

## Research Article

# Factors Influencing Tangerang City MSMEs' Financial Literacy

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**Abstract.**

Financial literacy is the knowledge about financial product and services. It is also defined as financial management skills that one should have in order to reach financial welfare, especially for Micro, Small, and Medium Enterprises. The purpose of this study is to analyze the effects of income, educational level, gender, age, and length of business on the financial literacy level of MSMEs in Tangerang City. This study used quantitative methods and used Proportionate Stratified Random Sampling as the sampling technique with 100 MSMEs as a sample. It was conducted in 11 subdistricts in Tangerang City – Tangerang, Batuaceper, Larangan, Karawaci, Cibodas, Cipondoh, Pinang, Ciledug, Karang Tengah, Neglasari, and Periuk. The study used Multiple Linear Regression as an analysis technique. Based on the analysis carried out using the SPSS application, the results showed that: (i) the financial literacy index of MSMEs in Tangerang City was an average of 76.15%; (ii) income has a positive and significant influence on financial literacy level on MSMEs in Tangerang City; (iii) education level has a positive and significant influence on the financial literacy level; (iv) gender has no significant influence on the financial literacy level; (v) age has a positive and significant influence on the financial literacy level; and (vi) the length of business has a positive and significant influence on financial literacy level. The implication of this study are: MSMEs can increase their financial literacy level by making monthly financial records using digital technology and increase their ability to adapt with financial technology. Cooperatives and Small and Medium Enterprise Office can conduct more financial literacy workshop and increase MSMEs' access to technology and financial product and services in order to increase financial literacy level of MSMEs in Tangerang city so that MSMEs can reach financial welfare.

**Keywords:** MSMEs, financial literacy, income, educational level, gender, age, and the length of business

## 1. Introduction

Financial well-being is a condition in which individuals can manage their daily income and expenses, can prepare funds to deal with economic shocks, and have the freedom to make the financial decisions they want to achieve their financial goals in the future [1]. To achieve financial well-being, an individual must have a good level of financial literacy. Financial literacy is the knowledge, understanding, beliefs, attitudes, and behaviors that enable a person to make the right financial decisions and to choose financial services

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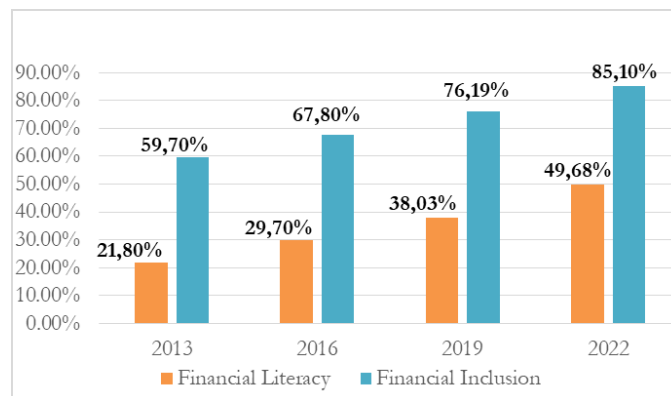
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that can meet their needs [2]. From a macroeconomic perspective, financial literacy can reduce the occurrence of financial exclusion, which is a condition where some groups of people are not touched by formal financial services which can hinder the growth of the financial sector and also economic growth [3].

Based on the importance of financial literacy for the economy, the government created a program that aims to increase the level of financial literacy of the Indonesian people, one of which is the Financial Services Authority (OJK) which conducted a national financial literacy survey as outlined in the Indonesian Financial Inclusion Literacy National Strategy, where this survey aims to determine the level of financial literacy and financial inclusion of the Indonesian people [4].

The OJK survey in 2022 uses knowledge, skills, beliefs, attitudes, and behavior as indicators of a financial literacy index, while the financial inclusion index uses indicators in the form of the use of formal financial service products. Based on a national survey conducted by OJK in 2013-2022 the level of financial literacy and national financial inclusion is as follows:



**Figure 1:** Financial Literacy and Inclusion Index of 2013 – 2022. Source: Otoritas Jasa Keuangan, 2022.

Figure 1. shows the financial literacy index which continues to increase from year to year with an average increase of 34.80 percent per year. The financial literacy index increased by 7.9 percent between 2013 and 2016, then increased by 8.3 percent between 2016 and 2019, and again increased from 2019 to 2022 by 11.65 percent. In 2022, the national financial literacy rate is 49.68 percent, where this figure has exceeded the national financial literacy target of 35 percent as stated in Presidential Regulation No. 50 of 2017 concerning the National Strategy for Consumer Protection by 35 [5]. The financial literacy rate of 49.68 percent means that only 49 out of 100 Indonesians have very good financial literacy conditions.

Based on Figure 1., it can be seen that there is a gap between financial literacy and financial inclusion, where the two things should be interconnected as previously explained, financial literacy is an understanding of how to manage finances and the

features of financial service products, meanwhile financial inclusion is the availability of public access to financial products, institutions, and services.

