilities of financial institutions to meet needs and manage finances
	5. Using in accessing financial services
	6. It is recommended that financial institutions make a procedure guide in accessing financial services
	7. Feeling helped by financial services
Well-being Dimention	8. Affordable account maintenance fees
	9. Products or services provided by financial institutions increase revenue

### **Data Analysis Technique**

#### **Descriptive Analysis**

This descriptive analysis is used to provide a description of the research variables used in this study. The data seen are the amount of data, the minimum value, the maximum value, and the average value.

#### **Binary Logistics Regression Test**

Regression analysis is basically a study of the dependence of the dependent variable (bound) with one or more independent variables (independent variables), with the aim of estimating and predicting the population average or the average value of the dependent variable based on the known value of the independent variable (Ghozali, 2011). This study uses regression analysis with the method stepwise (regression binary logistics). Binary logistic regression analysis was used to explain the relationship between the dependent variable in the form of dichotomous (binary) data and the independent

variable. Dichotomous or binary variables are variables that have only two categories. Variable dependent and independent variables in this study are variables dummy. The purpose of the analysis is the variables of gender, age, work experience and cumulative achievement index that can affect the level of financial literacy among students of the Pelita Indonesia School of Computer Science Pekanbaru.

The analysis technique of this study does not require a normality test because according to (Ghozali, 2011) regression Logistics does not require the assumption of normality in the independent variables. (Irman, 2018) states that logistic regression ignores heteroscedasticity, means that the dependent variable does not require homoscedasity for each independent variable. This technique no longer requires a normality test on the independent variables (Ghozali, 2011). The purpose of the classical assumption test which includes normality, multicollinearity and heteroscedasticity tests is that the regression analysis model used in the study produces valid parametric values.

Hypothesis testing using logistic regression does not require the classical assumption test because before testing the hypothesis, the first step that must be done is to assess the feasibility of the regression model and assess the model fit. The function of the feasibility of the regression model and assessing the fit of the model is a replacement from the classical assumption test. Logistic regression did not have normality over the independent variables used in the model. That is, the explanatory variables do not have to have a linear normal distribution nor have the same variance in each group.

## **RESULTS AND DISCUSSION**

### **Descriptive Analysis**

Descriptive analysis is an analytical method in which the existing data is collected or grouped and then the data is analyzed and interpreted objectively. The variables in this study consisted of four independent variables, namely gender (X1), age (X2), and cumulative achievement index (X3) and two dependent variables, namely Financial Literacy (Y1) and Financial Inclusion (Y2). The results of this descriptive statistical analysis are summarized in the following table:

**Table 6. Descriptive Analysis**

	<b>Information</b>	<b>Frequency</b>	<b>Percent</b>	<b>Valid Percent</b>
Gender	Woman	46	48.4	48.4
	Man	49	51.6	51.6
	Total	95	100	100
Age	21 Years	43	45.3	45.3
	> 21 Years	52	54.7	54.7
	Total	95	100	100
GPA	3.00	21	22.1	22.1
	> 3.00	74	77.9	77.9
	Total	95	100	100
Financial Literacy	Low	36	37.9	37.9
	Tall	59	62.1	62.1
	Total	95	100	100
Financial Inclusion	Low	51	53.7	53.7
	Tall	44	46.3	46.3
	Total	95	100	100

*Source: Research Processed Results, 2022*

### **Binary Logistics Test**

Hypothesis testing was carried out by multivariate analysis using binary logistic regression (binary logistic regression). Binary logistic regression was used to test the hypothesis in this study because the variable is a categorical variable which has two categories (dummy variables) so it cannot be solved by using multiple regression. Binary logistic regression in this study was used to examine the effect of age, gender, and GPA. The test was carried out at a significance level ( $\alpha$ ) of 5% (0.05). The level of significance shows the strength of the independent variable in influencing the dependent variable.

**Regression Model Feasibility Test**

**Table 7. Hosmer and Lemeshow Test**

Step	Chi-square	df	Sig.
1	2.908	6	0.820
2	8.933	6	0.177

Source: SPSS Processed Results, 2022

In table 7 shows the test results of Hosmer and Lemeshow Goodness of Fit for both research models. In model 1 the dependent variable is financial literacy, while in mode 2 the dependent variable is financial inclusion. From table 4.6 it is known that the magnitude of the statistical value in Hosmer and Lemeshow Goodness of Fi twchich is 0.820 for model 1, and 0.177 for model 2, both of which are greater than 0.05. Thus Ho is accepted, which means that the hypothesized model fits the data.