The gap between financial literacy and financial inclusion where the level of financial inclusion is much higher than the level of financial literacy shows that individuals use financial service products without knowledge. In addition, based on a survey conducted by the Financial Services Authority in 2022, the highest public financial literacy related to the financial sector is in the banking sector with a percentage of 49.93 percent. This means that the knowledge of the Indonesian people is still limited to the banking sector, so this is also a factor in the gap between the level of financial literacy and financial inclusion.

The Financial Services Authority did not only conduct a national financial survey, but OJK also conducted a financial survey in every province in 2016, 2019 and 2022, especially Java Island with the following results:

TABLE 1: Java Island Financial Literacy Index for 2016, 2019, 2022.

No	Province	Financial Literacy Index (%)		
		2016	2019	2022
1	DKI Jakarta	40,00	59,16	52,99
2	DI Yogyakarta	38,50	58,33	54,55
3	Banten	38,20	39,25	45,19
4	Jawa Timur	35,60	48,95	55,32
5	Jawa Tengah	33,50	47,38	51,69
6	Jawa Barat	33,00	37,43	56,10

Source: Otoritas Jasa Keuangan, 2022

Table 1. shows that most of the financial literacy levels in Java Island exceed the national financial literacy level in 2022 which is worth 49.68 percent. Banten Province is the only province on the island of Java with a financial literacy level below the national financial literacy level with a value of 49.68 percent. The Banten province financial literacy rate of 45.19 percent means that out of 100 residents there are only 45 residents of Banten province with very good financial literacy conditions. Meanwhile, based on the results of a survey per regional strata conducted by OJK in 2016 and 2019, Tangerang City is a city in Banten Province with the highest financial literacy level of Tangerang in 2016 of 40.9 percent and 43.75 percent in 2019. This is supported by the existence of several programs in the City of Tangerang to support the financial literacy of the people of the city of Tangerang, including the Financial Education of Capital Market Study Students, the Financial Literacy Gallery for Extension Workers, Account Opening for Students in the City of Tangerang, as well as Digital Literacy and Micro Business Training, Small and Medium Enterprises (MSMEs).

Tangerang City is a city with a high number of MSMEs with a total of 115,146 [6]. Where this is influenced by the Tangerang city government which creates a conducive climate to become a stimulus for the growth of MSMEs. In an effort to increase financial literacy, the Cooperatives and MSME Office of Tangerang City conducts counseling on bookkeeping and other financial service products. In terms of contribution to GRDP, Tangerang City MSMEs are the business sector that makes the largest contribution to GRDP, which is reflected in the Tangerang City GRDP data by Field of Business for 2013-2021 with the GRDP value of the processing industry which continues to increase and makes the largest contribution as a business field on the PDRB of Tangerang City [7]. This also means that SMEs in Tangerang City have a large contribution to the economic growth of Tangerang City.

The large contribution of Tangerang City MSMEs to GDP does not make Tangerang City MSMEs, especially MSMEs, not escape from problems with capital and financial literacy. Based on a pre-survey conducted by researchers, MSME players in Tangerang City are still experiencing problems with bookkeeping and capital, especially access to credit. Financial literacy is needed so that MSME actors do not experience adverse selection, namely asymmetric information problems that arise before transactions occur, causing MSME actors to prefer informal credit because access is easier but has high costs and is less secure. Demographic factors in the form of income, education, gender, age, and length of business can affect the level of financial literacy of MSME actors. This study focuses on the concentration of monetary economics.

Based on the background above, researchers conducted research related to the effect of income, education level, gender, age, and length of business on the level of financial literacy of MSMEs in Tangerang City.

## 2. Theory, Literature Review, and Hypothesis

### 2.1. Financial Literacy

The grand theory of this research is financial literacy. The Organization for Economic Cooperation and Development (OECD) defines financial literacy as a combination of financial attitudes, behaviors and knowledge. Financial behavior includes how an individual thinks when he wants to buy a product, budgeting, saving and borrowing to meet his life needs. Meanwhile, financial attitudes are related to how the individual carries out long-term financial planning [2].

The Financial Services Authority (2021) defines financial literacy as insight, skills and beliefs that determine attitudes and behavior for decision making and financial management in order to achieve financial prosperity. The level of financial literacy in

Indonesia is divided into several levels, including: Well Literate, Sufficient Literate, and Less Literate.

The World Bank (2014) states that financial literacy can prevent a country from a global crisis, because of the lack of knowledge of users of formal financial services products can make the financial sector in a country not develop so there was a crisis. Extensive understanding of different types of products and services rapidly growing finance along with its important risks owned by the people of a country so that the financial sector can function properly.

Throughout their lives, individuals today are more responsible for their personal finances than ever before. With increasing life expectancy, the pension and social welfare systems are strained. Financial markets are changing rapidly, with the development of new and more complex financial technologies and products. The exponential growth in financial technology is revolutionizing the way people make payments, decide on their financial investments, and seek financial advice. In this context, it is important to understand how financially knowledgeable people and the extent to which their financial knowledge influences their financial decision making. An essential indicator of people's ability to make financial decisions is their level of financial literacy. Financial literacy refers to both knowledge and financial behavior [8].

The Financial Services Authority (Otoritas Jasa Keuangan) defines financial literacy as insight, expertise, and beliefs that determine attitudes and behavior for decision making and financial management in order to achieve financial well-being. The Financial Services Authority uses the financial literacy index to determine the level of financial literacy of the Indonesian people. The indicators used by the Financial Services Authority include indicators of knowledge, skills, beliefs, attitudes and behavior [5].

## 2.2. Financial Inclusion

The Financial Action Task Force (2011) defines financial inclusion as the availability of access to safe and affordable financial services for people with low incomes, as well as those belonging to vulnerable groups. Financial inclusion is needed so that individuals who currently only have access to basic financial products can be reached by the formal financial sector. Financial inclusion is a condition in which all working age individuals have effective access to credit, savings, payments and insurance provided by formal financial service institutions [9]. Effective access is defined as the provision of practical, responsible, affordable financial services so that individuals prefer to use formal rather than informal financial services. This is in accordance with the theory of financial literacy, where the higher the income of an individual, the level of financial literacy tends to be higher when compared to individuals with low income [10].

### 2.3. Keynes Theory

Keynes stated that the amount of savings is influenced by income. People with high incomes can allocate part of their income to save, unlike people with low incomes whose income tends to be used up only for daily consumption [11]. This theory is in accordance with financial literacy which is influenced by income, the higher one's income, the income can be allocated for savings or using other financial products and services.

### 2.4. Adverse Selection

Adverse selection is an asymmetric information problem that arises before a transaction occurs. Information asymmetry is knowledge about the information contained in a transaction, goods or services that is not sufficient to make the right decision. One example of adverse selection is bad credit risk. Adverse selection can increase the risk of loan opportunities so that creditors decide not to provide credit even though there is a market that is productive and less risky. High financial literacy is needed by an individual to avoid adverse selection problems and asymmetric information [12].

### 2.5. Income

Income shows the total amount of money received by a person in a certain period of time. Income consists of wages, income from assets such as rent, and transfer payments or receipts from the government such as social assistance or unemployment insurance [13]. Income is a tool for assessing the level of community welfare, so that income can describe economic development in society [14]. Meanwhile, [15] defines income as the result of multiplying the quantity of units sold and the price per unit.

### 2.6. Micro, Small, and Medium Enterprises

Micro, Small and Medium Enterprises (MSMEs) are productive businesses owned by individuals, households or business entities that have met the criteria for MSMEs in terms of net worth (assets) and annual gross income (turnover) based on Law no. 20 of 2003. MSMEs have a significant role in the Indonesian economy with their large contribution to GDP and high employment rates, respectively 60.5 percent and 96.9 percent of the total national employment absorption in 2022 [6]. In addition, MSMEs also contribute to the high speed of circulation of money in the market. MSMEs need to understand financial management [16]. MSMEs need to have a high level of financial literacy in order to be able to make the right financial decisions.

## 2.7. Hypothesis Formulation

Micro, Small and Medium Enterprises (MSMEs) are productive businesses owned by individuals, households or business entities that have met the criteria for MSMEs in terms of net worth (assets) and annual gross income (turnover) based on Law no. 20 of 2003. MSMEs have a significant role in the Indonesian economy with their large contribution to GDP and high employment rates, respectively 60.5 percent and 96.9 percent of the total national employment absorption in 2022 [6]. In addition, MSMEs also contribute to the high speed of circulation of money in the market. MSMEs need to understand financial management [16]. MSMEs need to have a high level of financial literacy in order to be able to make the right financial decisions.

### i. The Effect of Income on Financial Literacy Level

The size of a person's income can affect the level of financial literacy he has. Business actors with higher incomes have a higher level of financial literacy because with a high income, an individual can access information resources and use financial service products more broadly [17]. [18] stated that parental income has a positive and significant effect on the level of Financial Literacy in FEB students at As-Syafi'iyah Islamic University. Based on the description above, the first hypothesis is obtained, namely:

H1: Income has a positive effect on financial literacy level of Tangerang City MSME actors

### ii. The Effect of Education Level on Financial Literacy Level

The level of financial literacy of an individual is influenced by the level of education. The higher the level of education attained by MSME actors, the higher the individual's level of financial literacy [19]. This is due to financial literacy which is taught in more depth at the high school and tertiary education levels. The Financial Services Authority (2021) makes education level one of the factors that influence the level of financial literacy. Based on the description above, the second hypothesis is obtained, namely:

H2: Education level has a positive effect on financial literacy level of Tangerang City MSME actors