**Overall Model Test (Overall Model Fit)**

**Table 8. Overall Model Fit Start for Model 1**

Iteration	- 2 Logs likelihood		Coefficients
			Constant
Step 0	1	126,076	. 484
	2	126,074	. 494
	3	126,074	. 494

Source: SPSS Processed Results, 2022

From Table 8 above shows the value of -2Log Likelihood initial (without variables only constants only) is 126,076. However, after entering 3 (three) independent variables, the value of -2Log Likelihood decreased to 122,544, as shown in table 9.

**Table 9. Overall Model Fit End for Model 1**

Iteration	- 2 Logs likelihood	Coefficients			
		Constant	Gender	Age	Grade Point Cumulative
Step 1	1 122.544	. 408	- . 680	. 423	. 251
	2 122.504	. 432	- . 742	. 464	. 269
	3 122.504	. 433	- . 743	. 465	. 269

Source: SPSS Processed Results, 2022

Results output the statistical value of SPSS 19 in table 4.8 above shows a decrease in the value of -2Log Likelihood from 126,076 to 122,544. The decrease that occurred was 3.53 (126,076 – 122,544). Furthermore, by calculating the value of df and comparing the value of the decrease in -2 Log Likelihood with the numbers in the table chi square (according to df) data conclusions will be obtained whether or not the model fit is improved by adding three independent variables to the model. The calculation of the df value is as follows:

- a.  $df1 = n-1$   
 $= 95-1$   
 $= 94$
- b.  $df2 = n-k$   
 $= 95-5$   
 $= 90$
- c.  $df = df1 - df2$   
 $= 94-90$   
 $= 4$

Information:

df = Degree of freedom

n = Number of research samples

k = Number of variables in the sample

Based on the table chi square with  $df = 4$  the number is 2.78. The decrease value is 3.53, which is greater than the value of chi square in the table  $df = 4$  of 2.78. The comparison shows that the amount of decrease is -2 Log likelihood is significant. Based on this description, it can be concluded that the addition of the independent variables gender, age, and GPA into the model can improve model fit for model 1, in which financial literacy is the dependent variable.

Meanwhile the test results overall model fit for model 2 can be seen in tables 10 and 11.

**Table 10. Overall Model Fit Start for Model 2**

Iteration	- 2 Logs likelihood	Coefficients
		Constant
Step 0	1	131,182
	2	131,182

Source: SPSS Processed Results, 2022

**Table 11. Overall Model Fit End for Model 2**

Iteration	- 2 Logs likelihood	Coefficients					
		Constant	Gender	Age	Grade Point Cumulative	Financial Literacy	
Step 1	1	114,200	-2,048	.740	-.166	1.052	1,271
	2	113.658	-2,527	.916	-.205	1.321	1,499
	3	113.654	-2,574	.933	-.208	1.349	1,519
	4	113.654	-2,574	.933	-.208	1.349	1,519

Source: SPSS Processed Results, 2022

Results output the statistical value of SPSS 19 in table 11 above shows a decrease in the value of -2 Log Likelihood from 131,182 to 114,200. The decrease that occurred was 16.98 (131,182 – 114,200).

Furthermore, by calculating the value of  $df$  and comparing the value of the decrease in -2Log Likelihood with the numbers in the table chi square (according to  $df$ ) data conclusions will be obtained whether or not the model fit is improved by adding three independent variables to the model. Calculation of the previously obtained  $df$  value from a bel chi square is 2.78. The decrease value is 16.98, bigger than the value of 2.78.

The comparison shows that the amount of decrease is -2Log Likelihood is significant. Based on this description, it can be concluded that with the addition of the independent variables gender, age, GPA and Financial Literacy into the model can improve model fit for model 2, in which financial inclusion becomes the dependent variable.

### Score Nagelkerke R Square

**Table 12. Nagelkerke R Square**

Model	- 2 Logs likelihood	Cox & Snell R Square	Nagelkerke R Square
1	122.504a	.037	.050
2	113.654a	.168	.225

Source: SPSS Processed Results, 2022

Table 12 shows that the value of Nagelkerke R Square of 0.050 for model 1, and 0.225 for model 2. The value of Nagelkerke R Square of 0.050 states that there is a contribution from the variables of gender, age, and GPA in predicting the level of financial literacy together of 5.00%. While the remaining 95% is influenced by other factors outside the research model. Meanwhile Nagelkerke R Square of 0.225 states that there is a contribution from the variables of gender, age, GPA, and Financial Literacy in predicting the level of financial inclusion together of 22.50%. While the remaining 77.50% is influenced by other factors outside the research model.