### iii. The Effect of Gender on Financial Literacy Level

[20] states that the level of male financial literacy is higher than that of women. The results of a survey by [5] show that men's level of financial literacy is higher than that of women. In addition, the results of research from [21]; [2] also shows that the literacy level of men is higher than that of women. This is due to women's lack of confidence in making financial decisions [22]. The relationship between gender and MSME income in Tangerang City is expressed in a dummy variable with the following information:

$D = 0$  (Female)

D = 1 (Male)

Based on the description above, the third hypothesis is obtained, namely:

H3: Gender has a positive effect on financial literacy level of Tangerang City MSME actors

iv. The Effect of Age on Financial Literacy Level

[19] stated that the level of financial literacy in elderly MSMEs is lower than the level of financial literacy in the age range of 25-40 years. Individuals with an average age of 25-40 years have a high level of financial literacy, while individuals at a young and old age have a lower level of financial literacy [2]. Based on the description above, the fourth hypothesis is obtained, namely:

H4: Age has a positive effect on financial literacy level of Tangerang City MSME actors

v. The Effect of Length of Business on Financial Literacy Level

[23] states that the length of the business has a positive and significant effect, meaning that the longer the business is run by MSME actors, the higher the level of financial literacy they have. Length of business can affect a person's knowledge in the field being lived, especially in financial ability [24]. Based on the description above, the fifth hypothesis is obtained, namely:

H5: Length of business has a positive effect on financial literacy level of Tangerang City MSME actor

vi. The Most Influential Independent Variable on Dependent Variable

Income is considered to be the variable that most influences the financial literacy level of MSMEs in Tangerang City, this is because with higher incomes, MSMEs can access more information related to financial products and services. Research conducted by [25] shows that income has a positive and significant effect on the level of financial literacy. Based on the description above, the sixth hypothesis is obtained as follows:

H6: It is suspected that income is the most influential variable on financial literacy level

### 3. Research Methods

#### 3.1. Research Design

This research is quantitative research. The types of data used in this study are primary and secondary data. Primary data obtained from interviews and distributing questionnaires. Secondary data used as supporting data was obtained from the Tangerang City Office of Cooperatives and SMEs and the Central Bureau of Statistics of Tangerang City.



### 3.2. Research Population and Sample

This research is located in 11 sub-districts in Tangerang City, including Tangerang, Batuaceper, Larangan, Karawaci, Cibodas, Cipondoh, Pinang, Ciledug, Karang Tengah, Neglasari and Periuk with a total population of 90,567 MSME actors in Tangerang City. The number of samples in this study was determined using the Taro Yamane formula:

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

$$n = \frac{90.567}{1 + 90.567(0.1)^2}$$

$$n = 99,89$$

Description:

N = Population size

n = Sample size

e = The error rate used

The results of the population calculations show that the sample in this study totaled 100 people. This research used Stratified Random Sampling as the sampling technique.

### 3.3. Variable Operational Definitions

#### i. Financial Literacy

Financial literacy is measured using the parameters of knowledge, skills, beliefs, attitudes and behavior in the National Literacy Survey and Financial Inclusion as measured by the Financial Services Authority. Financial literacy indicators in this study use indicators research as follows: general knowledge about finance and basic knowledge about business financial management, knowledge of pawn shops, knowledge of leasing, knowledge of credit or financing, understanding of savings and investment, understanding of insurance, financial risk management, and knowledge of product features of financial services.

In this study, researchers used a basic assessment of literacy levels finance by group division as categorized by [26] by categorizing the level of financial literacy into three groups based on the correct or incorrect answers of the respondents with categories as follows:

- a. The literacy rate is high if the percentage is > 79% correct.
- b. Medium literacy level if the percentage of correct answers is 60% -79%.
- c. The literacy rate is low if the percentage of correct answers is < 60%. Auditor position (junior, senior, supervisor, manager).

#### ii. Business Gross Income

Business gross income is income earned by MSMEs from selling its business products obtained from the multiplication between the quantity of units sold at the price per unit. Gross income is measured in rupiah units with a span of one month.

#### iii. The Level of Education

The level of education is measured by the length of the actor's education level MSME business.

SD = 6 years

Middle school = 9 years

SMA = 12 years

College = 16 years

#### iv. Gender

Gender is measured using a dummy, namely:

Female = 0

Male = 1

#### v. Age

Age is the age of MSME actors when the research is conducted in years.

#### vi. Length of Operational Business

The length of time the business has been operating is measured in years according to the length of the MSME business.

### 3.4. Data Analysis Technique

The data analysis method used in this study is multiple regression analysis. This analysis is used to identify and obtain an overview of the effect of income, education level, gender, age, and length of business on the level of financial literacy.

In analyzing the data with multiple linear regression, several tests were carried out as follows:

- i. Classic assumption test (normality test, multicollinearity test, and heteroscedasticity test)
- ii. Determination coefficient test and f test, and
- iii. Hypothesis test and elasticity test

The equation model used to test the hypothesis in this study is as follows:

$$LK = \alpha + \beta_1 \ln TR_i + \beta_2 PD_i + \beta_3 JKD_{1i} + \beta_4 US_i + \beta_5 LU_i + e$$

The elasticity test is used to see which variables are variable independent variable that has the most influence on the dependent variable [27]. The most influential or elastic independent variable can be known by looking at the value of the regression coefficient [28]. The following is the elasticity test formula:

$$E = b(X/n)/(Y/n)$$

Information:

E = Elasticity

b = Regression Coefficient

X = Number of independent variable data

Y = Number of dependent variables

n = Number of data analyzed

Variable X can be said to have the greatest influence when it has the greatest elasticity value.

## 4. Results and Discussion

### 4.1. Characteristics of Research Respondents

Respondents to this study were 100 SMEs in Tangerang City who came from 11 sub-districts. The following is the data distribution of respondents based on gross income, education level, gender, age, and length of business. Table 2 shows the characteristics of the research respondents.

Based on Table 2, it can be seen that in terms of income, the average gross income of research respondents was Rp. 14,190,000.00 with a small gross income of Rp. 400,000.00 and the largest gross income of Rp. 350,000,000.00. Based on gross income per year, the respondents in this study consisted of 86 micro business actors, 13 small business actors, and 1 medium business actor. In terms of educational level, the most education that has been completed by MSME actors in Tangerang City is High School (SMA) with 47 people and Higher Education with 41 people. This indicates that most of the respondents have taken 12 years of compulsory education. In terms of gender, this research was dominated by women because the MSME business sector in Tangerang City with the largest number of respondents was in the food sector where the majority of MSME actors were female. In terms of age, all respondents were of productive age (15-64 years) with an average age of 40 years. In terms of length of business, the most recent length of business since pioneering was 3 months and the longest since pioneering was 25 years, namely a business started since young.

TABLE 2: Characteristics of the research respondents.

Characteristics	Keterangan	Frequency	Percentage
Gross Income Per Month	< Rp5.000.000,00	30	30
	Rp5.000.000,00 – Rp19.999.999,00	53	53
	Rp20.000.000,00 – Rp34.999.999,00	12	12
	Rp35.000.000,00 – Rp49.999.000,00	2	2
	Rp50.000.000,00 – RP64.999.999,00	2	2
	>Rp64.999.999,00	1	1
	Total	100	100
Educational Level	Elementary School	4	4
	Junior High School	8	8
	Senior High School	47	47
	Higher educational level	41	41
	Total	100	100
Gender	Female	79	79
	Male	21	21
	Total	100	100
Age	21 – 25	2	2
	26 – 30	6	6
	31 – 35	21	21
	36 – 40	22	22
	41 – 45	25	25
	46 – 50	19	19
	51 – 55	3	3
	56 – 60	2	2
	Total	100	100
Length of business (year)	< 1	7	7
	1 – 5	50	50
	6 – 10	33	33
	11 – 15	6	6
	16 – 20	3	3
	21 – 25	1	1
	Total	100	100

## 4.2. Validity test

The validity test in this study was carried out to determine how valid it is a question item to measure financial literacy variable (Y). Test validity can be done through the Pearson Product Moment Correlation Test where each item will be tested for its relationship to the total score of the variable in question. The validity test in this study used the Pearson Product Moment Correlation, with the results that all questions had  $r_{count} > r_{table}$  (0.361), so that all question items for the financial literacy variable were declared valid.

## 4.3. Reliability Test

The reliability test was conducted to determine the reliability of a series of question items in terms of the reliability of measuring financial literacy variables using the Cronbach Alpha test. In this study, the Cronbach Alpha coefficient was  $0.920 > r_{critical}$  (0.600), meaning that all items in the questionnaire were reliable in measuring the dependent variable, namely the level of financial literacy.

## 4.4. Successive Interval Method

The Successive Interval Method is a method used to convert ordinal data into interval data so that multiple linear regression analysis can be carried out because the condition for regressive data is interval or ratio scale data [29].

## 4.5. Classic Assumption Test

### 4.5.1. Normality Test

Based on Table 3 it can be seen that the Kolmogorov Smirnov test result in this study was 0.946, which is greater than the significance of 0.05, this means that the residual value in this study is normally distributed.

TABLE 3: Kolmogorov Smirnov Test.

Variable	Result of Kolmogorov Smirnov	Significance	Criteria
Standardized Residual	0,946	0,05	Normal Distributed

Source: Processed Data, 2023

### 4.5.2. Multicollinearity Test

Based on Table 4. it can be seen that all independent variables have VIF values <10, so it can be interpreted that there is no multicollinearity between independent variables.

TABLE 4: Multicollinearity Test.

Variable	VIF	Criteria
Income	1,431	There is no multicollinearity
Education Level	1,152	There is no multicollinearity
Gender	1,026	There is no multicollinearity
Age	1,011	There is no multicollinearity
Length of Business	1,345	There is no multicollinearity

Source: Processed Data, 2023

### 4.5.3. Heteroscedasticity Test

Based on Table 4. it can be seen that all independent variables have VIF values <10, so it can be interpreted that there is no multicollinearity between independent variables.