## Hypothesis Test Results and Parameter Estimation

**Table 13. Simultaneous Test**

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Model 1	Step	3,570	3	.312
	Block	3,570	3	.312
	Model	3,570	3	.312
Model 2	Step	17,527	4	.002
	Block	17,527	4	.002
	Model	17,527	4	.002

Source: SPSS Processed Results, 2020

Simultaneous test can be seen in the table Omnibus Test of Model Coefficients, where if the significance value  $> 0.05$  then the independent variables together have no effect on the dependent variable. The Chi-square value is 3,570 for model 1, with a significance value of 0.312. This shows that the significance value is  $> 0.05$ . This means that the variables Gender, Age, and Grade Point Average (GPA) simultaneously have no effect on Financial Literacy. Meanwhile, for model 2, the Chi-square value is 17,527, with a significance value of 0.002. This shows that the significance value is  $< 0.05$ . This means that the variables of Gender, Age, Grade Point Average (GPA) and Financial Literacy simultaneously affect financial inclusion.

**Table 10. Partial Test**

		B	SE	Wald	df	Sig.	Exp(B)
Model 1	Gender	-.743	.449	2,742	1	.098	.476
	Age	.465	.448	1,079	1	.299	1,592
	grade point Cumulative	.269	.515	.272	1	.602	1.308
	Constant	.433	.522	.687	1	.407	1.542
Model 2	Gender	.933	.492	3,600	1	.058	2,542
	Age	-.208	.472	.195	1	.659	.812
	grade point Cumulative	1.349	.603	5,000	1	.025	3.853
	Financial Literacy	1,519	.506	9,006	1	.003	4,569
	Constant	-1,433	.588	5,944	1	.015	.239

Source: SPSS Processed Results, 2020

The test results of model 1 show a constant number of 0.433, meaning that if other variables (gender, age and GPA), then the level of financial literacy is a constant value. Based on table 4.13, the binary logistic regression equation in model 1 is as follows:

$$\ln(p/1-p) = 0.433 - 0.743 JK + 0.465 Age + 0.269 GPA + e$$

Meanwhile, the test results of model 2 show a constant number of -1.433 meaning that if other variables (gender, age and GPA), then the level of financial inclusion is a constant value. Based on table 4.13, the binary logistic regression equation in model 2 is as follows:

$$\ln(q/1-q) = -1.433 + 0.933 JK - 0.208 Age + 1,349 GPA + 1,519 FL + e$$

Based on the logistic regression equation, it can be seen that the gender variable (X1) has a coefficient of -0.743 with a significance level of 0.098. The level of significance greater than 0.05 indicates that the gender variable has no effect on the level of Financial Literacy student so the first hypothesis is rejected.

Based on output Data analysis shows that the Age variable (X2) has a coefficient of 0.465 with a significance level of 0.299. The level of significance that is greater than 0.05 indicates that the age variable has no effect on the level of Financial Literacy student so second hypothesis is rejected.

The Grade Point Average (X3) variable has a regression coefficient of 0.269 with a significance level of 0.602. The level of significance which is greater than 0.05 indicates that the Cumulative Achievement Index variable has no effect on the level of student financial inclusion so that third

hypothesis is rejected. Based on the logistic regression equation, it can be seen that the variable Gender (X4) has a coefficient of 0.933 with a significance level of 0.058. The level of significance which is greater than 0.05 indicates that the gender variable does not affect the level of student financial inclusion so that fourth hypothesis is rejected.

Based on output Data analysis shows that the Age variable (X5) has a coefficient of  $-0.208$  with a significance level of 0.659. The level of significance which is greater than 0.05 indicates that the Age variable has no effect on the level of student financial inclusion so that fifth hypothesis is rejected.

The Grade Point Average (X6) variable has a regression coefficient of 1.349 with a significance level of 0.025. The level of significance which is smaller than 0.05 indicates that the Cumulative Achievement Index variable affects the level of student financial inclusion so that sixth hypothesis accepted. Variable Financial Literacy (X7) has a regression coefficient of 1,519 with a significance level of 0.003. The level of significance which is smaller than 0.05 indicates that the variable Financial Literacy affect the level of student Financial Inclusion so that seventh hypothesis accepted.