TABLE 5: Heteroscedasticity Test.

Variable	Sig	Criteria
Constant	0,162	There is no heteroscedasticity
Income	0,618	There is no heteroscedasticity
Education Level	0,788	There is no heteroscedasticity
Gender	0,788	There is no heteroscedasticity
Age	0,776	There is no heteroscedasticity
Length of Business	0,121	There is no heteroscedasticity

Source: Processed Data, 2023

### 4.5.4. Multiple Linear Regression Analysis

Based on Table 6, the results of Multiple Linear Regression Analysis is:.

By the table 6, the model of this study is:

$$Lk = 1,279 + 0,083 \ln TR_i + 0,012PD_i + 0,005JKD_{1i} + 0,006US_i + 0,020LU$$

TABLE 6: Multiple Linear Regression Analysis.

Variable	Coefficients	tcount	Sig
Constant	1,279	5,294	0,000
Income	0,083	5,167	0,000
Educational Level	0,012	2,181	0,032
Gender	0,005	0,131	0,896
Age	0,006	2,633	0,010
Length of Business	0,020	4,777	0,000

#### 4.5.5. Determination Coefficient Test

Based on Table 7, it can be seen that the Adjusted R Square in this study is 0.567, meaning that the variables of income, education, gender, age, and length of business are able to explain the financial literacy level variable of 56.7 percent, while the remaining 43.3 percent is explained by other variables outside this study.

TABLE 7: Determination Coefficient Test.

Model	R Square	Adjusted R Square
1	0,589	0,567

Source: Processed Data, 2023

#### 4.5.6. F Test

Based on Table 7, it can be seen that the Adjusted R Square in this study is 0.567, meaning that the variables of income, education, gender, age, and length of business are able to explain the financial literacy level variable of 56.7 percent, while the remaining 43.3 percent is explained by other variables outside this study.

TABLE 8: F test.

$F_{count}$	$F_{table}$	Sig	Description
26,971	2,31	0,000	Significant

Source: Processed Data, 2023

#### 4.5.7. Hypothesis Testing

Based on the Table 9. it can be interpreted that:

1. Hypothesis 1

TABLE 9: T test.

Variable	t <sub>count</sub>	Sig	Criteria
Income	5,167	0,000	Significant
Education Level	2,181	0,032	Significant
Gender	0,131	0,896	Insignificant
Age	2,633	0,010	Significant
Length of Business	4,777	0,000	Significant

Source: Processed Data, 2023

The tcount value of the income variable, which is 5.167 at a significance of 0.00, is greater than the ttable with a value of 1.98552. Because tcount > ttable and significance value < 0.05 ( $\alpha$ ) it can be interpreted that the income variable has a positive and significant effect on financial literacy level, then hypothesis 1, namely income has a positive effect on financial literacy level is accepted.

## 2. Hypothesis 2

The tcount value of the education level variable, which is 2.181 at a significance of 0.00 is greater than the ttable with a value of 1.98552. Because tcount > ttable and significance value < 0.05 ( $\alpha$ ) it can be interpreted that the education variable has a positive and significant effect on financial literacy level, so hypothesis 2, namely the education level variable has a positive effect on financial literacy level is accepted.

## 3. Hypothesis 3

The tcount value of the dummy variable, namely gender, is 0.131 at a significance of 0.896, which is smaller than the ttable with a value of 1.98552. Because tcount < ttable and significance value > 0.05 ( $\alpha$ ) it can be interpreted that the gender variable has no significant effect on financial literacy level, so hypothesis 3, namely the variable gender has a positive effect on financial literacy level is rejected.

## 4. Hypothesis 4

The tcount value of the age variable, which is 2.633 at a significance of 0.01, is greater than the ttable with a value of 1.98552. Because tcount > ttable and significance value < 0.05 ( $\alpha$ ) it can be interpreted that the age variable has a positive and significant effect on financial literacy level, so hypothesis 4, namely age has a positive effect on financial literacy level is accepted.

## 5. Hypothesis 5

The tcount value of the length of business variable, which is 4.777 at a significance of 0.000 is greater than the ttable with a value of 1.98552. Because tcount >



table and significance value  $<0.05 (\alpha)$  it can be interpreted that the length of business variable has a positive and significant effect on financial literacy level, then hypothesis 5, namely length of business has a positive effect on financial literacy level is accepted.

#### 4.5.8. Elasticity Test

Based on Table 10, it can be seen that the greatest elasticity value is in the income variable, this shows that the income variable is the independent variable that has the most influence on the dependent variable.

TABLE 10: Elasticity Test.

Variable	Elasticity Value
Income	0,083
Education Level	0,0522
Age	0,077
Length of Business	0,0394

Source: Processed Data, 2023

## 5. Finding and Conclusion

### 5.1. Description of Financial Literacy Level of Tangerang City MSME Actors

The MSME financial literacy level index for Tangerang describes insight into products, services, financial services and financial information as well as skills in making financial decisions to achieve financial well-being. In this study, the financial literacy index was measured on a Likert scale consisting of 40 positive questions. The categories in measuring the financial literacy index are divided into three according to Chen & Volpe (1998), as follows: Well Literate, Sufficient Literate, and Less Literate.

The average financial literacy level of MSMEs in Tangerang City is at the level of 76.15%, where the results of calculating the average financial literacy level are obtained by dividing the total Likert score for each respondent by the maximum total score which is worth 20,000 for 40 statement items. With an average financial literacy level of MSME actors of 76.15%, it means that the financial literacy level of MSME players in Tangerang City is in the Sufficient Literate category.

## 5.2. The Effect of Income on Financial Literacy Level

Based on the results of multiple linear regression where the income regression coefficient shows a positive value, namely 0.083, which means that if gross income increases by 1 percent, the level of financial literacy increases by 0,083 percent with a significance value of  $0.000 < 0.05 (\alpha)$  which means that income has a positive and significant effect on financial literacy level. Based on the  $t_{count}$  value which shows a value of 5.217 where the value is greater than the  $t_{table}$  with a value of 1.98552, so that hypothesis 1, namely income has a positive effect on financial literacy level is accepted.

The results of this study are supported by the results of the National Strategy for Financial Literacy survey conducted by the Otoritas Jasa Keuangan in 2013, where an individual who has a high income or is in a high social stratum tends to have a higher level of financial literacy. The same research results were also obtained by [17] where income has a positive and significant effect on financial literacy level of MSMEs in South Tangerang City. This is because with more and more income, MSME actors can budget their funds for savings, investment, and others. With more income, an individual can also have more information access to products, services and financial institutions.

## 5.3. The Effect of Education Level on Financial Literacy Level

Based on the results of the multiple linear regression described earlier, where the regression coefficient for the level of education shows a positive value with a value of 0.012, meaning that if the level of education increases by one year, the level of financial literacy increases by 1.2 percent with a significance value of  $0.000 < 0.05 (\alpha)$  which means the education level has a positive and significant effect on financial literacy level. Based on the  $t_{count}$  value which shows a value of 2.181 where the value is greater than the  $t_{table}$  with a value of 1.98552, so that it can be interpreted that hypothesis 2, namely the level of education has a positive effect on financial literacy level is accepted.

The results of this study are supported by the research of [30] which states that education has a positive and significant effect on the level of financial literacy of MSMEs in India. This is due to the longer education, someone will know more about how to manage finances and financial service products. In research conducted by [31], education has a positive and significant effect on the level of financial literacy of micro-entrepreneurs in Davao City, Philippines where the level of financial literacy is higher for MSME actors who have higher education. [32] also found that education has a positive and significant effect on the level of financial literacy of MSMEs in Tegal City where MSMEs who have taken 12 years of compulsory education have a better level of financial literacy than MSMEs who have not yet taken compulsory education. This is because

the understanding of finance, financial management, and financial products is studied more deeply in high schools and universities. The same results were also obtained by [23] where the level of education has a positive effect on financial literacy because the higher the education, the individual has more access to financial information.

The results of this study are different from the research of [17] which states that education has a positive and insignificant effect on the level of financial literacy for MSMEs in South Tangerang City.

#### 5.4. The Effect of Gender on Financial Literacy Level

Based on the results of the multiple linear regression described earlier, where the regression coefficient value of the gender variable is 0,005 and a significance value of 0.896 means that gender does not significantly affect financial literacy level because the  $t_{count}$  value of the sex variable  $< t_{table}$  value of 1.98552 and the significance value of the gender variable is greater than the confidence level of 0.05. Based on the  $t_{count}$  value which shows a value of 0.131 where the value is smaller than the  $t_{table}$  with a value of 1.98552 so it can be interpreted that hypothesis 3, namely gender has a positive effect on financial literacy level is rejected, so it can be interpreted that gender does not significantly affect financial literacy level.

The results of this study are supported by research by [31] which states that gender cannot be used to measure the level of financial literacy of micro-entrepreneurs. The same research results were also obtained by [30]. In this study, the same thing happened because of the gap in the number of male and female respondents. Female respondents dominated the research because the majority of MSME actors in Tangerang City were female. Another factor that causes no effect on gender in this study is the existence of gender equality which means that gender does not affect knowledge and skills regarding finance.

The results of this study are different from the research conducted by [25], [20], and [32] where there is an effect of gender on the level of financial literacy with the financial literacy level of men being higher than that of women, meanwhile, different research results were obtained by [18] where women have a higher level of financial literacy than men.