## **Discussion**

### **Effect of Gender on Level Financial Literacy among students of the Institut Bisnis dan Teknologi Pelita Indonesia Pekanbaru**

The test results show that gender has no effect on financial literacy among students of the Pelita Indonesia Institute of Business and Technology, so the first hypothesis is rejected. This indicates that a person's ability and intelligence in managing personal finances is not determined by gender, both male and female students have no difference in understanding financial information. In their lectures, students of the Pelita Indonesia Institute of Business and Technology have gained enough knowledge about finance. Students of the Pelita Indonesia Institute of Business and Technology have taken basic accounting courses in the second semester. So that general knowledge of finance, savings and loans, insurance and investment has been studied in lectures.

This is also supported by research (Rita & Pesudo, 2013) and (Ariani & Susanti, 2015) that the gender variable does not have a significant influence on student financial literacy, it is information. The results of descriptive statistical analysis showed that students aged  $> 21$  years were indicated by the same high category of student financial literacy. The results of this study reject the results of research conducted by (Krishna, Rofaida & Sari, 2010), that gender has an influence on a student financial literacy.

### **Effect of Age on Level Financial Literacy among students of the Institut Bisnis dan Teknologi Pelita Indonesia Pekanbaru**

The test results show that age has no effect on financial literacy among students of the Pelita Indonesia Institute of Business and Technology, so the second hypothesis is rejected. This indicates that a person's ability and intelligence in managing his personal finances is not determined by his age, both students aged 21 years and those aged  $> 21$  years have no difference in understanding financial superior to those aged 21 years. The results of this study reject the research conducted by (Shaari, Hasan, Mohamed & Sabri, 2013), which found that age affects student financial literacy, this explains that students aged between 18 years to 24 years are included in groups based on different demographics consistently shows a low level of financial literacy.

### **Effect of Grade Point Average on Level Financial Literacy among students of the Institut Bisnis dan Teknologi Pelita Indonesia Pekanbaru**

The test results show that the GPA has no effect on the level of financial literacy Students of the Pelita Indonesia Institute of Business and Technology, so the third hypothesis is rejected. This indicates that a person's ability and intelligence in managing his personal finances is not determined by his GPA, both students who have a GPA 3.00 and  $> 3.00$  have no difference. The results of this study are in accordance with the results of research (Rita & Pesudo, 2013) that the GPA variable does not have a significant effect on financial literacy students, it is shown that students with GPA  $\geq 3.00$  and students with GPA  $< 3.00$  are included in the same level of financial literacy. The results of this study reject the results of research conducted by (Nababan & Sadalia, 2012), which states that GPA affects the level of financial literacy of a student and students who have a GPA  $< 3.00$  are likely to have a low level of financial literacy compared to students who have a GPA  $> 3.00$ .

### **Effect of Gender on Level Financial Inclusion among students of the Institut Bisnis dan Teknologi Pelita Indonesia Pekanbaru**

The test results show that gender has no effect on Financial Inclusion among students of the Pelita Indonesia Institute of Business and Technology, so the fourth hypothesis is rejected. This indicates that a person's condition in accessing or using financial services is not determined by gender, both male and female students have no differences in accessing various financial services.

Gender is defined as biological differences and positions (roles) which are divided into two types, namely men and women (Nadhiroh, 2017). Men have greater responsibility in making financial decisions in a household (Rizaldi & Asandimitra, 2019). To be able to make good decisions, men must be able and understand about effective financial management, where this will encourage increased access and use of financial products and services (Hutabarat, 2018). The findings in the study (Cámara & Tuesta, 2016) suggest that men are more likely to contribute to financial inclusion because they are positively associated with account ownership and making credit at formal financial institutions.

### **Effect of Age on Level Financial Inclusion among students of the Institut Bisnis dan Teknologi Pelita Indonesia Pekanbaru**

Age is defined as a measure that describes the length of a person's life which is calculated from the time of birth to birthday. As a person ages, the level of maturity of his thinking and strength in work will be better. Productive age begins when a person is at least 15 years old where at this stage a person is considered able to earn income, and manage his finances well (Humaidi et al., 2020). In order to improve their welfare, the incentive to be able to access, use, and utilize financial products and services will be more active so that the goal of financial inclusion is achieved. According to research (Abel et al., 2018) found that age affects a person's financial inclusion, where the more mature the individual's age, The test results show that age has no effect on Financial Inclusion among students of the Pelita Indonesia Institute of Business and Technology, so that the fifth hypothesis is rejected. This indicates that a person's condition in accessing or using financial services is not determined by his age, both students aged 21 years and those aged > 21 years have no difference in understanding financial information.