#### 5.5. The Effect of Age on Financial Literacy Level

Based on the results of the multiple linear regression described earlier, where the age regression coefficient shows a positive value, namely 0.006. This means that if age increases by one year, the level of financial literacy increases by 6 percent with a

significance value of  $0.010 > 0.05 (\alpha)$ , which means that age has a significant positive effect on financial literacy level. Based on the  $t_{count}$  value which shows a value of 2.633 where the value is greater than the  $t_{table}$  with a value of 1.9855, it can be interpreted that hypothesis 4, namely age has a positive effect on financial literacy level is accepted. The results of this study are supported by research by [30] and [33] which state that age has a positive and significant effect on financial literacy level.

literacy for MSMEs in South Tangerang City.

## 5.6. The Effect of Length of Business on Financial Literacy Level

Based on the results of the multiple linear regression described earlier, where the regression coefficient for business length shows a value of 0.020, this means that if the length of business goes up by one year, the level of financial literacy increases by 2 percent with a significance value of  $0.000 < 0.05(\alpha)$ , which means that the length of business has a positive and significant effect on financial literacy level. Based on the  $t_{count}$  value which shows a value of 4.777, where the value is greater than the  $t_{table}$  value with a value of 1.98552 so that it can be interpreted that hypothesis 5, namely the length of business has a positive effect on financial literacy level is accepted. This is supported by research conducted by [23] which states that length of business has a positive effect on financial literacy level. This is caused by the longer the business time, the more experience an individual will have in managing his business finances, then the longer an individual's business will take part in more financial literacy training held by the Office of Cooperatives and related MSMEs, so that this causes business actors to those with a longer business period have greater financial understanding and knowledge than MSME actors who have just started a business.

## 5.7. The Most Influential Independent Variable on Dependent Variable

The most influential variable in this study is income with an elasticity value of 0.083. The factor that causes income to be the most influential variable on the level of financial literacy of MSMEs in Tangerang City is because with greater income MSME players find it easier to access information and financial service products. With higher incomes, business actors can access technology such as the internet to find information about financial products and services. Also, with higher income, business actors can budget their income to improve their skills and knowledge about financial products and services. With the elasticity value of the income variable which is higher than the other

independent variables, then hypothesis 6, namely the income variable is the variable that has the most influence on financial literacy is accepted.

Based on the results of the research and discussion that has been carried out, the following conclusions can be obtained: (1) The majority of the financial literacy level of the MSME actors in Tangerang City is in the category of sufficient literate, with an average percentage of correct answers of 76.15 percent, (2) Income, education level, age, and length of business variable have a positive and significant effect on financial literacy level of Tangerang City MSME actors, while the gender variable has no significant influence on financial literacy level of Tangerang City MSME actors, and (3) the income variable is an independent variable that has the most influence on financial literacy of Tangerang City MSME actors.

## 6. Implications, Limitations, and Suggestions

### 6.1. Implications

Based on the results of the research which income has a positive and significant effect on financial literacy level, it is hoped that MSME actors can make more efforts to improve their ability to manage their finances by recording business income and expenses regularly using digital technology so that business continuity can take place in the long term. It is hoped that the Cooperatives and MSME Office of Tangerang City will provide education about the features of financial service products in more detail so that MSMEs feel more secure in using financial products and services that can increase their business scale. It is hoped that the Tangerang City Government can facilitate access to MSME capital by encouraging the provision of People's Business Credit (KUR) by financial institutions so that all Tangerang City MSME actors have the same knowledge and access to People's Business Credit.

Based on the results of the research which education has a positive and significant effect on financial literacy level, it is hoped that MSME actors can increase their knowledge about financial products and services by participating in training held by the Tangerang City MSME Office. It is hoped that the Tangerang city government can ensure that financial education is provided in schools from an early age and intensify the 12-year compulsory education so that more and more Tangerang City residents are taking the 12-year compulsory education. Education about financial products, services and institutions is also needed so that MSMEs can trust formal financial services so that they can avoid adverse selection problems or the wrong choice of financial service products which can cause losses.

Based on the research results which gender has no significant effect on financial literacy level, it can be said that there is no knowledge gap between men and women in managing finances. Every individual must be able to manage finances and know information about financial products and services well, regardless of gender differences.

Based on the research results which age has a positive and significant effect on financial literacy level, it is hoped that business actors of all ages will increase literacy around financial management and financial products and services as well as improve their ability to adapt to digital technology in order to be able to find information and access products and services of finance more broadly. It is hoped that the Tangerang City MSME Office can provide more intensive training related to the use of digital technology, especially financial technology in business activities and business financial management.

Based on research results which length of business has a positive and significant effect on financial literacy level, it is expected that business actors can improve their financial management capabilities in business by carrying out financial planning to avoid financial risks.

## 6.2. Limitations

The limitation of this study is the value of the coefficient of determination (Adjusted R<sup>2</sup>) which shows a result of 56.7 percent, meaning that there are 43.3 percent of other independent variables outside of this study that can explain the variable level of financial literacy.

## 6.3. Suggestions

By the results of adjusted Rsquare that there are 43.3 percent of other independent variables outside of this study that can explain the variable level of financial literacy. It is hoped that further researchers can consider independent variables that can be used to analyze the effect on the level of financial literacy.

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