### **Effect of Grade Point Average on Level Financial Inclusion among students of the Institut Bisnis dan Teknologi Pelita Indonesia Pekanbaru**

The test results show that the GPA affects the level of Financial Inclusion Students of the Pelita Indonesia Institute of Business and Technology, so the sixth hypothesis is accepted. This indicates that in accessing or using financial services, it is determined by their GPA, both students who have a GPA of 3.00 and > 3.00 show that GPA affects the level of financial literacy of a student and students who have a GPA < 3.00 are likely to have a low level of financial literacy compared to with students who have a GPA > 3.00. (Syari, 2013) explains that students with high GPAs have fewer financial problems than students with low GPAs.

With broad access to financial institutions it is important to improve performance so as to reduce economic inequality in improving the welfare of an individual. Someone who has taken higher education understands various insights and broad knowledge so that awareness of the functions of various financial products and services is also higher (Abel et al., 2018). The higher the last level of education that a person has taken, the more appropriate his financial decisions will be, especially for his personal financial well-being (Nugroho & Purwanti, 2017).

### **Influence Financial Literacy against Level Financial Inclusion among students of the Institut Bisnis dan Teknologi Pelita Indonesia Pekanbaru**

The test results show Financial Literacy affect Financial Inclusion among students of the Pelita Indonesia Institute of Business and Technology, so that the seventh hypothesis is accepted. So with good financial literacy, the ability to apply financial products and services is also getting wiser.

Financial Inclusion able to make changes in the mindset of economic actors in seeing money and profits. So that the higher the level of understanding of financial products, business risk, loan risk, etc., the easier it will be for debtors to obtain loans. The results of research conducted (Sohilauw, 2018), which states that financial literacy greatly affects the level of inclusion finance. This is because the public knows the benefits of financing and other financial products, so that access to financial institutions is increasingly needed.

Financial literacy is a financial skill and overall insight that a person has to be able to manage his finances (Asandimitra & Kautsar, 2020). Someone with a good level of financial literacy (well literate), of

course it can be easier to apply information including various kinds of facilities, functions, impact of losses, as well as rights and obligations in accessing and utilizing financial products or services (OJK, 2017). This will encourage someone to recognize and utilize financial products and services followed by an increase in financial inclusion (Hutabarat, 2018) finding positive and significant results where financial literacy has an influence on financial inclusion.

## **CONCLUSION AND RECOMMENDATION**

### **Conclusion**

The conclusions that can be drawn from the results of the research that have been carried out show that based on the binary logistic analysis test, there is no influence of gender on the level of financial literacy at Pelita Indonesia Institute of Business and Technology Pekanbaru. There is no influence of Age on the level of financial literacy at Pelita Indonesia Institute of Business and Technology Pekanbaru. There is no influence of GPA on the level of financial literacy at Pelita Indonesia Institute of Business and Technology Pekanbaru. There is no influence of Gender on the level of Financial Inclusion at Pelita Indonesia Institute of Business and Technology Pekanbaru. There is no influence of Age on the level of Financial Inclusion at Pelita Indonesia Institute of Business and Technology Pekanbaru. There is an influence of GPA on the level of Financial Inclusion at Pelita Indonesia Institute of Business and Technology Pekanbaru. There is an influence of Financial Literacy against level Financial Inclusion at Pelita Indonesia Institute of Business and Technology Pekanbaru.

### **Recommendation**

Based on the results of research and data analysis that has been carried out, the suggestions that can be given are (1) For students, students are advised to be more proactive in learning financial aspects, especially aspects of investment and savings because investment and savings are the most beneficial types of allocation of funds in the future. Students who have a high GPA should not only learn the concepts of saving and investing, but also learn in practice. This will increase students' intellectuality towards financial aspects. (2) For further researchers, further research is expected to be able to conduct research with more varied variables such as factors of residence, class, semester, major, parental education (father), parental education (mother), and parent's income, financial education in the family, learning in higher education or other objects such as transmigration, housewives and so on.

Further research is also expected to use other more efficient survey methods such as the online survey method because the survey used in this study is a manual method which requires quite a lot of time, effort and cost. (3) Society, to remind the community that the importance of financial literacy in life. Due to level financial literacy an individual will also affect the economic viability of that individual. Level financial literacy. It is also one of the important aspects in making an individual's financial decision making.

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